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# Psychological mechanism and the appeal of radical narratives: a mixed-methods study of terrorist convicts in Indonesia

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**Objective:** Studies on radicalization require a nuanced understanding of the narratives that legitimize violent actions, as well as the complex processes underlying radicalization, in order to formulate effective and targeted counter-radicalization strategies.

**Method:** To address this gap, a mixed-methods approach was conducted using the 3N Model of Radicalization and Identity Fusion Theory as a theoretical framework. A total of 41 convicted terrorists (97.6% male;  $M = 39.0$  years,  $SD = 10.47$ ; age range = 24–59 years) across Indonesia agreed to participate in this study. Participants were affiliated with Negara Islam Indonesia (NII), Jemaah Islamiyah (JI), and Jamaah Ansharut Daulah (JAD).

**Results:** Quantitative results indicated that loss of significance, extremist narratives, networks, and identity fusion (with group, leader, and ideology) were significantly correlated with activism and radicalism intentions. Qualitative thematic analysis enriched the findings by revealing distinct patterns in narratives and strategies that emerged across the different groups. JI members were older, more educated, and motivated by collective grievances and ideology, with less violent narratives. In contrast, JAD and NII members often experienced personal crises (loss of significance) that were linked to quest for significance as the driver toward radicalization and more violent adherence to Takfiri narratives.

**Conclusion:** These findings highlight that radicalization pathways vary based on group context—JAD favors rapid recruitment via social media, JI emphasizes long-term ideological dissemination, and NII relies on passive indoctrination. This nuanced understanding can inform tailored, evidence-based counter-radicalization programs sensitive to group-specific dynamics.

### KEYWORDS

identity fusion, narrative, need for significance, network, radicalization

## Introduction

More than two decades have passed since the 9/11 attacks in 2001 and the Bali Bombing I in 2002, yet terrorism has not been completely eradicated. According to a report from [Institute for Economics & Peace \(2025\)](https://www.economicshome.com/), the recidivism rate of convicted terrorists in Indonesia exceeds 11%, highlighting the challenges in the deradicalization process. Furthermore, Indonesia's National Police Special Detachment 88

Anti-Terror (Densus 88) reported the arrest of 59 suspected terrorists, 40 of whom were allegedly planning attacks during the 2024 elections. These findings indicate that terrorism-related activities and threats persist, particularly in the Indonesian context. Although there has been an increase in research on violent extremist groups (Freilich et al., 2024; Jasko et al., 2017; LaFree and Freilich, 2016; Pfundmair et al., 2024), a comprehensive explanation of the causal mechanisms underlying terrorism remains elusive.

The roots of radical Islamic groups in Indonesia can be traced back to Darul Islam (DI) rebellion in the 1950s, also known as Negara Islam Indonesia (NII), which emerged as a response to the establishment of a secular state, with the aim of creating a state governed by Islamic law (Ricklefs, 2014). Following the arrest of its leader, Kartosuwiryo, in 1962, internal fragmentation led to the formation of splinter groups, including Jemaah Islamiyah (JI), founded by key figures such as Abdullah Sungkar and Abu Bakar Ba'asyir (Solahudin and Dave McRae, 2013; Vergani et al., 2022), who then founded the al-Mukmin Islamic boarding school (Pondok Ngruki), which functioned as a cross-generational link within the organization (Miichi, 2016). Furthermore, the 2002 Bali Bombing triggered internal conflicts, ultimately leading Abu Bakar Ba'asyir to establish Jamaah Ansharut Tauhid (JAT), which was later linked to Jamaah Ansharut Daulah (JAD) under the leadership of Aman Abdurrahman (Abdullah, 2018). The evolution of radical Islamic groups in Indonesia reflects an ongoing process of ideological transformation and strategic divergence in achieving their objectives.

Recent research highlights the complex nature of radicalization and the limitations of conventional approaches. According to Da Silva et al. (2023, 2024), existing studies often rely on questionnaires and lack contextual depth, particularly in identifying the individual narratives that resonate during the radicalization process. The process of radicalization requires an explanation that moves beyond simplistic narratives (Githens-Mazer and Lambert, 2010). The role of narratives in the radicalization process is significant, particularly with respect to necessary conditions, cultural influences, emotions, and contextual factors (Jensen et al., 2020; Pemberton and Aarten, 2018). To address this limitation, the present study adopts a mixed-methods approach to examine the fundamental psychological mechanisms underlying radicalization intentions, aiming for a comprehensive understanding that includes the identification of themes within extremist narratives, recruitment strategies, and radicalization pathways. Guided by the 3N Model of Radicalization (Need, Narrative, and Network) and Identity Fusion Theory, this study analyses data from 41 participants affiliated with three terrorist groups in Indonesia, including NII, JI, and JAD. These theoretical frameworks provide lens to explore how personal significance, ideological narratives, and social bonds interact to drive individuals toward violent extremism.

## Need for significance: loss, gain, and threat as motivational factors

Research on radicalization and violent extremism consistently highlights the quest for significance as a fundamental mechanism

activated by significance loss, significance gain, and threat of significance loss (Kruglanski et al., 2018, 2009). Most previous studies consistently demonstrate that experiences of significance loss, such as social rejection (Bäck et al., 2018; Dugas et al., 2016; Knapton et al., 2022; Renström et al., 2020), perceptions of injustice (Lobato et al., 2020, 2021, 2023; Moyano et al., 2022; Resta et al., 2023), and failure to achieve goals or complete tasks (Dugas et al., 2016; Jasko et al., 2017), serve as a driving force for involvement in violent extremism. Aligned with this framework, significance gain has been identified as a motivational factor in individuals' willingness to sacrifice themselves (e.g., suicide attackers) in pursuit of heroic status (martyrdom) and behavioral continuity in the future (Jasko et al., 2019; Webber et al., 2017). However, to the best of our knowledge, empirical evidence on the effects of the threat of significance loss remains limited. This mechanism refers to the anticipation of significance loss, which similarly activates radical tendencies.

