

Iman dalam Pembentukan: Protokol Penelitian Longitudinal untuk Melacak Spiritualitas Kristen, Stres, dan Kesejahteraan Psikologis Sepanjang Perjalanan Taruna STIP Jakarta

Faith in Formation: A Longitudinal-Design Protocol for Tracking Christian Spirituality, Stress, and Psychological Wellbeing across the STIP Jakarta Cadet Journey

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Abstrak: Literatur mengenai agama dan kesejahteraan psikologis masih didominasi oleh penelitian potong lintang (cross-sectional), dengan keterbatasan yang paling sering dikemukakan adalah ketidakmampuan untuk menetapkan urutan temporal dalam hubungan antara spiritualitas dan hasil-hasil psikologis. Artikel protokol ini menyajikan desain penelitian, instrumen, data dasar (baseline), serta validasi oleh para ahli dari suatu studi longitudinal multi-gelombang yang melacak perkembangan spiritualitas Kristen, tingkat stres, dan kesejahteraan psikologis sepanjang perjalanan pendidikan taruna di Sekolah Tinggi Ilmu Pelayaran (STIP) Jakarta. Penelitian ini melibatkan tiga puluh taruna yang dipilih secara seimbang dari program studi Nautika, Teknik, serta Manajemen Transportasi Laut dan Kepelabuhanan, dengan pengukuran dilakukan dalam empat gelombang yang disesuaikan dengan fase-fase transisi utama, mulai dari awal pembentukan taruna hingga memasuki masa kerja profesional. Data dasar menunjukkan tingkat kesejahteraan spiritual dan kesejahteraan psikologis yang berada pada kategori sedang hingga tinggi, disertai tingkat stres pada kategori sedang, sehingga menyediakan nilai acuan untuk pemantauan pada tahap-tahap berikutnya. Validasi oleh lima dosen dan lima praktisi maritim senior menegaskan validitas tampang (face validity) serta kesesuaian budaya dari instrumen yang digunakan. Protokol penelitian ini menjawab kesenjangan metodologis yang paling mendesak dalam bidang tersebut sekaligus menempatkan STIP Jakarta sebagai lokasi penelitian yang memiliki potensi untuk menghasilkan bukti longitudinal mengenai hubungan antara spiritualitas dan kesehatan mental.

Kontribusi: Artikel ini memberikan kontribusi berupa protokol penelitian longitudinal multi-gelombang pertama yang secara sistematis melacak spiritualitas Kristen, stres, dan kesejahteraan psikologis taruna maritim di Indonesia sepanjang seluruh perjalanan pendidikan mereka. Dengan menyediakan instrumen tervalidasi, data dasar (baseline), dan kerangka pengukuran empat gelombang, penelitian ini menjawab kesenjangan metodologis utama dalam literatur agama dan kesejahteraan yang selama ini didominasi desain potong lintang, sekaligus menjadikan STIP Jakarta sebagai lokasi rujukan untuk penelitian longitudinal mengenai spiritualitas dan kesehatan mental di konteks pendidikan maritim.

Kata Kunci: protokol longitudinal; spiritualitas Kristen; kesejahteraan psikologis; taruna maritim; dinamika temporal.

Abstract: The religion-and-wellbeing literature is overwhelmingly cross-sectional, and its most frequently cited limitation is the inability to establish temporal precedence in the relationship between spirituality and psychological outcomes. This protocol paper presents the design, instruments, baseline data, and expert validation of a multi-wave longitudinal study tracking Christian spirituality, stress, and psychological wellbeing across the cadet journey at Sekolah Tinggi Ilmu Pelayaran (STIP) Jakarta. The study follows thirty cadets drawn equally from the nautical, engineering, and port and shipping management majors across four measurement waves timed to coincide with major phase transitions, from the beginning of formation through early professional employment. Baseline data confirm moderate-to-high spiritual wellbeing and psychological wellbeing alongside moderate stress, establishing reference values for subsequent tracking. Expert validation by five lecturers and five veteran maritime professionals confirms the instruments' face validity and cultural appropriateness. The protocol addresses the field's most pressing methodological gap and positions STIP Jakarta as a site for temporally ambitious research on spirituality and mental health.

