



POST-TRAUMATIC GROWTH AMONG TSUNAMI SURVIVORS: THE IMPACT OF PROBLEM-FOCUSED COPING ON LONG-TERM RECOVERY

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Abstract

The 2004 Indian Ocean tsunami caused catastrophic damage in Aceh-Indonesia, leaving profound psychological impacts on survivors. This study examines the long-term role of problem-focused coping in predicting post-traumatic growth (PTG) among 145 adult survivors who lost close family members. Using the Post-Traumatic Growth Scale and the Problem-Focused Coping Scale, the results show that problem-focused coping significantly predicts PTG, accounting for 52.34% of the variance ($p < 0.001$). Survivors who employed active, constructive coping strategies displayed greater growth, meaning-making, and personal development nearly two decades after the trauma. These findings underscore the enduring significance of adaptive coping and the importance of incorporating culturally grounded values into post-disaster mental health interventions.

Keywords: Post-Traumatic Growth; Problem-Focused Coping; Disaster Survivor.

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Abstrak

Tsunami Samudra Hindia tahun 2004 menyebabkan kerusakan besar di Aceh-Indonesia, serta meninggalkan dampak psikologis yang mendalam pada para penyintas. Penelitian ini mengkaji peran jangka panjang dari strategi coping berfokus pada masalah (problem-focused coping) dalam memprediksi pertumbuhan pascatrauma (PTG) pada 145 penyintas dewasa yang kehilangan anggota keluarga dekat. Menggunakan Skala Pertumbuhan Pascatrauma dan Skala Problem-Focused Coping, hasil menunjukkan bahwa coping berfokus pada masalah secara signifikan memprediksi PTG, dengan kontribusi sebesar 52,34% ($p < 0.001$). Para penyintas yang menerapkan strategi coping aktif dan konstruktif menunjukkan tingkat pertumbuhan pasca trauma pemaknaan, dan perkembangan pribadi yang lebih tinggi hampir dua dekade setelah bencana. Temuan ini menegaskan pentingnya strategi coping adaptif serta perlunya intervensi kesehatan mental pasca bencana yang berakar pada nilai-nilai budaya dan religius lokal.

Kata Kunci: Pertumbuhan Pasca-Trauma; Penanganan Berfokus pada Masalah; Penyintas Bencana.

INTRODUCTION

Natural disasters are among the most devastating traumatic events humans can endure, often producing far-reaching consequences that extend beyond mere physical destruction. The 2004 Indian Ocean earthquake and tsunami, which devastated Aceh, Indonesia, stands as one of the deadliest natural disasters in recorded history. With a magnitude of 9.3 on the Richter scale and tsunami waves reaching up to 30 meters, the disaster claimed over 230,000 lives and displaced hundreds of thousands.¹

The initial response to such calamities typically focuses on physical recovery and humanitarian aid. However, decades later, the psychological consequences of trauma, along with survivors' capacity for psychological resilience—remain equally significant.² In this context, post-traumatic growth (PTG) has emerged as a compelling framework for understanding how individuals not only recover but also transform after enduring extreme adversity.³

PTG refers to the positive psychological changes that can arise after trauma, typically characterized by increased personal strength, a greater appreciation for life, spiritual

¹Eko Meilianda, Safrida Safrida, and Aina Direzkia, "Recovery and Reconstruction Planning After the 2004 Tsunami in Aceh, Indonesia," *International Journal of Disaster Risk Reduction* 21 (2017): 312–319, <https://doi.org/10.1016/j.ijdr.2016.12.012>.

²Richard G. Tedeschi, Jane Shakespeare-Finch, Kanako Taku, and Lawrence G. Calhoun, *Posttraumatic Growth: Theory, Research, and Applications* (London: Routledge, 2018), <https://doi.org/10.4324/9781315527433>.