In the Indonesian context, the dynamics of radicalization also reflect these motivational factors. Experiences of significance loss are frequently tied to social economic grievances, including economic inequality, political marginalization, unemployment, and weakened state institutions, which have been identified as contributing factors to terrorism (Jati, 2013; Kristiansen, 2003). Additionally, a narrow textual-atomistic interpretation of religious texts has been identified as a contributing factor to radical actions (Rumbaru and Hasse, 2017). Furthermore, media coverage and government labeling of certain Islamic groups in response to terrorism may lead to perceptions of injustice, potentially resulting in recurring acts of terror (Panjaitan, 2020). As a response, the radical groups aim to achieve their primary objective, namely, the replacement of the national foundation with the enforcement of Islamic law and the establishment of a caliphate (Pomalingo et al., 2020; Solahudin and Dave McRae, 2013), underscoring the relevance of 3N Model of Radicalization in explaining both individual and collective motivations for violent extremism.

## Identifying radical narratives: pathways to significance through group ideologies

In the context of radicalism, individuals who perceive their lives as unpredictable or unjust are more likely to adopt rigid ideologies that offer a sense of order, meaning, and personal significance (van Prooijen et al., 2015). In the Indonesian context, the primary grievances underlying this need for significance often stem from the perceived social, economic, and political marginalization of Muslims (Ansori, 2019; Jati, 2013). Extremist narratives play a central role in framing these grievances, identifying out-groups or state actors as responsible and presenting pathways to achieving self-significance and providing justification within shared belief systems (Kruglanski et al., 2013, 2019). These belief systems fulfill a psychological need for epistemic certainty as they provide moral justification and sense of righteousness.

People who perceive the world as unfair or "rigged" against them become more prone to anti-establishment views (van Prooijen, 2020). In Indonesia, such perceptions often manifest in opposition to the secular government system and advocacy for the

implementation of Islamic law or the establishment of a caliphate as a solution (Faiq, 2021). The emergence and expansion of such groups have been facilitated by the post-Soeharto democratic transition (Fealy, 2004), which created greater space for the articulation and dissemination of ideological beliefs previously suppressed under authoritarian rule.

Building on these sentiments, radical Islamist groups in Indonesia have constructed compelling ideological narratives that frame the states as illegitimate while offering religious pathways for restoring justice and significance. These narratives are based on theological interpretations and historical grievances. The trajectory of radical movements in Indonesia has been significantly shaped by the roots of NII, which can be traced back to Darul Islam founded by Kartosuwiryo in 1949 (Machmudi, 2021). NII's ideology is grounded in a strict interpretation of Qur'anic verses to justify its political aspirations (Fenton, 2015).

Jemaah Islamiyah (JI), another influential group, reflects a close ideological alignment with Al-Qaeda through its pursuit of Islamic law across Southeast Asia. The Pedomannya Umum Perjuangan Al-Jama'ah Al-Islamiyah (PUPJI) serves as a foundational document outlining the structure, principles, and strategies (Pavlova, 2007), with its interpretation of jihad largely shaped by Al-Qaeda's globalist framework (Abdullah and Salleh, 2015). Unlike other militant factions, JI is influenced by Salafi-jihadist movement inspired by Abdullah Azzam and Al-Qaeda's (Halimi, 2018; Kadivar, 2020). JI avoids excessively declaring others apostates and long-term strategies over direct violent action.

In contrast, Jamaah Ansharut Daulah (JAD) exhibits a more extreme stance, rooted in takfiri ideology and a strong affiliation with the Islamic State of Iraq and Syria (ISIS). Its members consider those who do not share its understanding as infidels, thereby justifying acts of violence, including the killing of fellow Muslims (Tabrani and Ashghor, 2023). JAD is characterized by its takfiri ideology, with a particular focus on targeting "near enemies" through lone-wolf attacks and the involvement of families and women in its operations (Habibullah and Makinuddin, 2023; Kadivar, 2020). Although these groups have been designated as terrorist organizations, this has not deterred individuals from embracing their ideology and joining them.

## Networks as sources of shared reality: justification for belief-action alignment

The persistence of needs and narratives is reinforced by the presence of networks that shape both factual and normative realities, while also providing a rewarding function restoring significance to members who conform to group norms (Kruglanski et al., 2019). Additionally, network ties act as catalysts for the transition from radical ideas to radical action, particularly within social bubbles involving friends, romantic partners, or mentors (Neve et al., 2020). In Indonesia's context, NII has shifted from large-scale attacks to lower levels of violence (Fenton, 2015). Its recruitment methods tend to rely on introducing the organization to potential members through educational institutions, personal outreach, and small religious study groups (Ilyasin and Ridho, 2021). Government crackdowns have prevented NII from

operating as a unified organization, causing it to splinter into various groups.

Over time, NII underwent a metamorphosis into several terrorist organizations, most notably Jemaah Islamiyah (JI) and Jamaah Ansharut Daulah (JAD) [Institute for Policy Analysis of Conflict (IPAC), 2018]. JI was established in the early 1990s from former NII members including Abu Bakar Ba'asyir and Abdullah Sungkar (United Nations Security Council, 2015), while a faction of NII's West Java command later pledged allegiance to ISIS and became part of JAD [Institute for Policy Analysis of Conflict (IPAC), 2018]. In sum, NII's ideological and structural legacy fragmented over time and indirectly contributed to the development of these groups, each with their own specific strategies and characteristics.

In contrast to JI's structured and hierarchical organization, JAD employs a more inclusive recruitment approach, utilizing various online platforms, including social media, to disseminate extremist ideology and engage with radicalized individuals (Habibullah and Makinuddin, 2023; Tabrani and Ashghor, 2023). Youth are a primary target of these efforts, as the group constructs narratives that emphasize their psychological needs and offer a sense of purpose through jihad (Huda et al., 2021). Conversely, JI retains a more exclusive recruitment system, primarily through radical madrassas that provide ideological indoctrination and tight-knit social networks that foster long-term radicalization (Magouirk, 2008). JI prepares its members both physically and in combat skills through jihad missions within international networks, such as in Afghanistan and Mindanao (Abdullah, 2009). In sum, social media has emerged as a powerful tool for terrorist group recruitment, particularly for JAD, whereas NII and JI remain more exclusive and continues to rely on educational institutions for recruitment.

