

Integration of Jetayu Care and Direct Citizen Pedagogy as a Community-Based Mental Health Intervention Model for the Nahdlatul Ulama Student Association in Socah Subdistrict

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Article Info	Abstract
Article history: <i>Received: 18 June 2026</i> <i>Revised: 18 July 2026</i> <i>Accepted: 20 July 2026</i>	Digital transformation has fundamentally changed the social landscape of Indonesian society and has serious implications for adolescents' mental health. The "Digital 2026 Global Overview" report notes that 6.04 billion people worldwide use the internet, with 5.66 billion active social media users, while in Indonesia there are 230 million internet users and 180 million social media users, representing 26% year-on-year growth. This article examines the implementation of Jetayu Care, an artificial intelligence-based platform for the early detection of mental health symptoms in adolescents, developed within the framework of Direct Citizen Pedagogy (DCP) and applied to the Ikatan Pelajar Nahdlatul Ulama (IPNU) community in Socah Subdistrict, Bangkalan. Through a conceptual-analytical approach, this article identifies that digital social dynamics give rise to new challenges—such as the digital divide, cyberbullying, and an increase in the prevalence of psychological disorders—while simultaneously opening opportunities for community- and technology-based interventions. Jetayu Care integrates six main modules and adopts the four pillars of DCP as well as the 3F-RVLM cycle. The study's findings indicate that the integration of values-based AI and reflective pedagogy can strengthen communities' capacity to address digital social dynamics in an adaptive and sustainable manner, particularly within youth communities based on religious organizations.
Keywords: <i>Digital Social Dynamics, Direct Citizen Pedagogy, Jetayu Care, Adolescent mental health</i>	
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INTRODUCTION

Digital transformation has fundamentally changed nearly every aspect of life for people around the world, including in Indonesia. The "Digital 2026 Global Overview Report," published by We Are Social and Meltwater, notes that as of October 2025, the number of internet users worldwide had reached 6.04 billion—equivalent to 73.2% of the total global population—with an increase of 294 million new users over the past year. Furthermore, the number of active social media users globally reached 5.66 billion, or 68.7% of the world's population, meaning that more than two-thirds of the world's population is now connected through social media platforms (We Are Social & Meltwater, 2026). In Indonesia, digital penetration shows figures that are both impressive and concerning. "Digital Data 2026: Indonesia" reports that there were 230 million internet users in Indonesia as of October 2025, with a penetration rate of 80.5% of the total population. This figure represents an increase of 18 million users (+8.7%) compared to the previous year. Active social media users reached 180 million people, or 62.9% of the total population, with a staggering year-over-year growth of 26%—an increase of 37 million new users (We Are Social & Meltwater, 2026). The average internet user in

Indonesia spends 21 hours and 50 minutes per week browsing social media—equivalent to more than three hours every day.

Teenagers and young people are the most dominant group of digital users. The Ministry of Communication and Digital Affairs notes that approximately 48% of internet users in Indonesia—or about 110 million people—are under the age of 18 (Komdigi, 2026). The Central Statistics Agency (2024) reports that 39.71% of young children have used cell phones and 35.57% have accessed the internet; even among 5- to 6-year-olds, device usage reaches 58.25%. This massive penetration places adolescents in a vulnerable position regarding various digital psychological risks. Indonesia is currently facing a mental health crisis among adolescents. The Indonesian Health Survey (2023) shows that 5.5% of adolescents aged 15–24 experience emotional and mental disorders, while I-NAMHS (2022) reveals that 34.9% of Indonesian adolescents meet the criteria for mental health issues. A recent bibliometric analysis shows that research on Indonesian adolescents' mental health has continued to increase significantly since 2020 (Nirmalawati & Qurniyawati, 2025). The ratio of psychiatrists is only 0.48 per 100,000 people (PDGJI, 2022)—far below the WHO standard—calling for technology- and community-based innovations.