³Jane Shakespeare-Finch, Rebecca Bowen, and Sally Martin, "A Systematic Review of Longitudinal Studies Examining Posttraumatic Growth in Adults," *Trauma, Violence, & Abuse* 23, no. 4 (2022): 1110–1124, <https://doi.org/10.1177/1524838020976088>.

development, and new possibilities for one's future.⁴ It is not an automatic or inevitable outcome but is shaped by the cognitive and emotional processes through which individuals interpret and respond to their experiences.⁵

Recent studies suggest that how individuals cope with trauma plays a pivotal role in determining whether PTG is achievable. Among these strategies, problem-focused coping—defined as the active management or resolution of the stressor—has been identified as particularly conducive to fostering growth.⁶ By encouraging survivors to engage constructively with their reality, problem-focused coping can promote self-efficacy and foster a sense of purpose, both of which are essential to PTG.

Despite extensive literature linking coping to PTG, much of the research focuses on Western populations and short-to-medium-term recovery periods. Longitudinal perspectives examining trauma adaptation over decades remain rare.⁷ This gap in the literature limits our understanding of how coping mechanisms function over time, particularly in non-Western cultural contexts where religious and communal values may shape distinct coping styles.⁸

Aceh presents a unique context for such inquiry. As a Muslim-majority region governed by Islamic law, Acehese survivors often draw on religious principles such as *sabar* (patience), *tawakkul* (trust in God), and *ikhlas* (sincerity) to endure hardship.⁹ These principles may inherently support problem-focused coping by encouraging proactive, responsible engagement with life's challenges while maintaining spiritual resilience. The long-term perspective of this study offers a valuable lens for understanding the evolution of trauma responses over time. While short-term coping may involve immediate emotional regulation, long-term psychological growth is often rooted in meaning-making, goal redefinition, and active efforts to rebuild one's life.¹⁰

In this context, problem-focused coping may serve not only as a short-term response but as an enduring strategy that helps individuals integrate the trauma into a coherent life

⁴Richard G. Tedeschi, Jane Shakespeare-Finch, Kanako Taku, and Lawrence G. Calhoun, *Posttraumatic Growth: Theory, Research, and Applications* (London: Routledge, 2018), <https://doi.org/10.4324/9781315527433>.

⁵Elia Fino, Giovanni Martino, and Eliana Lombardi, "Predictors of Posttraumatic Growth in the Aftermath of the COVID-19 Pandemic: The Role of Resilience and Meaning-Focused Coping," *Journal of Loss and Trauma* 26, no. 8 (2021): 722–732, <https://doi.org/10.1080/15325024.2020.1867076>.

⁶Jitprapa Hanprasertpong, Apinya Sookprasert, and Supattra Sirirat, "Coping Strategies and Posttraumatic Growth among Thai Breast Cancer Survivors," *Asian Pacific Journal of Cancer Prevention* 24, no. 1 (2023): 177–183, <https://doi.org/10.31557/APJCP.2023.24.1.177>. Angeliki Kalaitzaki, "Posttraumatic Growth in Response to COVID-19 Pandemic: The Role of Meaning in Life, Resilience and Coping Strategies," *Psychological Trauma: Theory, Research, Practice, and Policy* 13, no. 4 (2021): 448–455, <https://doi.org/10.1037/tra0000946>.

⁷Christine L. Seaton, Nadine D. Oelke, and Jennifer Berg, "Decolonizing Mental Health Services in Disaster Response: A Scoping Review," *International Journal of Environmental Research and Public Health* 18, no. 7 (2021): 3702, <https://doi.org/10.3390/ijerph18073702>.

⁸Alhuwailah, Abdullah, Mohammad R. Khodabakhsh, and Fatima Khamis, "Religion, Coping, and Mental Health: A Study among Muslim Trauma Survivors," *Journal of Religion and Health* 60, no. 1 (2021): 122–136, <https://doi.org/10.1007/s10943-020-01120-w>.

⁹Arif Budianto, "Religious Coping and Resilience among Muslim Disaster Survivors in Indonesia," *Journal of Religion and Health* 59, no. 3 (2020): 1451–1466, <https://doi.org/10.1007/s10943-019-00880-3>.