Contribution: This article contributes the first multi-wave longitudinal research protocol to systematically track Christian spirituality, stress, and psychological wellbeing among Indonesian maritime cadets across their entire formation journey. By providing validated instruments, baseline data, and a four-wave measurement framework, the study addresses the field's dominant cross-sectional limitation and establishes STIP Jakarta as a reference site for longitudinal research on spirituality and mental health in maritime education.

Keywords: longitudinal protocol; Christian spirituality; psychological wellbeing; maritime cadets; temporal dynamics.

INTRODUCTION

The religion-and-wellbeing literature has achieved remarkable breadth in its documentation of associations between spiritual engagement and mental health outcomes. Over the past two decades, studies spanning dozens of countries, multiple religious traditions, and diverse clinical and non-clinical populations have converged on a consistent finding: religious and spiritual involvement is positively associated with psychological wellbeing and negatively associated with depression, anxiety, and existential distress. Meta-analytic synthesis from the German-speaking research community has confirmed this pattern,¹ and parallel evidence has been generated across cultural settings including Polish Catholic communities,² Turkish nursing populations,³ multi-ethnic Asian samples,⁴ and Afro-Trinidadian residents.⁵ The

¹ Christian Zwingmann, "Religiosity, Spirituality and Mental Health: Meta-Analysis of Studies from the German-Speaking Area," *Journal of Religion and Health* 65, no. 1 (2026): 132–157, <https://doi.org/10.1007/s10943-025-02406-3>.

² Beata Zarzycka et al., "The Spiritual Well-Being Scale in the Polish Catholic Setting: Construct, Structure, and Relationships with Psychological Well-Being," *Journal of Religion and Health* 63, no. 6 (2024): 4191–4214, <https://doi.org/10.1007/s10943-024-02138-w>.

³ Özlem Şahin Altun et al., "Investigation of the Relationship Between the Spiritual Orientation and Psychological Well-Being Levels of Inpatients with a Diagnosis of COVID-19 In Turkey: A Cross-Sectional Study," *Journal of Religion and Health* 61, no. 5 (2022): 4189–4204, <https://doi.org/10.1007/s10943->

empirical record is broad, the direction of association is consistent, and the body of evidence continues to grow. What this record almost entirely lacks, however, is temporal depth. The overwhelming majority of published studies rely on cross-sectional designs that capture a single moment in a single life, and the field has therefore accumulated a wide photograph of who is flourishing now but almost no film of how flourishing unfolds over time.

This methodological limitation has been widely acknowledged. Discussion sections across the literature routinely call for longitudinal designs as a future research priority. Studies of young adults and depression have noted the need for prospective tracking of how religious engagement shapes mental health trajectories.⁶ Research on meaning-based coping during the pandemic has noted the inability of single-wave data to establish temporal precedence.⁷ Investigations of spiritual orientation and mental health have explicitly modelled mediation pathways that require longitudinal verification.⁸ Meta-analytic work has flagged the dominance of cross-sectional designs as a limitation of the entire field.⁹ Despite this widespread recognition, the proportion of the literature that is actually longitudinal remains negligible. The gap between what the field calls for and what it produces is one of the most conspicuous features of the religion-and-wellbeing landscape.

The maritime cadet population offers an unusually well-defined opportunity to close this gap. Cadets at a maritime academy such as Sekolah Tinggi Ilmu Pelayaran (STIP) Jakarta enter a structured formation programme of known duration, pass

022-01602-9.

⁴ Janhavi A. Vaingankar et al., "Religious Affiliation in Relation to Positive Mental Health and Mental Disorders in a Multi-Ethnic Asian Population," *International Journal of Environmental Research and Public Health* 18, no. 7 (2021): 3368, <https://doi.org/10.3390/ijerph18073368>.

⁵ Sebastian B. Skalski-Bednarz et al., "Religion and Flourishing among Afro-Trinidadians: The Influence of Proneness to Guilt/Shame and Forgiveness by God on the Relationship between Religious Commitment and Health," *Frontiers in Public Health* 12 (2024): 1443960, <https://doi.org/10.3389/fpubh.2024.1443960>.

⁶ Tabor A. Brečka et al., "Impact of Religion and Spirituality on the Incidence of Depression and Mental Health among Young Adults in the Czech Republic," *Frontiers in Psychology* 15 (2024): 1423730, <https://doi.org/10.3389/fpsyg.2024.1423730>.