Advances in AI are opening up new opportunities for the early detection of mental health issues through digital mental health and digital phenotyping (Chia & Zhang, 2022; Lehtimäki et al., 2021). However, their implementation still faces challenges related to cultural adaptation and the integration of local values (Mittelstadt, 2019). One strategic community is the Nahdlatul Ulama Student Association (IPNU) of Socah Subdistrict, a religious-based student organization with a network spanning various villages, schools, and madrasahs. Based on observations and interviews, IPNU adolescents face digital social pressures in the form of a need for social validation and social comparison that affect their emotional well-being, compounded by digital literacy that remains largely consumptive and the absence of early detection mechanisms for mental health issues.

This article examines the integration of Jetayu Care (<https://jetayu.theentitas.com>) with the Direct Citizen Pedagogy framework as a community-based mental health intervention model. Previous research has shown that the integration of technology has a significant impact on digital citizenship (Mujtahidin et al., 2025) and the reinforcement of learning outcomes related to the values of Pancasila (Mujtahidin et al., 2024); however, studies integrating AI, mental health, youth communities based on religious organizations, and values-based pedagogy remain very limited.

Despite the rapid growth of studies on digital mental health, artificial intelligence (AI), and digital citizenship, these domains have largely developed independently. Existing studies primarily focus on AI-based screening technologies, digital mental health interventions, or digital citizenship education as separate fields. Likewise, community empowerment through religious youth organizations has rarely been positioned as an integral component of technology-assisted mental health promotion. Consequently, little attention has been paid to how AI-assisted mental health screening can be integrated with values-based pedagogy and community empowerment within religious youth organizations.

This conceptual gap demonstrates the absence of an integrated framework capable of linking technological innovation, pedagogical transformation, community participation, and local cultural values into a unified intervention model. Responding to

this limitation, this article proposes the Jetayu Care–Direct Citizen Pedagogy (JC-DCP) Model, a conceptual framework integrating AI-assisted early mental health detection, Direct Citizen Pedagogy, community empowerment, and Islamic youth organizational values. Unlike previous studies that emphasize technological effectiveness or pedagogical innovation separately, this study positions technology as a pedagogical and social empowerment instrument capable of strengthening adolescent mental resilience through collaborative community engagement.

LITERATUR REVIEW

Digital Transformation and Adolescent Mental Health Risks

Research on the relationship between digital penetration and adolescent mental health has grown rapidly over the past five years. Recent data show massive growth in internet and social media users both globally and nationally, with adolescents and children constituting the most dominant user group (We Are Social & Meltwater, 2026; Komdigi, 2026; Central Statistics Agency, 2024). This growth has coincided with a rising prevalence of mental health disorders among Indonesian adolescents, as reported by the Indonesian Health Survey (2023) and I-NAMHS (2022), while the ratio of psychiatrists—which falls far below WHO standards—highlights a structural gap between service needs and the availability of professionals (PDGJI, 2022). The trend of increasing research on this topic is also confirmed by bibliometric analysis, which shows a surge in publications since 2020 (Nirmalawati & Qurniyawati, 2025).

Specifically, a number of studies have linked the intensity of social media use to negative psychological symptoms in adolescents, including FoMO (fear of missing out), sleep disturbances, and anxiety (Purnamasari et al., 2025). Algorithmic mechanisms such as fast-scrolling further reinforce patterns of social comparison and compulsive behavior among Generation Z (Waseso & Wibowo, 2026), and the link between the use of visual platforms like Instagram and TikTok and a decline in adolescents' mental health has also been empirically confirmed (Meliawati et al., 2026). These findings underscore that digital social dynamics are not merely a technological phenomenon, but rather psychosocial determinants that require context-specific intervention responses.

Artificial Intelligence and Digital Early Detection of Mental Health Issues

Advances in artificial intelligence (AI) are opening new opportunities for the early detection of mental health issues through digital mental health and digital phenotyping approaches, which enable the non-invasive identification of users' behavioral and affective patterns (Chia & Zhang, 2022; Lehtimäki et al., 2021). Nevertheless, a number of studies highlight that the application of AI in the field of mental health cannot be separated from ethical and cultural challenges, particularly regarding adaptation to the values and local contexts of user communities (Mittelstadt, 2019). Contemporary AI ethical frameworks emphasize the importance of human-centered principles and sensitivity to sociocultural contexts in the design of intelligent systems (Floridi et al., 2018; UNESCO, 2021).