The relationships among members of the NII, JI, and JAD remain largely undocumented due to operational security constraints on communication (Miichi, 2016; Schulze and Liow, 2019). However, historical evidence indicates ideological divisions that foster competitive dynamics among these groups (Pelletier, 2021), as evidenced by JI members' refusal to affiliate with the Majelis Mujahid Ba'asyir group (Permana and Adam, 2019). This study therefore focuses on within-group analysis, encompassing recruiting techniques and the impact of networks as the sources of belief validation.

## The strength of identity fusion in predicting extreme behavior

Identity fusion and 3N model of Radicalization are two theoretical frameworks that offer complementary insights into why individuals commit extremist causes. The most recent definition of Identity Fusion is as a strong psychological bond in which personal identity deeply interconnected with the target (groups, ideologies, and/or influential leaders), resulting "identity synergy" that motivates self-sacrificing actions (Swann et al., 2024). Identity fusion can lead to costly sacrifices for ideological convictions, as seen in jihadists who admire radical groups (Gómez et al., 2021). Furthermore, a systematic review conducted by Wolfowicz et al. (2021) showed identity fusion as one of the strongest risk

factors for cognitive and behavioral radicalization. The 3N model of radicalization on the other hand, posits three components of radicalization, including need (motivational components for the quest for significance), narrative (ideological belief systems that justify action), and network (source of validation and shared reality) (Kruglanski et al., 2013, 2019, 2022). In conjunction with the 3N Model, identity fusion enhances the predictive capacity for assessing the extent to which individuals are inclined to engage in violent radical actions.

The 3N model emphasizes that both social networks and narratives are critical drivers of radicalization, while fusion integrates these by measuring how deeply an individual internalizes their network and narrative as part of the self. The literature reviewed converges on the idea that identity fusion is a key *psychological glue* linking people to networks and narratives (Gómez et al., 2021, 2022; Kruglanski et al., 2019; Kruglanski A. W. et al., 2022; Swann et al., 2024). In essence, identity fusion offers a quantitative means of capturing the qualitative dimension of the 3N model, highlighting whether an individual's radicalization is primarily network-fused (such as group membership or attachment to a leader), narrative-fused (devotion to ideological narrative) or both. This integration of frameworks provides a novel perspective and tool for understanding and potentially disrupting the process of radicalization.

## The present study

This study integrated the 3N Model of Radicalization and Identity Fusion Theory to provide a deep understanding of radicalization, encompassing motivational, contextual, and identity-based factors. The research compared members of NII, JI, and JAD across demographic variables in Indonesia. A mixed-method approach was employed, combining quantitative survey analysis for each examined variable with qualitative data obtained through semi-structured interviews. Key areas of descriptive analysis included individuals' roles, motivations, and initial contact or influence in becoming radicalized. Furthermore, thematic analysis was conducted on the components of the 3N Model, including the need for significance (loss of significance, threat of significance loss, and significance gain), narratives (ranging from non-violent to violent), and network structures (non-violent to violent). Additionally, the study examined identity fusion with the group, leader, and ideology to assess individuals' tendencies to engage in radical actions.

## Method

### Study design

We conducted cross-sectional parallel mixed-methods design, which involves the simultaneous collection of both qualitative and quantitative data at a single point in time (Creswell and Plano Clark, 2018). By integrating patterns derived from the quantitative findings with qualitative narratives, this approach enables a more comprehensive understanding of group dynamics and pathways to radicalization (Klein et al., 2019). Quantitative data were collected

using paper-based questionnaires, while qualitative data were obtained through semi-structured interviews as shown in Figure 1. This study underwent an ethical review board and received approval from the Konsorsium Psikologi Ilmiah Nusantara (KPIN) in Indonesia (No: 174/2024 Etik/KPIN), as well as permission from prisons authorities to conduct research in the correctional facilities.