⁷ Gökmen Arslan and Murat Yıldırım, "Meaning-Based Coping and Spirituality During the COVID-19 Pandemic: Mediating Effects on Subjective Well-Being," *Frontiers in Psychology* 12 (2021): 646572, <https://doi.org/10.3389/fpsyg.2021.646572>.

⁸ Ömer F Söylev, Çınar Kaya, and Nesrullah Okan, "Spiritual Orientation and Mental Health: An SEM Analysis of Meaning and Death Attitudes as Mediators in Turkish Religious Officials," *BMC Psychology* 13, no. 1 (2025): 406, <https://doi.org/10.1186/s40359-025-02729-6>.

⁹ Zwingmann, "Religiosity, Spirituality and Mental Health: Meta-Analysis of Studies from the German-Speaking Area."

through identifiable phases of training with predictable stressors, and eventually transition into sea service or shore-based maritime employment. The formation journey is bounded, phasic, and institutionally documented, making it an ideal setting for a prospective longitudinal study. The population is also one for which no comparable evidence currently exists: maritime cadets are absent from the religion-and-wellbeing literature, and their specific combination of military-style discipline, academic rigour, and vocational preparation has not been studied through the lens of spiritual development and psychological wellbeing. The opportunity to combine a methodological correction with a substantive extension of the field is both unusual and valuable.

A third dimension of the problem concerns the limitations of retrospective and cross-generational designs. Previous studies in this series have used cross-generational sampling, comparing cadets at the beginning of formation with lecturers and veterans at later career stages. This approach generates useful comparative insight, but it cannot distinguish generational differences from developmental change. When veterans describe their faith as deeper than cadets', it is impossible to determine whether this reflects genuine developmental deepening or a cohort effect shaped by different historical circumstances. Only a prospective longitudinal design, following the same individuals across time, can resolve this ambiguity.

The present study addresses the problem by publishing a longitudinal-design protocol for tracking Christian spirituality, stress, and psychological wellbeing across the STIP Jakarta cadet journey, together with the baseline data from the first wave of measurement. The study is guided by three objectives. The first is to present and justify the design, instruments, sampling, and analytical plan of a multi-wave longitudinal study that will follow cadets from formation through early sea service or shore-based employment. The second is to report baseline measurements of spirituality, stress, and wellbeing among the initial cadet cohort, establishing the starting point against which subsequent waves will be compared. The third is to triangulate baseline findings with the perspectives of lecturers and veteran maritime professionals, who serve as expert validators of the instruments and as informants on the developmental trajectory the cadets are expected to follow. Three research questions follow: What design, instruments, and procedures are appropriate for a longitudinal study of spirituality, stress, and wellbeing among maritime cadets? What are the baseline levels of

spirituality, stress, and wellbeing in the initial cadet cohort? And how do lecturers and veterans evaluate the appropriateness and face validity of the proposed design?

The rationale for the study is methodological, empirical, and practical. Methodologically, it responds directly to the most frequently cited limitation of the religion-and-wellbeing literature by producing a longitudinal protocol that the field can evaluate, replicate, and adapt.¹⁰ Empirically, it generates the first baseline data on spirituality, stress, and wellbeing among maritime cadets, establishing a foundation for subsequent waves of data collection. Practically, it demonstrates the feasibility of longitudinal research in a maritime academy setting and positions STIP Jakarta as a site for methodologically ambitious work. The study is published as a protocol paper, a format increasingly recognised in the health and social sciences as a way of establishing priority, attracting collaboration, and creating accountability for follow-through.¹¹

THEORETICAL REVIEW

This study is built upon four conceptual pillars: the longitudinal study of spiritual development, the measurement of spirituality as a multidimensional and dynamic construct, the phasic character of vocational formation, and the methodological rationale for protocol publication.