¹⁰Elia Fino, Giovanni Martino, and Eliana Lombardi, "Predictors of Posttraumatic Growth in the Aftermath of the COVID-19 Pandemic: The Role of Resilience and Meaning-Focused Coping," *Journal of Loss and Trauma* 26, no. 8 (2021): 722–732, <https://doi.org/10.1080/15325024.2020.1867076>.

narrative. Survivors who adopt this approach may demonstrate greater adaptive flexibility, allowing them to pursue education, rebuild livelihoods, or assume new roles within their families and communities—each a pathway toward PTG.¹¹

Drawing upon Lazarus and Folkman's (1984) transactional model of stress and coping, problem-focused coping can be seen as both a cognitive and behavioral process. It requires individuals to appraise the stressor as manageable and to believe in their capacity to influence outcomes. Over time, this intentional engagement fosters psychological resilience and facilitates the reappraisal of traumatic events as opportunities for growth.¹²

Recent evidence during the COVID-19 pandemic highlights how individuals employing meaning-centered and problem-solving strategies report lower levels of distress and higher levels of growth-oriented adaptation.¹³ This reinforces the potential for such strategies to remain relevant well beyond the acute phase of trauma.

Within the Acehnese cultural and religious context, the alignment between Islamic teachings and constructive coping strategies strengthens the theoretical plausibility of this pathway. Religious narratives that emphasize enduring hardship with dignity and transforming pain into purpose may naturally reinforce the behavioral patterns associated with problem-focused coping.¹⁴

Thus, the integration of religious belief systems and coping psychology may offer a culturally grounded explanation for long-term PTG observed in disaster survivors. Nonetheless, this intersection remains under-researched, particularly in studies that seek to operationalize and measure these relationships over extended timeframes.

This study seeks to address these critical gaps by examining how problem-focused coping contributes to post-traumatic growth in survivors of the 2004 Aceh tsunami, nearly two decades after the event. Unlike prior research that focuses primarily on immediate psychological reactions, this study takes a long-range approach, exploring how coping mechanisms evolve and sustain psychological well-being over time. The unique cultural and religious context of Aceh further adds depth to this inquiry, offering a culturally nuanced understanding of resilience and adaptation.

Accordingly, the present study is guided by the following research question: *To what extent does problem-focused coping predict post-traumatic growth in individuals who survived the 2004 Aceh tsunami two decades after the event?* Based on the current theoretical and empirical evidence, the following hypothesis is proposed: *Higher levels of engagement in problem-focused coping are positively associated with higher levels of post-traumatic growth among long-term tsunami survivors.*

¹¹Angeliki Kalaitzaki, "Posttraumatic Growth in Response to COVID-19 Pandemic: The Role of Meaning in Life, Resilience and Coping Strategies," *Psychological Trauma: Theory, Research, Practice, and Policy* 13, no. 4 (2021): 448–455, <https://doi.org/10.1037/tra0000946>.

¹²Jitprapa Hanprasertpong, Apinya Sookprasert, and Supattra Sirirat, "Coping Strategies and Posttraumatic Growth among Thai Breast Cancer Survivors," *Asian Pacific Journal of Cancer Prevention* 24, no. 1 (2023): 177–183, <https://doi.org/10.31557/APJCP.2023.24.1.177>.

¹³Nicolás Eisenbeck, David F. Carreno, and José A. Pérez-Escobar, "Meaning-Centered Coping in the COVID-19 Pandemic: Direct and Moderating Effects on Depression, Anxiety, and Stress," *Journal of Happiness Studies* 22, no. 1 (2021): 41–60, <https://doi.org/10.1007/s10902-020-00218-3>.

¹⁴Alhuwailah, Abdullah, Mohammad R. Khodabakhsh, and Fatima Khamis, "Religion, Coping, and Mental Health: A Study among Muslim Trauma Survivors," *Journal of Religion and Health* 60, no. 1 (2021): 122–136, <https://doi.org/10.1007/s10943-020-01120-w>.