## Participants

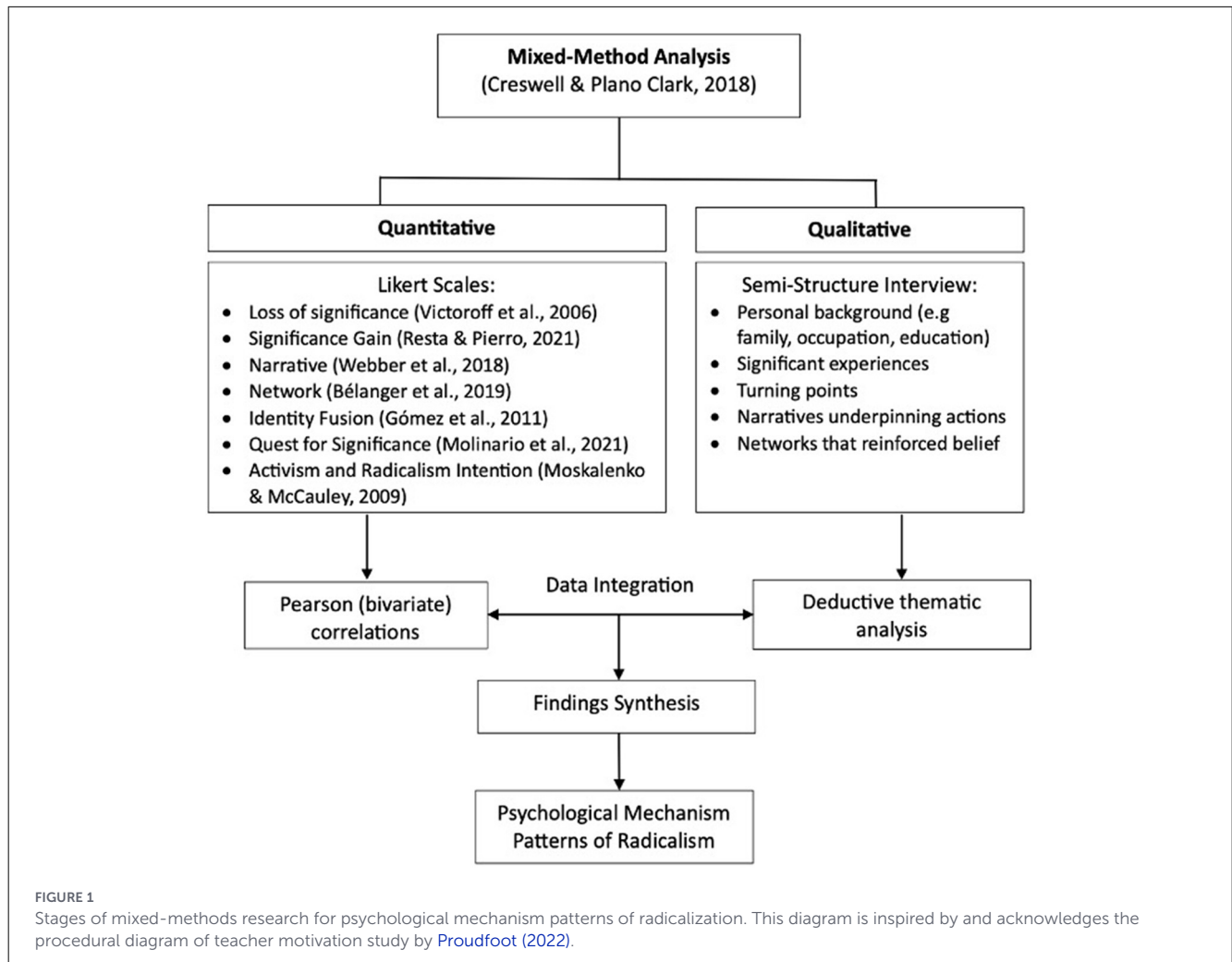
Before participant recruitment, permission was obtained from Directorate General of Corrections. This process involved submitting research protocols, presenting research plan, and obtaining institutional review board approvals. Participants were recruited from a list of terrorist convicts affiliated with NII, JI, and JAD, provided by prison authorities at selected correctional facilities across Indonesia. All data collection was conducted within correctional facilities.

We acknowledge that the prison setting may have influenced participant responses, including surveillance effects, social desirability bias, power dynamics, or perceived coercion (De Pelecijn et al., 2021; Lafferty, 2022). As mitigation strategies, we employed several strategies which highlighted that: (1) Participation was entirely voluntary with no coercion or pressure without any consequences; (2) Any information provided by participants would not influence their detention period, parole consideration, or legal status; (3) All data would be anonymized and kept confidential; (4) Participants could withdraw at any time or decline to answer any specific question.

Initially, there were 44 terrorist convicts that were identified for participation. However, two declined to participate, and one completed only the questionnaires and not the interviews. As a result, the final sample consisted of 41 terrorist convicts (97.6% male; age range: 24–59 years;  $M = 39$ ;  $SD = 10.469$ ). These individuals were incarcerated in various regions across Indonesia and included members of JI ( $N = 16$ ), JAD ( $N = 19$ ), and NII ( $N = 6$ ). Participant demographics are summarized in Table 1.

## Procedure

Prior to any data collection, participants were informed about the nature, purpose, and expectations of the study. They were notified that their participation was completely voluntary, and that they would receive neither incentives (such as a reduction in their sentence) for participating nor any consequences for declining to do so. Participants then provided their consent to participate in the study, including consent for audio recording of the interviews. One-by-one interviews and survey administration were conducted inside the prison, accompanied by prison authorities and prison officers. Surveys were administered in person by interviewers using a paper-and-pencil format. Following the survey, semi-structured interviews were conducted and audio-recorded with the participants' consent by interviewers. All collected data were anonymized, and signed consent forms were stored separately from the survey materials to ensure that participant identities could not be traced or triangulated from any data component.



## Quantitative measures

All measurements were adapted into Indonesian through the translate-back-translation method (Beaton et al., 2000). The measurements included constructs from 3N Model of Radicalization and Identity Fusion Theory to predict radicalism intentions, as detailed below.

### Loss of significance

This construct was measured using the Oppression Questionnaire (Victoroff et al., 2006), which consists of 32 items (e.g., “We are treated as if we are inferior”;  $\alpha = 0.97$ ), rated on a Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree).

### Significance gain

This construct was measured using the Ambition Scale (Resta et al., 2021), which consists of 10 items assessing personal goals and ambition (e.g., “I aspire to do something special”;  $\alpha = 0.80$ ).

Responses were rated on a 5-point Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree).

### Narrative

This construct was measured using the Islamic Extremism Scale (Webber et al., 2018), which consist of 11 items to capture conservative and fundamentalist beliefs, including support for violent jihad against perceived infidels (e.g., “Suicide bombers will be rewarded for their deed by God”;  $\alpha = 0.93$ ). Responses were rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

### Network

This construct was measured using the Proclivity to Join a Radical Group Scale (Bélanger et al., 2019), which consists of two items ( $\alpha = 0.99$ ), rated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). The items were “I would support a group that is not afraid of defying the law to fight for its

TABLE 1 Demographic characteristics of participants by group affiliation.