The gap between AI's technical capabilities and the need to contextualize values presents a critical opportunity for developing early-detection platforms that are not merely algorithm-driven but are also integrated with the value systems of their user communities. It is within this context that Jetayu Care is positioned as a concrete

contribution that adapts AI ethical principles to the Aswaja Islamic culture and the local wisdom of Madura.

Direct Citizen Pedagogy as a Values-Based Pedagogical Framework

Direct Citizen Pedagogy (DCP) was developed as a pedagogical framework that integrates values reinforcement, critical reflection, and collaborative action into the process of fostering digital citizenship (Mujtahidin, 2023). The conceptual foundation of DCP intersects with Freire's (1970) concept of *conscientização*—a process of critical awareness that enables individuals to understand and transform their social reality through reflection and action. Previous research has shown that the integration of technology into such a pedagogical framework has a significant impact on the strengthening of digital citizenship (Mujtahidin et al., 2025) as well as on students' learning outcomes regarding the values of Pancasila (Mujtahidin et al., 2024).

However, the specific application of DCP to adolescent mental health issues—especially when integrated with AI-based platforms and religious organization-based youth communities—has yet to be extensively studied. Most of the existing literature on DCP focuses on digital literacy and digital citizenship in general; therefore, the intersection of values-based pedagogy, early-detection technology, and religious communities represents a relevant area for further development.

Community Empowerment Through Religious Organizations Amid the Digital Divide

Castells' (2010) perspective on the “network society” and Floridi's (2014) concept of the “infosphere” emphasize that the boundary between physical and digital spaces is becoming increasingly blurred, meaning that social interventions can no longer be separated from the digital dimension of adolescents' lives. On the other hand, the concept of the multidimensional digital divide (Van Dijk, 2020) reminds us that access to technology is not necessarily accompanied by digital literacy and psychological resilience, as evidenced by the low digital literacy index in the Madura region compared to the high rate of smartphone penetration among adolescents there.

Under these conditions, community-based organizations with established social structures have the potential to serve as strategic hubs for mental health interventions. A community empowerment approach that leverages existing organizational structures is considered more sustainable than interventions built from scratch, as it draws on the social capital and cultural legitimacy already possessed by the community (Ife & Tesoriero, 2016). Religiously-based student organizations such as IPNU, with their culture of leadership development and networks extending down to the village level, represent this form of social capital.

METHOD

This study employed a conceptual research design supported by an illustrative case study. Rather than testing hypotheses empirically, the study aimed to develop a conceptual framework explaining how artificial intelligence-based mental health technology can be integrated with values-based pedagogy and community empowerment to strengthen adolescent mental health within religious youth organizations. The study consisted of two complementary stages. First, a conceptual synthesis was conducted through an extensive review of scholarly literature concerning adolescent mental health,

digital mental health, artificial intelligence ethics, community empowerment, and Direct Citizen Pedagogy. Academic publications indexed in Scopus, Google Scholar, Crossref, and national accredited journals published between 2021 and 2026 were selected using relevance, recency, and methodological quality as inclusion criteria.

Government policy documents, WHO publications, UNESCO reports, and Digital 2026 reports were also included to provide contemporary contextual evidence. Second, an illustrative case analysis was undertaken using the implementation context of the Nahdlatul Ulama Student Association (IPNU) in Socah Subdistrict. This case was selected because IPNU possesses an established organizational structure, strong social legitimacy, and continuous youth empowerment activities that represent an appropriate context for community-based mental health intervention. Supporting information was obtained from organizational documents, field observations, informal interviews with organizational administrators, and technical documentation of the Jetayu Care platform.

Data were analyzed using thematic synthesis. The analysis consisted of identifying recurring concepts, comparing theoretical perspectives, synthesizing empirical evidence from previous studies, and constructing an integrated conceptual model. The analytical process followed four stages: (1) literature coding, (2) theme categorization, (3) conceptual integration, and (4) framework construction. Throughout the analysis, emphasis was placed on identifying relationships among AI technology, values-based pedagogy, digital literacy, and community empowerment. Since this article is conceptual rather than empirical, the illustrative case serves to demonstrate the applicability of the proposed framework rather than to evaluate intervention effectiveness statistically. Therefore, the study contributes primarily to theoretical development and conceptual innovation while providing practical directions for future empirical implementation.