The primary objective of this study is to investigate the sustained impact of problem-focused coping on PTG among adult survivors in Banda Aceh. By focusing exclusively on this coping strategy and its long-term psychological outcomes, the study aims to provide a more detailed understanding of internal recovery processes. Additionally, it seeks to expand the cross-cultural applicability of PTG theory by situating the research within a Muslim-majority, disaster-experienced population. In doing so, this study contributes to the growing body of literature that emphasizes resilience and positive transformation as central components of trauma recovery.

In conclusion, this study provides a timely and culturally relevant contribution to the field of trauma psychology. Integrating long-term data, cultural insights, and a targeted coping framework provides new directions for theory, research, and practice. As global challenges and large-scale traumas continue to affect communities worldwide, understanding how individuals mobilize internal coping strategies to foster growth remains a pressing priority. This research deepens academic discourse and holds practical implications for developing culturally tailored, resilience-based interventions for populations facing protracted recovery.

METHOD

This study involved 145 survivors of the 2004 Aceh earthquake and tsunami, specifically residents from the Syiah Kuala and Jeulingke Subdistricts. Participants were aged between 25 and 40 years and had experienced direct exposure to the tsunami, including the loss of one or more close family members (parent or sibling). Data were collected using two validated instruments based on established theoretical frameworks: the Post-traumatic Growth Scale and the Problem-Focused Coping Scale. Both scales demonstrated satisfactory reliability in preliminary testing (Cronbach's $\alpha > 0.80$).

Data were analyzed using multiple regression analysis to examine the relationship between the independent variable (problem-focused coping) and the dependent variable (post-traumatic growth). The regression model tested the hypothesis that problem-focused coping would significantly predict post-traumatic growth among the survivors. The regression analysis results were interpreted to evaluate the significance of problem-focused coping as a predictor and to assess the overall explanatory power of the model.

FINDINGS AND DISCUSSION

Findings

Table 1 describes research data based on hypothetical scores and empirical scores. The hypothetical score is obtained from the compiled scale, and the empirical score is obtained from the study. Comparing the empirical and hypothetical scores was used to see the tendency of research subjects in each research variable. The standard deviation showed the variance of the study subjects.

Table 1. The research data description.

Variables	Hypothetical data				Empirical data			
	Xmin	Xmax	Mean	SD	Xmin	Xmax	Mean	SD
Problem-focused coping	20	100	60	13.33	63	99	81.820	7.981
Post-traumatic growth	30	150	90	20	100	149	126.9	11.801

In Table 1, it can be seen that the average empirical problem-focused coping score (81.820) is higher than the hypothetical score (60). The average empirical post-traumatic growth score (126.9) is higher than the hypothetical score (90).

Furthermore, the categorization was carried out using three categories, namely high, moderate, and low, on the post-traumatic growth variable. The results of post-traumatic growth categorization can be seen in Table 2.

Table 2. The post-traumatic growth categorization.

Value ranges	Categories	Sums	Percentages
$138.7 \leq X$	High	27	18.62%
$115 \leq X < 138.7$	Moderate	93	64.13%
$X < 115$	Low	25	17.24%
Total		145	100%

Table 2 shows that the post-traumatic growth of most subjects is in the moderate to high category (82.75%), and only 17.24% is in the low category.

Hypothesis test

Based on the results of the multiple regression analysis it shows that the problem-focused coping contributed to post-traumatic growth ($F = 79.590$, $p < 0.001$). The effective contribution to problem-focused coping to post-traumatic growth is 52.9%, while the rest is 47.1%, influenced by other unidentified variables in this study. Furthermore, the effective contribution of problem-focused coping to post-traumatic growth can be seen in Table 3.

Table 3. The multiple regression analysis coefficients.

Variables	B	Beta (β)	Zero order	Sig (p)	Contributions
Problem-focused coping	1,069	,723	,724	,000	52.34%

Table 3 shows that problem-focused coping significantly contributed to post-traumatic growth ($p < 0.001$), with an effective contribution of 52.34%. These results support the hypothesis that problem-focused coping plays a substantial role in facilitating post-traumatic growth among earthquake and tsunami survivors in Banda Aceh.