Characteristic	JAD (N = 19)	JI (N = 16)	NII (N = 6)
Gender	Male = 18 Female = 1	Male = 16	Male = 6
Age at interview	Range = 24–40 (M = 30.37; SD = 4.73)	Range = 34–59 (M = 48.81; SD = 6.40)	Range = 27–51 (M = 40.17; SD = 8.98)
Marital status	Single = 4 Married = 12 Divorced = 3	Married = 16	Married = 6
Educational background	Not graduated (elementary) = 2 Elementary = 2 Junior high = 3 Senior high = 6 Not graduated (diploma) = 1 Diploma = 2 Bachelor's = 3	Not graduated (junior high) = 1 Senior high = 3 Diploma = 1 Bachelor's = 2 Not graduated (master's) = 1 Bachelor's = 8	Elementary = 1 Junior high = 2 Diploma = 1 Bachelor's = 2
Social status	Far below average = 3 Slightly below = 3 Average = 11 Slightly above = 1 NA = 1	Slightly below = 4 Average = 10 Slightly above = 1 Far above = 1	Far below = 2 Slightly below = 1 Average = 2 Slightly above = 1

JAD, Jemaah Ansharut Daulah; JI, Jemaah Islamiyah; NII, Negara Islam Indonesia. “Not graduated” refers to individuals who did not complete the indicated education level.

principles” and “I would join a group that is willing to use all means possible to defend its ideology”.

### Identity fusion

This construct was measured using the Verbal Identity Fusion Scale (Gómez et al., 2011), regarding the extent to which several statements reflect their relationship with the group ( $\alpha = 0.94$ ), leader ( $\alpha = 0.94$ ), and ideology ( $\alpha = 0.95$ ). Each subscale consists of 7 items (e.g., “I am one with my group”), rated on a 7-point Likert scale ranging from 0 (strongly disagree) to 6 (strongly agree).

### Quest for significance

This construct was measured using the Quest for Significance Scale (Molinario et al., 2021), which consists of six items (e.g., “I

wish I could be more respected”;  $\alpha = 0.88$ ), rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

### Activism and radicalism intention

This construct was measured using the Activism and Radicalism Intentions Scale developed by Moskalenko and McCauley (2009), which includes two subscales consisting of four items each: the Activism Intention Scale (AIS) (e.g., “I would donate money to an organization that fights for my group’s political and legal rights”) and the Radicalism Intention Scale (RIS) (e.g., “I would attack police or security forces if I saw them beating members of my group”). The total of 8 items ( $\alpha = 0.92$ ), were rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

### Qualitative data collection

After providing informed consent and agreeing to be recorded, participants were interviewed in person inside the prisons for 60–90 min. The semi-structured interview included open-ended questions about participants’ past experiences before joining the group, after joining the group, and after being detained. We explored participants’ backgrounds (e.g., family, occupation, education), significant experiences leading to radicalization, turning points that influenced their lives, narratives underpinning their behavior, and networks that reinforced their beliefs. The qualitative data offered nuanced insights into the appeal of radical narratives, recruitment methodologies, and the psychological and social mechanisms underpinning radicalization. All interview recordings were transcribed verbatim by a trained staff member and the transcriptions were quality-checked by the researchers. In addition, participants completed demographic questionnaires, which included information on gender, religion, age, domicile, marital status, educational background, employment, social status, length of imprisonment, group affiliation, role within the group, and the name of their inspirational or ideological authority.

### Data analysis

For the quantitative analysis, jamovi statistical software was used to calculate Pearson (bivariate) correlations among the variables measured (The Jamovi Project, 2024), as presented in Table 2. For qualitative analysis, we employed a deductive thematic analysis approach using ATLAS.ti V.5.8.0. This method incorporates pre-defined categories derived from a clear theoretical framework established through a comprehensive literature review (Braun and Clarke, 2006). The theoretical framework was based on the 3N Model of Radicalization and Identity Fusion Theory, with predetermined categories and operational definitions derived from the theoretical literature. We integrated the qualitative and quantitative findings in a data triangulation strategy to explore the extent to which the findings complement, converge, and/or diverge (Lovette et al., 2024; Östlund et al., 2011; Turner et al., 2015). The

TABLE 2 Intercoder reliability (ICR) analysis results.

Meta category	Mean ICR
Need for significance	80%
Quest for significance	83.33%
Violent narrative	86.67%
Violent network	89.13%
Identity Fusion	100%

integrated approach enhanced the robustness of both quantitative and qualitative findings and provided a more comprehensive understanding of the underlying processes of radicalization.

## Intercoder reliability analysis

Intercoder reliability (ICR) is essential for maintaining the reliability and validity of the qualitative analysis (Burla et al., 2008; O'Connor and Joffe, 2020). The coding steps were as follows: (1) development of a preliminary codebook with code definitions and inclusion/exclusion criteria, including need for significance, quest for significance, violent narrative, violent network, and identity fusion; (2) training for coders that includes review of the codebook and discussion of the ambiguous cases; (3) independent coding of 41 interview transcripts by lead author; and (4) Intercoder reliability assessment using 100 randomly selected coded sentences.

The ICR assessment involved two independent coders who were tasked with re-coding the 100 anonymized and randomized sentences based on a coding manual and guidelines developed by the lead authors. Both coders held a master's degree in psychology, and one had in-depth knowledge of terrorist group contexts in Indonesia. Coders were instructed to either agree or disagree with the given classifications and, if they disagreed, to provide an alternative category they deemed more appropriate. At the conclusion of the process, the researchers calculated the percentage agreement between the two independent coders and the lead author's original coding. Disagreements between coders were resolved through an iterative consensus process (Cascio et al., 2019; Hemmler et al., 2020), including a joint review conducted by the lead author and two coders and aimed to reaching consensus. However, if there is still disagreement, the case can be escalated to a senior researcher with expertise in terrorism to refine code definitions in the codebook (O'Connor and Joffe, 2020). This iterative process enhances the clarity and reliability of the coding scheme.

The results of the intercoder reliability (ICR) analysis (Table 2), indicated generally high levels of agreement across all five meta-categories. The mean ICR scores range from 80% to 100%, suggesting substantial to perfect agreement (Landis and Koch, 1977; Miles et al., 2014). The high degree of agreement across coders with similar academic backgrounds, including one with contextual expertise in terrorism in Indonesia, suggests that the categories were particularly promising. Notably, differences among coders may also provide thoughtful reflection, clarification of category definitions, and enhancement of the coding manual. These

variations may further indicate ambiguities in the text or reveal multiple layers of meaning.