RESULTS AND DISCUSSION

Result

The Importance of Digital Social Dynamics for Adolescent Mental Health: Global and Local Perspectives

The study's findings indicate that digital social dynamics at both the global and local levels have paradoxical implications for adolescents' mental health. The Global Digital Overview 2026 reveals that the average adult internet user spends 33.5 hours per week consuming online media, with social media and video accounting for more than half of that activity. Users aged 16–24 use an average of 6.75 social media platforms per month and access social media 4.6 days per week (We Are Social & Meltwater, 2026). In Indonesia, nearly half of all internet users are children and adolescents under the age of 18 (Komdigi, 2026). Recent research shows that high intensity of social media use has a negative impact on adolescents' mental health, triggering FoMO, sleep disturbances, and anxiety (Purnamasari et al., 2025). The mechanisms of social comparison and FoMO through fast-scrolling algorithms reinforce compulsive behavior among Generation Z (Waseso & Wibowo, 2026). Other studies confirm a significant association between the use of Instagram and TikTok and a decline in adolescents' mental health (Meliawati et al., 2026).

In the local context of Madura, internet penetration in East Java stands at 79.3%, but in Madura it remains between 68% and 72%, while smartphone usage among adolescents aged 15–19 reaches 89%. The digital literacy index is only 2.9 out of 5, with

just 12% of adolescents able to identify manipulative content. These findings reinforce Castells' (2010) argument regarding networked society and Floridi's (2014) concept of the "infosphere," in which the boundaries between the physical and digital worlds are becoming increasingly blurred. The multidimensional digital divide (Van Dijk, 2020) calls for an approach that provides early-detection technologies while simultaneously fostering reflective awareness, digital literacy, and community-based mental resilience.

Community Empowerment of the Socah Subdistrict IPNU

The Socah Subdistrict IPNU is a Nahdlatul Ulama student organization with a network of members spread across villages, schools, and madrasahs. Regular activities include character building, MAKESTA, and reinforcing Aswaja values. Based on observations and interviews, there are five existing conditions requiring intervention: (1) digital social pressure in the form of the need for validation and social comparison; (2) technology use that remains primarily consumptive; (3) digital literacy that does not yet encompass critical and reflective thinking; (4) the absence of early detection mechanisms for mental health; (5) the role of peer support that is not yet optimal. However, IPNU possesses significant potential: a coordinated organizational structure, a strong culture of leadership development, and solid socio-cultural legitimacy. The inclusive values of Aswaja align with the principles of DCP. IPNU's position as a feeder system for UTM also strengthens the continuity of educational programs.

Jetayu Care and Community Empowerment Needs

Jetayu Care integrates six main modules (<https://jetayu.theentitas.com>): NLP-based Sentiment Analysis, Screening Tools with standardized psychometric instruments, Reflective Prompting contextualized with Aswaja values and Madurese culture, Narrative Therapy, an Analytics Dashboard, and Integrated Survey Forms. The platform also features real-time facial expression detection and voice tone analysis for multimodal detection. The uniqueness of Jetayu Care lies in the integration of values into each module, in line with an AI ethics framework that emphasizes local context (Floridi et al., 2018; UNESCO, 2021), adapted to the Aswaja Islamic culture and Madurese local wisdom, such as the values of togetherness, obedience to religious leaders, and mutual cooperation (Mujtahidin, 2023).