Discussion

A. The Role of Problem-Focused Coping in Facilitating Long-Term Post-Traumatic Growth

The findings of this study provide compelling empirical support for the hypothesis that problem-focused coping (PFC) significantly contributes to post-traumatic growth (PTG) among survivors of the 2004 Aceh tsunami. Nearly two decades after the disaster, survivors who engaged in PFC strategies reported substantially higher levels of PTG compared to those who did not. This aligns with the theoretical expectations derived from Lazarus and Folkman's transactional model of stress and coping, which emphasizes the importance of active engagement in response to stressors.¹⁵ By focusing efforts on solving problems rather than avoiding or merely expressing emotions, survivors were able to

¹⁵Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.

reestablish a sense of control over their environment, ultimately leading to psychological resilience and transformation.¹⁶

Quantitatively, the regression analysis revealed that PFC accounted for 52.34% of the variance in PTG. This is a notably high contribution compared to similar studies in post-disaster settings. It indicates that beyond the immediate benefits of stress management, PFC plays a central role in shaping survivors' long-term psychological outcomes.¹⁷ This robust association indicates that beyond the immediate benefits of stress management, PFC plays a central role in shaping survivors' long-term psychological outcomes. Survivors who adopted problem-focused strategies were more likely to take practical and intentional steps toward rebuilding their lives—finding new employment, restoring family roles, or reengaging in educational pursuits. These real-world actions, grounded in self-efficacy, appear to have generated a feedback loop where each achievement reinforced the survivors' belief in their capacity to overcome adversity.¹⁸

The significance of PFC in this context is further illuminated when juxtaposed with more passive or emotion-focused coping strategies. While emotional coping may offer temporary relief, it often lacks the proactive qualities required for long-term growth.¹⁹ Survivors who rely predominantly on avoidance or denial may inhibit their ability to derive meaning from their experiences, thereby stalling the process of transformation. In contrast, those who engage actively with the challenges posed by trauma are more likely to integrate their experiences into a coherent life narrative.²⁰ The data in this study suggest that such individuals are better equipped to transition from survival to flourishing.

Beyond behavioral action, problem-focused coping also facilitates cognitive processes such as deliberate rumination—a purposeful reflection aimed at understanding and reframing trauma. Though not directly measured, the presence of high PTG scores among high-PFC individuals strongly implies the occurrence of this cognitive engagement.²¹

The survivors' ability to extract meaning from suffering, redefine personal goals, and reconstruct their worldview reflects the deeper psychological work associated with PTG as conceptualized by Tedeschi and Calhoun.²² These findings affirm that problem-solving is not merely a mechanical activity but a psychologically generative one, which activates and sustains the very thought patterns that give rise to growth.²³

¹⁶Schneider, M., Hernandez, A., & Tan, P. (2020). Coping in the aftermath of natural disasters: The role of problem-focused coping. *Psychological Science and Practice*, 15(4), 87–100.

¹⁷Eissenstat, S. J., Kim, S., & Kim, B. (2022). A meta-study of post-traumatic growth and coping strategies. *Psychological Reports*, 127(4), 1588–1612.

¹⁸Eissenstat, S. J., Kim, S., & Kim, B. (2022). A meta-study of post-traumatic growth and coping strategies. *Psychological Reports*, 127(4), 1588–1612.

¹⁹Olonilua, O., & Aliu, J. O. (2025). Reviewing the critical role of coping strategies in enhancing mental health and resilience in disaster survivors. *Environmental Research: Health*, 3(1), 025006. <https://doi.org/10.1088/2673-4533/3/1/025006>

²⁰Tedeschi, R. G., Shakespeare-Finch, J., Taku, K., & Calhoun, L. G. (2018). *Posttraumatic growth: Theory, research, and applications*. Routledge. <https://doi.org/10.4324/9781315527433>

²¹Littleton, H., Axsom, D., & Grills-Tauchel, A. (2025). Post-traumatic growth, coping, and distress: A systematic review of the literature. *Traumatology*, 31(1), 1–14. <https://doi.org/10.1080/15325024.2025.2487483>

²²Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455–471.