## Results

### Quantitative findings

The correlation analysis revealed significant relationships between demographic-psychological factors and activism and radicalism intentions (Table 3). Loss of significance showed a strong positive correlation ( $r = 0.501$ ,  $p < 0.001$ ) with activism and radicalism intentions, emphasizing its critical role as a motivational driver. Within the 3N Model framework, network ( $r = 0.438$ ,  $p = 0.004$ ) and narrative ( $r = 0.596$ ,  $p < 0.001$ ) were significantly associated with activism and radicalism intentions. Identity fusion emerged as a significant factor, with fusion with a group ( $r = 0.611$ ,  $p < 0.001$ ), a leader ( $r = 0.492$ ,  $p = 0.001$ ), and an ideology ( $r = 0.690$ ,  $p < 0.001$ ) all showing strong correlations. Group-specific analyses were conducted using indicator (one-hot) dummy coding, in which each reference group was coded as 1 and the remaining groups were coded as 0. Accordingly, the correlations analyses revealed distinct patterns for Jemaah Islamiyah (JI) and Jemaah Ansharut Daulah (JAD). For JI, age ( $r = 0.759$ ,  $p < 0.001$ ) and education ( $r = 0.456$ ,  $p = 0.003$ ) were positively correlated, while loss of significance ( $r = -0.346$ ,  $p = 0.027$ ), network ( $r = -0.402$ ,  $p = 0.009$ ), and narrative ( $r = -0.571$ ,  $p < 0.001$ ) were negatively correlated. In contrast, JAD demonstrated negative correlations with age ( $r = -0.776$ ,  $p < 0.001$ ) and education ( $r = -0.417$ ,  $p < 0.001$ ) but positive associations with loss of significance ( $r = 0.443$ ,  $p = 0.005$ ), network ( $r = 0.553$ ,  $p < 0.001$ ), and narrative ( $r = 0.695$ ,  $p < 0.001$ ).

In general, the tested variables (both demographic and psychological) were correlated with activism and radicalism intentions. However, JI exhibited a rather unique pattern in that participants affiliated with JI tended not to experience a loss of significance. Furthermore, the networks and narratives they built were generally non-violent. Therefore, when analyzing violent extremism and radicalism in Indonesia, it is essential to consider the differences in group contexts.

### Qualitative findings

A thematic qualitative analysis of transcripts from 41 participants revealed distinct patterns among the three major terrorist groups in Indonesia, namely NII, JI, and JAD (see Appendix 1). Within the *Need* component of the 3N model, the theme of loss of significance emerged especially salient. This was further supported by quantitative findings, where loss of significance was significantly correlated with activism and radicalism intention, suggesting that individuals expressing this theme more frequently were also more inclined toward radical actions. This convergence between qualitative and quantitative analyses strengthened the validity of the result. At the group level, members of JAD primarily experienced a loss of significance (56.50%), stemming from personal struggles, including

TABLE 3 Pearson (bivariate) correlations.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Age	—														
(2) Education	0.302	—													
(3) Social Status	0.127	0.120	—												
(4) JAD	-0.776***	-0.417**	-0.123	—											
(5) JI	0.759***	0.456**	0.244	-0.743***	—										
(6) NII	0.047	-0.040	-0.164	-0.385*	-0.331*	—									
(7) Significance Loss	-0.386*	-0.083	0.245	0.433**	-0.346*	-0.133	—								
(8) Significance Gain	0.006	-0.126	0.323*	-0.106	0.248	-0.192	0.272	—							
(9) Network	-0.452**	-0.110	0.042	0.553***	-0.402**	-0.224	0.484**	-0.066	—						
(10) Narrative	-0.544***	-0.277	-0.180	0.695***	-0.571***	-0.192	0.430**	-0.254	0.820***	—					
(11) Quest for Significance	-0.354*	0.095	0.030	0.191	-0.098	-0.134	0.143	0.517***	0.096	0.051	—				
(12) Fusion with Group	-0.144	-0.141	-0.094	0.134	-0.130	-0.010	0.428**	-0.005	0.479**	0.558***	-0.123	—			
(13) Fusion with Leader	-0.242	-0.180	-0.136	0.200	-0.270	0.091	0.417**	-0.126	0.521***	0.563***	-0.143	0.889***	—		
(14) Fusion with Ideology	-0.172	-0.201	-0.121	0.174	-0.179	0.001	0.466**	0.072	0.445**	0.515***	0.012	0.806***	0.723***	—	
(15) Activism and Radicalism Intention	-0.295	-0.056	0.013	0.287	-0.179	-0.157	0.501***	0.105	0.438**	0.596***	0.090	0.611***	0.492**	0.690***	—

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

drug abuse, economic hardship, family conflict, and traumatic experiences. Members of NII also exhibited themes similar to those found among JAD members. In contrast, the theme of significance loss was less prevalent among JI members (26%), who were more frequently motivated by collective grievances, in particular perceived injustices that are experienced by the Muslim community. This indicated a radicalization process that is more ideologically driven, and one that is rooted in a collective sense of injustice rather than in individual psychological distress.

The data further suggested that the experience of significance loss activates an individual's need for significance. Logically, the dominance of the significance loss theme among JAD members (56.50%) aligned with the prominence of the quest for significance theme (60.47%), which was more dominant compared to the other two groups. Narratives that justify violent actions were more prominent among JAD members (57.72%), particularly when compared to JI (24.83%), which also aligned with the correlational findings. The core theme among JAD members was the *Takfir* ideology, which promotes the belief that Muslims can be declared infidels (*kafir*) if they deviate from Islamic teachings. This ideology was also found within NII, reinforcing the notion that both JAD and NII members tend to hold more exclusivist and rigid interpretations of religion. In contrast, the most prevalent theme among JI members was the expression of negative sentiments toward the government and the advocacy for the establishment of *sharia* (Islamic law). Although all three groups demonstrated distinct narrative styles, the most salient contrast emerged between JAD and JI—JAD's narratives were more action-oriented, whereas JI's narratives tend to be more ideological and institutional, without direct support for violence.