Integration of Direct Citizen Pedagogy into IPNU Community Interventions

Direct Citizen Pedagogy consists of four pillars that are coherently integrated (Mujtahidin, 2023). In the Value Framing pillar, Jetayu Care frames mental health as a value-based issue related to human dignity, social responsibility, and spirituality in accordance with Aswaja, referring to the concept of hifdz al-nafs (preserving the soul) within the maqashid al-sharia. In the Reflective Engagement pillar, the Reflective Prompting and Narrative Therapy modules provide a space for reflection that adopts conscientização (Freire, 1970) integrated with the Islamic tradition of muhasabah. Collaborative Action empowers IPNU members as peer educators, aligning with IPNU's tradition of cadre development through MAKESTA. Under the Digital Literacy Integration pillar, the platform equips members with critical and ethical digital literacy skills. The 3F-RVLM cycle (Feel, Find, Flow) facilitates the process of recognizing emotions, making sense of experiences, and taking sustained, concrete action. The community-based

sustainability model is designed through the training of peer educators, the integration of the program into IPNU's routine activities, the sustainable use of the platform, and limited guidance from the proposing team.

Implications for Community Empowerment and Relevance to National Policy

The integration of Jetayu Care into the DCP framework within the IPNU community has significant implications. First, the platform expands access to early detection for youth communities based on religious organizations by leveraging existing organizational structures (Ife & Tesoriero, 2016). Second, the reflective-values pedagogical approach empowers youth to become active participants. Third, integration with DirectCitizen through #JagaDigitalBangsa fosters collective awareness. Fourth, the peer educator training program creates a multiplier effect within school environments and the broader community. These findings are relevant to Minister of Communication and Digital Affairs Regulation No. 9 of 2026 regarding restrictions on social media access for children under 16 years of age. Community-based interventions complement regulatory policies with an educational and preventive approach that empowers. This aligns with SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), and the Asta Cita in strengthening human resources and driving technology-based educational transformation toward Indonesia's Golden Generation 2045.

The principal novelty of this study lies in the development of an integrated conceptual model combining four previously disconnected domains: artificial intelligence-based mental health screening, Direct Citizen Pedagogy, community empowerment, and religious youth organizations. Existing studies generally emphasize only one or two of these dimensions. This study conceptualizes technology not merely as a diagnostic instrument but as a pedagogical medium facilitating reflective learning, collaborative action, and sustainable community empowerment.

Discussion

Unlike most digital mental health studies that emphasize technological accuracy or clinical effectiveness, the proposed model positions technology within broader educational and community contexts. This finding supports Lehtimäki et al. (2021), who argue that digital technology expands access to mental health services, while extending Mittelstadt's (2019) argument that ethical AI requires contextual adaptation. Rather than functioning independently, Jetayu Care integrates cultural values, reflective pedagogy, and community participation into AI-supported intervention processes. Consequently, technological innovation becomes inseparable from educational transformation and social empowerment.

The findings of this study indicate that mental health challenges among adolescents in the digital age are influenced not only by the high intensity of social media use but also by low levels of critical reflection and digital literacy in navigating digital social dynamics. These conditions demonstrate that mental health issues cannot be understood solely as clinical issues but rather as social phenomena influenced by the interaction between technology, culture, and the community environment. Thus, interventions that focus solely on individual psychological aspects may prove ineffective if not accompanied by efforts to strengthen the social capacity of the community. These findings reinforce Castells' (2010) argument regarding the "network society," in which

digital spaces have become an integral part of people's social lives. In this context, social media is no longer merely a means of communication but shapes patterns of social interaction, self-identity, and mechanisms of social validation among adolescents. In line with the concept of the "infosphere" proposed by Floridi (2014), the boundary between online and offline life is becoming increasingly blurred, so that individuals' psychological experiences are also shaped by their daily digital activities.

Therefore, the increasing use of technology must be balanced with digital literacy skills that enable adolescents to understand, evaluate, and manage the psychological impacts of digital interactions. The results of this study also indicate that the use of Jetayu Care is not intended as a substitute for professional mental health services, but rather as a tool for early detection and a community-based educational platform. This approach aligns with trends in digital mental health that position technology as a means to expand access to psychological services, particularly for communities with limited access to mental health professionals (Lehtimäki et al., 2021; Chia & Zhang, 2022). In Indonesia, the ratio of psychiatrists—which remains far below the WHO standard—makes technology-based approaches a strategic alternative for strengthening promotive and preventive services before individuals enter a phase of more serious mental disorders.