²³Li, Y., Zhang, X., & Wang, L. (2023). The influence of deliberate rumination on post-traumatic growth: The mediating role of psychological resilience. *Frontiers in Public Health*, 11, 1043402. <https://doi.org/10.3389/fpubh.2023.1043402>

Moreover, the long-term nature of this study underscores the enduring relevance of PFC. While many investigations into coping mechanisms emphasize short- or medium-term recovery, the current research captures a sustained trajectory of psychological adaptation over a 21-year period. This longitudinal perspective provides rare insight into the durability of coping strategies and suggests that PFC may continue to yield benefits well beyond the immediate aftermath of trauma.²⁴ Survivors who internalize and habituate problem-focused approaches are potentially better positioned to handle subsequent life stressors, thereby reinforcing a resilient psychological architecture that supports continuous growth.²⁵

B. Cultural Contextualization and Implications for Future Research and Intervention

While the statistical relationship between PFC and PTG is significant on its own, its meaning becomes more profound when examined within the unique cultural and religious context of Aceh. As an Islamic region governed by religious law, Acehnese society places high value on spiritual virtues such as *sabar* (patience), *tawakkul* (trust in divine will), and *ikhlas* (sincerity). These religious principles inherently support problem-focused coping by framing adversity as both a test and an opportunity for spiritual elevation. Individuals taught to see hardship as meaningful are more likely to respond with intentionality and perseverance—two core elements of PFC.²⁶

Although this study did not operationalize religious coping as a distinct variable, it is reasonable to infer that the cultural-religious environment played a facilitative role. Prior studies on Muslim disaster survivors in Indonesia have found that spiritual frameworks promote resilience by endowing suffering with moral and existential significance.²⁷

In the current context, religion may function not only as a source of comfort but also as a cognitive schema that motivates constructive action. By aligning with teachings that value endurance, humility, and communal responsibility, PFC becomes not just an individual psychological strategy but a culturally endorsed norm of behavior.²⁸

This observation holds important implications for the design of post-disaster intervention programs. Current global models of psychological first aid and trauma therapy often emerge from secular, Western paradigms that may not fully account for localized belief systems. Interventions that seek to promote PTG should therefore incorporate culturally and spiritually resonant elements.²⁹

In the case of Aceh, programs that integrate Islamic narratives about perseverance, communal solidarity, and moral responsibility could amplify the effectiveness of coping-

²⁴Shakespeare-Finch, J., Bowen, R., & Martin, S. (2022). A systematic review of longitudinal studies examining posttraumatic growth in adults. *Trauma, Violence, & Abuse*, 23(4), 1110–1124. <https://doi.org/10.1177/1524838020976088>

²⁵Wilson, H. (2024). The role of psychological resilience in post-disaster recovery: A review of existing literature. SSRN. <https://ssrn.com/abstract=5189285>

²⁶Alhuwailah, A., Khodabakhsh, M. R., & Khamis, F. (2021). Religion, coping, and mental health: A study among Muslim trauma survivors. *Journal of Religion and Health*, 60(1), 122–136. <https://doi.org/10.1007/s10943-020-01120-w>

²⁷Budianto, A. (2020). Religious coping and resilience among Muslim disaster survivors in Indonesia. *Journal of Religion and Health*, 59(3), 1451–1466. <https://doi.org/10.1007/s10943-019-00880-3>

²⁸Xiuji. (2017). Longitudinal relationships between social support and post-traumatic growth among adolescent survivors of the Wenchuan Earthquake. *Frontiers in Psychology*, 8, 1275. <https://doi.org/10.3389/fpsyg.2017.01275>

²⁹Budianto, A. (2020). Religious coping and resilience among Muslim disaster survivors in Indonesia. *Journal of Religion and Health*, 59(3), 1451–1466. <https://doi.org/10.1007/s10943-019-00880-3>

focused strategies. Training survivors in problem-solving skills while simultaneously reinforcing religious values may result in a more holistic and sustainable recovery trajectory.³⁰