The theme of networks that reinforced belief and served as sources of validation appeared more prominently among JI members (47.08%) compared to those affiliated with JAD (42.53%) and NII (10.39%). While the qualitative frequency of this theme was highest among JI members, the quantitative findings indicated a different pattern in how network affiliation related to radical intentions. Specifically, JAD members explicitly expressed interest in joining radical groups to defend their principles. Furthermore, they tended to utilize social media platforms, peer influence, and the authority of key figures affiliated with ISIS (e.g., Abu Bakar al-Baghdadi), reflecting a more fragmented and inclusive recruitment strategy. In contrast, JI and NII operated primarily through offline networks and did not rely on social media for recruitment. Most JI members were recruited through educational institutions that are indirectly affiliated with the terrorist groups. This explained the negative correlation, as these institutions were not overtly labeled as radical.

Fusion, which reflects the degree of feeling of oneness with the group, leader, or ideology, emerged as a significant theme in the qualitative data as well. Themes of fusion with the group (42.86%) and leader (69.32%) were most commonly found among JI members, reinforcing the collectivist nature of JI, in which individuals perceive their personal identity as inseparable from the organization and its leadership. In contrast, fusion with ideology appeared more prominently among JAD members (56.25%). Similar to the pattern observed in JI, the most dominant fusion theme among NII members was fusion with group (18.37%). Due to their fragmented and decentralized structure, which limits opportunities for strong interpersonal or organizational bonds,

JAD members exhibited weaker group cohesion, indicating that their radicalization process tends to be more individualistic. These patterns suggested that organizational structure contribute to shaping the nature of fusion in radical groups.

To explore the relationship between identity fusion (with group, leader, and ideology) and 3N components (narrative and network), we conducted correlation analysis between themes frequencies across participant responses (see [Appendix 2](#)). The result indicated positive correlation between fusion with leader and network themes ( $r = 0.328, p < 0.05$ ), suggesting that individuals who frequently referenced a sense of oneness with their leader also described strong social bonds and embeddedness in radical networks. Similarly, fusion with ideology was significantly correlated with narrative themes ( $r = 0.354, p < 0.05$ ), indicating that those who described strong personal alignment with ideological or religious values also tended to articulate justification for violence based on religious/political narratives.

## Discussion

The aim of this mixed methods study was to examine the underlying drivers of radicalization intentions by integrating psychological and contextual group-level factors. Quantitative findings provide preliminary evidence that both demographic and psychological variables are significantly associated with radicalism intentions. Qualitative findings enrich and extend these results by highlighting how narratives resonate with personal experiences and grievances. The findings highlight how extremist narratives provide meaning, a sense of belonging, and moral legitimacy, particularly in contexts of perceived injustice or marginalization, and underscore the dynamic between individual motivations and ideological influences in the radicalization process. This study contributes to a more nuanced understanding of radicalization pathways, particularly offering practical implications for designing adaptive and context-sensitive deradicalization and prevention programs.

Consistent with the existing literature on the psychological mechanisms of radicalization ([Kruglanski et al., 2014, 2018](#)), the quantitative results revealed preliminary correlations among all theorized relationships within the 3N Model of Radicalization and Identity Fusion Theory. Notably, loss of significance emerged as a motivational starting point for the quest for personal meaning, narratives served as cognitive frameworks that offered moral justification for extremist actions, and networks contributed to radicalization by facilitating exposure to and reinforcement of these narratives within social contexts. Moreover, fusion with ideological beliefs and the group played a critical role in shaping both activism and radicalism intentions ([Gómez et al., 2011, 2020](#)). These results suggest that effective deradicalization strategies must be multidimensional, addressing the restoration of personal significance through constructive alternatives, the deconstruction of extremist ideologies, and the establishment of prosocial networks to weaken identity fusion and ideological entrenchment with radical groups and narratives.

Qualitative findings support and expand upon the quantitative results by offering more nuanced insights into individual pathways toward radicalization. The qualitative analysis illustrates how experiences of loss of significance are answered by an extremist

narrative that legitimizes violence and strengthened by a supportive social network of peers or mentors (Bélangier et al., 2019; Kruglanski et al., 2014). JI members are primarily driven by collective grievances and perceived injustices against Muslims, fueling their ideological commitment to jihad and outrage over global Muslim oppression (Permono and Suryana, 2023). By contrast, many recruits of the Islamic State-affiliated Jamaah Ansharut Daulah (JAD) have personal backgrounds marked by trauma, drug abuse, economic hardship, or family conflict that make them especially vulnerable to radicalization through a pathway of individual grievance (Macfarlane, 2024). Yet another pattern is seen with members of Negara Islam Indonesia (NII), who often are drawn in through face-to-face social influence in offline religious study groups rather than through online propaganda (Azizah et al., 2023). These variations in the data reflect that JI emphasizes long-term ideological indoctrination and *ummah* solidarity narratives, JAD opportunistically exploits individual vulnerabilities for rapid mobilization, and NII relies on clandestine network-based recruitment and mentoring.

In addition, the qualitative findings reveal how narratives serve as justification and how networks function as strategic tools for disseminating group ideologies. Violent narratives are more dominant among JAD members, consistent with quantitative findings. The primary theme in these narratives is *takfiri* ideology, which asserts that Muslims deviating from certain teachings may be declared infidels (Tabrani and Ashghor, 2023). These narratives documented how extremist narrative offered religious redemption, allowing violence to be seen as morally justified (Neve et al., 2020). Furthermore, JAD operates in a decentralized manner and extensively uses social media for recruitment [Institute for Policy Analysis of Conflict (IPAC), 2023]. This reflects a rigid and exclusionary religious interpretation. NII's ideology is rooted in a puritanical rejection of the secular Indonesian state ideology, treating the establishment of an Islamic state as a religious obligation (Azizah et al., 2023). NII members exhibit a similar pattern of extreme religious interpretations and operate offline through administrative structures focused on recruitment.