The longitudinal study of spiritual development, the first pillar, has been called for repeatedly but rarely attempted. The few studies that have approached the question have relied on two-wave designs with limited follow-up periods or on retrospective accounts that reconstruct developmental trajectories from memory. Studies of clergy and laity have documented relative stability of spiritual wellbeing across the career lifespan but have done so through cross-sectional or two-wave designs.¹² Research on

¹⁰ Brečka et al., "Impact of Religion and Spirituality on the Incidence of Depression and Mental Health among Young Adults in the Czech Republic": 1423730; Zwingmann, "Religiosity, Spirituality and Mental Health: Meta-Analysis of Studies from the German-Speaking Area"; Halil Ekşi et al., "Unveiling the Multifaceted Nature of Spirituality: Assessing the Dimensions of the Spirituality Inventory in the Turkish Context—A Preliminary Adaptation and Validity Reliability Study," *Journal of Religion and Health* 64, no. 4 (2025): 3105–3127, <https://doi.org/10.1007/s10943-025-02313-7>.

¹¹ Martha Illueca et al., "The Church and Academia Model: New Paradigm for Spirituality and Mental Health Research," *Religions* 16, no. 8 (2025): 998, <https://doi.org/10.3390/rel16080998>; Cassandra Vieten et al., "Mental Health Professionals' Perspectives on the Relevance of Religion and Spirituality to Mental Health Care," *BMC Psychology* 11, no. 1 (2023): 439, <https://doi.org/10.1186/s40359-023-01466-y>.

¹² Andrew Village and Leslie J. Francis, "The Effects of Spiritual Wellbeing on Self-Perceived Health Changes Among Members of the Church of England During the COVID-19 Pandemic in England," *Journal of Religion and Health* 62, no. 4 (2023): 2899–2915, <https://doi.org/10.1007/s10943-023-01790-y>; Andrew

spiritual growth among college students has measured change over a single semester.¹³ Investigations of meaning-based coping during the pandemic have measured change across the acute phase of the crisis but not beyond,¹⁴ No published study has tracked the development of Christian spirituality, stress, and wellbeing across the full duration of a vocational formation programme and into early professional life.

The measurement of spirituality, the second pillar, presents both opportunities and challenges for longitudinal work. The field has developed numerous validated instruments, ranging from generic spiritual wellbeing scales to tradition-specific measures. The Spiritual Well-Being Scale has been validated in Polish Catholic settings with sound psychometric properties.¹⁵ The Daily Spiritual Experience Scale has been validated in short forms among Orthodox Christian populations.¹⁶ The SOCOM Spiritual Fitness Scale has been adapted from military to civilian contexts.¹⁷ Christian-specific instruments such as the Christian Sanctification of Suffering Scale have been developed and validated,¹⁸ and measurement work on Christian beliefs about salvation has produced reliable instruments.¹⁹ For longitudinal work, the key requirement is measurement invariance across time: the instruments must measure the same

Village and Leslie J. Francis, "Psychological and Spiritual Well-Being Among Church of England Clergy and Laity Three Years After the COVID-19 Lockdowns," *Journal of Religion and Health* 64, no. 6 (2025): 5125–5146, <https://doi.org/10.1007/s10943-025-02412-5>.

¹³ Abigail Crete et al., "Spiritual Growth and Mental Health Gains: Benefits of Awakened Awareness for U.S. College Students at Three-Month Follow-Up," *Religions* 16, no. 6 (2025): 674, <https://doi.org/10.3390/rel16060674>; Maria Kavvadia et al., "The Effect of Medication Adherence and Spirituality in Quality of Life of Patients with Rheumatic Diseases," *Healthcare (Switzerland)* 13, no. 4 (2025): 436, <https://doi.org/10.3390/healthcare13040436>.

¹⁴ Figen Kasapoğlu, "The Relationship Among Spirituality, Self-Efficacy, COVID-19 Anxiety, and Hopelessness During the COVID-19 Process in Turkey: A Path Analysis," *Journal of Religion and Health* 61, no. 1 (2022): 767–785, <https://doi.org/10.1007/s10943-021-01472-7>; Arslan and Yıldırım, "Meaning-Based Coping and Spirituality During the COVID-19 Pandemic: Mediating Effects on Subjective Well-Being": 646572.

¹⁵ Zarzycka et al., "The Spiritual Well-Being Scale in the Polish Catholic Setting: Construct, Structure, and Relationships with Psychological Well-Being."

¹⁶ Fedor Shankov, Maria Böttche, and Annette Lotzin, "Validation of the Daily Spiritual Experience Scale Short Forms among Russian Orthodox Christian Women," *Journal of Religion and Health* 65, no. 1 (2026): 794–811, <https://doi.org/10.1007/s10943-025-02402-7>.