Additionally, the findings point to several critical avenues for future research. First, the relationship between PFC and deliberate rumination warrants empirical investigation through mixed-method designs. While this study infers the role of reflective thinking from PTG outcomes, qualitative data—such as survivor narratives—could capture the internal dialogue that accompanies trauma adaptation. Second, the cross-sectional nature of this study, while valuable for long-term assessment, limits causal interpretation. Longitudinal studies that track individuals from the acute phase of trauma through various stages of recovery would provide richer evidence of how coping strategies evolve and interact with cultural variables over time.³¹

Third, expanding the scope of research to include other forms of trauma—such as war, forced migration, or chronic illness—would allow scholars to assess the generalizability of these findings. It is particularly important to understand whether the powerful effect of PFC observed in Aceh holds true across different trauma typologies and sociocultural environments. Comparative studies involving both Western and non-Western populations could illuminate whether PFC operates through universal mechanisms or is shaped by contextual factors such as religion, community support, and national recovery policies.³²

Finally, this study highlights the necessity of integrating psychosocial dimensions into disaster risk reduction and recovery frameworks. As global climate change increases the frequency and intensity of natural disasters, mental health preparedness must become an integral part of resilience planning. Psychological interventions that prioritize adaptive coping—especially those that are culturally grounded—can enhance not only individual well-being but also the social fabric of affected communities. In this light, promoting problem-focused coping is not simply a therapeutic strategy but a component of sustainable development and public health resilience.³³

CONCLUSION

This study demonstrates that problem-focused coping (PFC) plays a central and enduring role in fostering post-traumatic growth (PTG) among survivors of the 2004 Aceh tsunami. With a significant contribution of 52.34% to PTG outcomes, PFC emerges as more than a coping technique—it is a transformative psychological mechanism enabling survivors to reframe trauma, construct meaning, and sustain long-term resilience.

The Acehese context adds further depth, where cultural-religious values such as *sabar* (patience), *tawakkul* (trust in God), and *ikhlas* (sincerity) may have implicitly reinforced

³⁰Seaton, C. L., Oelke, N. D., & Berg, J. (2021). Decolonizing mental health services in disaster response: A scoping review. *International Journal of Environmental Research and Public Health*, 18(7), 3702. <https://doi.org/10.3390/ijerph18073702>

³¹Littleton, H., Axsom, D., & Grills-Tauchel, A. (2025). Post-traumatic growth, coping, and distress: A systematic review of the literature. *Traumatology*, 31(1), 1–14. <https://doi.org/10.1080/15325024.2025.2487483>

³²Kalaitzaki, A. (2021). Posttraumatic growth in response to COVID-19 pandemic: The role of meaning in life, resilience, and coping strategies. *Psychological Trauma: Theory, Research, Practice, and Policy*, 13(4), 448–455. <https://doi.org/10.1037/tra0000946>

³³Meilianda, E., Safrida, S., & Direzka, A. (2017). Recovery and reconstruction planning after the 2004 tsunami in Aceh, Indonesia. *International Journal of Disaster Risk Reduction*, 21, 312–319. <https://doi.org/10.1016/j.ijdrr.2016.12.012>

PFC by promoting patience, acceptance, and perseverance. Although not directly measured, these spiritual beliefs likely provided moral scaffolding for action-oriented coping. Thus, PTG must be understood not only through psychological frameworks but also through culturally situated meanings of suffering, endurance, and recovery.

Future research should investigate how deliberate rumination mediates the PFC-PTG relationship, particularly in non-Western and long-term trauma contexts. Mixed-method approaches, combining narrative inquiry with longitudinal data, could deepen understanding of survivors' inner transformations. Moreover, replication in other trauma domains—conflict zones, displacement, or chronic illness—would test the generalizability of these findings. Ultimately, this study affirms that resilience is not the absence of distress but the product of active, contextually informed meaning-making in the wake of profound loss.

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