In contrast, correlational analysis indicates that JI members tend to favor non-violent narratives. Their approach emphasizes long-term ideological engagement over immediate violent action and maintains a hierarchical structure with systematic ideological and operational training for members (Satria, 2023). Thus, the data suggest that these groups differ in narrative orientation, recruitment methods, and organizational structures. JAD promotes immediate violence through decentralized online networks, NII operates offline with doctrinal rigidity, and JI adopts structured and hierarchical approach focused on long-term ideological consolidation.

Further insights emerge when interpreting these patterns through the lens of Identity Fusion Theory (Gómez et al., 2011; Swann et al., 2012). The qualitative data indicate that JI members often display high levels of identity fusion with both the group and its leadership. This finding aligns with prior studies showing that JI militants frequently perceive their personal identity as inseparable from the collective identity of the organization and demonstrate deep loyalty to their leaders (Putra and Sukabdi, 2013; Kunst et al., 2019). Among NII members, the central pattern observed is *group fusion*, wherein the collective identity of the envisioned Islamic state becomes integral to their personal identity (Formichi, 2012).

In contrast, JAD members exhibit lower levels of group cohesion due to the organization's decentralized structure and the increasing reliance on online radicalization processes (Ismail, 2024; Satria, 2021). Consequently, the radicalization pathways of JAD members tend to be more individualistic, with identity fusion primarily oriented toward the ideology itself rather than to the group or its leadership (Zuhdi and Syaquillah, 2020). Thus, the pattern of data suggests that variations in identity fusion across JI, NII, and JAD reflect the interplay between organizational structure, recruitment strategies, and narrative framing, which in turn shape the depth of personal commitment and their potential for extremist action.

As the correlations between themes frequencies suggest, individuals who demonstrate strong ideological fusion tend to construct their justification for action through ideological or religious narrative. This narrative-oriented fusion reflects a narrative radicalization pathway, in which the ideological cause becomes a dominant anchor to sacrifice for their ideology (Gómez et al., 2022). We also observed a significant association between fusion with leaders and network-related themes. Leaders can embody social networks and be viewed as both spiritual and tactical guides that can motivate obedience, loyalty, and violence based on their commands (Swann et al., 2024).

Interestingly, our study did not find a significant correlation between fusion with group and network themes. This discrepancy may lie in the symbolic nature of group identity, especially some of our participants radicalized in the digital world. For example, individuals may claim strong identification with abstract entities like “the ummah” or “mujahidin” without being embedded in real interpersonal networks. This insight holds practical implications for tailored interventions. For instance, disrupting ideological fusion may be more effective for those who are primarily narrative-driven. In summary, our results empirically demonstrate that fusion measures can serve as a diagnostic lens into the weight individuals place on their narrative and network (as represented by the group leader), thus reinforcing the integration of identity fusion theory within the broader 3N framework of radicalization.

Although the interview data in this study did not reveal attitudes toward other groups, secondary sources indicate that JI's refusal to join Ba'asyir's Majelis Mujahidin reflects organizational autonomy and ideological differences (Permana and Adam, 2019). Meanwhile, the perception of JI as passive suggests criticism of JI's operational caution (Eliraz, 2010). Further research can access interviews with former members or prisoners and provide primary data on how group members viewed each other within the organization previously or differently.

## Conclusion

The present study demonstrates that pathways toward radicalization among NII, JI, and JAD members are shaped by distinct patterns of significance loss, narrative adoption, network involvement, and identity fusion. In NII, radicalization is primarily driven by perceived political marginalization rooted in historical grievances, reinforced by collective narratives of Islamic state-building and tightly knit offline networks. JI members typically experience collective grievances, with non-violent ideological narratives and structured hierarchical networks promoting fusion

with both the group and its leadership. In contrast, JAD members often enter radical networks as a result of personal crises, engaging with violent takfiri narratives and decentralized online networks, fostering a more individualistic and ideologically fused form of radicalization. These findings underscore the importance of considering group-specific psychological and structural dynamics when designing targeted prevention and deradicalization interventions. In addition, the findings reinforce the integration of identity fusion with the 3N model by, particularly ideology and leaders. By integrating insights from both quantitative and qualitative data, this study offers a more nuanced understanding of the diverse trajectories into violent extremism and supports the integration of identity fusion theory within the 3N model as a diagnostic tool to identify dominant radicalization pathways and inform tailored interventions.

## Limitations

Despite these contributions, several limitations of the present study should be acknowledged. First, our sample size ( $n = 41$ ) is relatively small, especially considering the unequal distribution of groups across organizational affiliation (NII, JI, and JAD), which limits ability to detect statistically significant effects. Consequently, our findings should be interpreted as specific context in Indonesia rather than generalized to all members or supporters of these organizations. Therefore, replication in future studies with larger and more diverse samples is needed to establish statistical robustness and broader patterns. Second, participants were recruited via prison-based interviews with convicted terrorist offenders. As a result, the sample may not represent extremist individuals outside the prison system, and the prison environment itself might have influenced participants' responses. Additionally, the cross-sectional nature of the study prevents the ability to draw conclusions about causality or changes over time. Finally, because all measures were self-reported, the data may be subject to recall bias and social desirability bias, particularly in the prison setting, although social desirability as such does not seem to offer a plausible explanation for the differences between the three groups as presently studied.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

The studies involving humans were approved by the Konsorsium Psikologi Ilmiah Nusantara (KPIN) in Indonesia (No: 174/2024 Etik/KPIN). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## Author contributions

NF: Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Visualization, Writing – original draft, Writing – review & editing. IW: Conceptualization, Investigation, Methodology, Supervision, Validation, Writing – review & editing. AK: Conceptualization, Investigation, Methodology, Supervision, Validation, Writing – review & editing. LH: Investigation, Methodology, Supervision, Validation, Writing – review & editing, Conceptualization. VK: Conceptualization, Investigation, Methodology, Supervision, Validation, Writing – review & editing.

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## Supplementary material

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/frsps.2026.1744932/full#supplementary-material>

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