However, this study also shows that the effectiveness of technology is greatly influenced by the system's ability to adapt to the social and cultural context of the community. Mittelstadt's (2019) critique regarding the limitations of AI ethical principles without contextual implementation is relevant to this study. Jetayu Care seeks to address these challenges by integrating the values of Ahlussunnah wal Jamaah (Aswaja) Islam, Madurese culture, and the principles of Direct Citizen Pedagogy into the mechanisms of reflection, guidance, and interpretation of screening results. Thus, technology does not function as a neutral system but becomes a pedagogical medium that internalizes local values in the process of community empowerment.

The integration of Direct Citizen Pedagogy is the primary conceptual contribution of this study. Unlike most digital mental health approaches, which focus on diagnosis and individual services, Direct Citizen Pedagogy views mental health as part of the development of digital citizenship. Through four main pillars—value framing, reflective engagement, collaborative action, and digital literacy integration—the intervention process does not stop at identifying psychological risks but continues with the strengthening of critical awareness, value formation, and community-based social action. This approach demonstrates an expansion of technology's function from merely a detection tool to an instrument of social transformation through educational processes. Research findings also show that religious organizations such as IPNU possess strong social capital to support the sustainability of community-based mental health programs. Their well-established organizational structure, culture of leadership development, and emotional bonds among members enable the formation of peer support mechanisms that are more sustainable than temporary external interventions. These conditions support the theory of community empowerment proposed by Ife and Tesoriero (2016), which states that the success of social interventions is greatly influenced by the ability to leverage the social and institutional capital already possessed by the community. In practical terms, this study has important implications for the development of adolescent mental health policies in Indonesia.

The integration of AI-based technology with civil society organizations demonstrates that mental health promotion does not always have to begin with healthcare institutions, but can be carried out through educational communities and youth organizations that already possess social legitimacy. This model also supports the implementation of the national digital transformation policy, the promotion of digital literacy, and the achievement of the Sustainable Development Goals (SDGs), particularly SDG 3 on good health and well-being and SDG 4 on quality education. Nevertheless, this study still has several limitations. This study employs a conceptual approach enriched by case studies of implementation; therefore, it has not yet produced empirical measurements of Jetayu Care's effectiveness in improving adolescents' mental health. Future research should develop an experimental or mixed-methods design involving a larger sample size to test the model's validity, the effectiveness of each AI module, and the sustainability of implementation across various youth organizations and educational communities in Indonesia.

This study contributes theoretically by extending Direct Citizen Pedagogy beyond digital citizenship education toward community-based mental health promotion. The proposed framework integrates pedagogical theory, AI ethics, community empowerment, and digital mental health into a single analytical model. Consequently, Direct Citizen Pedagogy is repositioned not only as a learning framework but also as a social intervention framework capable of strengthening adolescent psychological resilience. Practically, the proposed model offers guidance for schools, universities, youth organizations, local governments, and mental health practitioners seeking to implement community-based digital mental health interventions. The framework can serve as a reference for developing peer educator programs, AI-assisted screening platforms, digital literacy initiatives, and youth empowerment strategies adapted to local cultural contexts.

CONCLUSION

Digital transformation has brought about fundamental changes, with more than 6 billion internet users worldwide and 230 million in Indonesia—a demographic dominated by adolescents under the age of 18 who face serious mental health risks. The IPNU community in Socah Subdistrict faces specific challenges in the form of digital social pressure and the lack of early detection mechanisms. Jetayu Care, integrated with Direct Citizen Pedagogy, offers innovative and context-specific solutions through an approach centered on values, critical reflection, collaborative action, and integrated digital literacy. This model has the potential to serve as a prototype for technology-based community empowerment programs within religious youth organizations and requires multi-stakeholder collaboration through ongoing research, field trials, cadre capacity building, literacy campaigns, and policy advocacy toward Indonesia Emas 2045.

This study primarily contributes to conceptual development by proposing the Jetayu Care–Direct Citizen Pedagogy framework as an integrated model for community-based adolescent mental health intervention. Future studies should validate the framework empirically through experimental, mixed-method, or longitudinal research involving broader educational and community settings to examine its effectiveness, usability, and long-term sustainability.

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