¹⁷ Piotr Mamcarz and David Alexander, "From Military to Civilian Context: Adaptation of the SOCOM Spiritual Fitness Scale and Its Associations with Positive Mental Health and Depression in Poland," *Journal of Religion and Health* 65, no. 1 (2026): 752–793, <https://doi.org/10.1007/s10943-025-02518-w>.

¹⁸ Sebastian B. Skalski-Bednarz and D Krok, "Adaptation and Validation of the Christian Sanctification of Suffering Scale (CSSS) in a Polish Catholic Chronic Pain Sample," *BMC Psychology* 13, no. 1 (2025): 966, <https://doi.org/10.1186/s40359-025-03339-y>.

¹⁹ Anthony E. Rose and Timothy B. Smith, "Christian Beliefs About Salvation: Measurement and Associations with Mental Health and Well-Being," *Religions* 16, no. 6 (2025): 757, <https://doi.org/10.3390/rel16060757>.

constructs at each wave, and changes in scores must reflect genuine change in the underlying phenomenon rather than shifts in measurement properties. The protocol addresses this requirement through careful instrument selection and planned invariance testing.

The phasic character of vocational formation, the third pillar, provides the temporal structure within which the longitudinal design is embedded. Maritime cadet formation at STIP Jakarta progresses through identifiable phases: initial orientation and adjustment, core academic and technical training, practical shipboard or port training, and the transition to professional employment. Each phase involves distinctive stressors, learning tasks, and identity challenges. Studies of university student mental health have documented variation in distress across academic phases.²⁰ Research on occupationally demanding populations has documented the role of transitional phases in shaping psychological outcomes.²¹ These findings justify a multi-wave design in which measurement is timed to coincide with the transitions between phases.

The fourth pillar, the methodological rationale for protocol publication, reflects a growing recognition that publishing study designs before data collection is complete serves important scientific and practical purposes. Protocol papers establish priority, create accountability, reduce publication bias, invite peer scrutiny of design decisions, and attract collaboration. The format has become standard in clinical research and is increasingly adopted in the social sciences and education. For a longitudinal study in a field dominated by cross-sectional designs, protocol publication is particularly valuable because it allows the field to evaluate the design, suggest refinements, and plan parallel studies in other settings before the full data are available.²²

A critical synthesis of the relevant literature reveals several patterns that inform the design. The first is the consistent positive association between spirituality and

²⁰ Ismail Rammouz et al., "Religiosity, Stress, and Depressive Symptoms among Nursing and Medical Students during the Middle Stage of the COVID-19 Pandemic: A Cross-Sectional Study in Morocco," *Frontiers in Psychiatry* 14 (2023): 1123356, <https://doi.org/10.3389/fpsyt.2023.1123356>.

²¹ Anwar S. Alroomi and Sherif Mohamed, "Occupational Stressors and Safety Behaviour among Oil and Gas Workers in Kuwait: The Mediating Role of Mental Health and Fatigue," *International Journal of Environmental Research and Public Health* 18, no. 21 (2021): 11700, <https://doi.org/10.3390/ijerph182111700>; Mamcarz and Alexander, "From Military to Civilian Context: Adaptation of the SOCOM Spiritual Fitness Scale and Its Associations with Positive Mental Health and Depression in Poland": 752–793.

²² Illueca et al., "The Church and Academia Model: New Paradigm for Spirituality and Mental Health Research": 998; Vieten et al., "Mental Health Professionals' Perspectives on the Relevance of Religion and Spirituality to Mental Health Care."

wellbeing, which justifies the primary hypothesis that spirituality will function as a protective factor across the formation journey. The second is the mediating role of meaning, hope, and self-efficacy, which suggests that the design should include mediator variables.²³ The third is the contextual sensitivity of the spirituality-wellbeing relationship, which requires culturally and institutionally appropriate instruments.²⁴ The fourth is the phasic character of vocational formation, which suggests that measurement should be timed to coincide with phase transitions. The fifth is the dominant cross-sectional methodology that prevents causal inference and temporal analysis, which the longitudinal design is specifically intended to overcome.

The research gap is primarily methodological: no longitudinal study of spirituality, stress, and wellbeing among maritime cadets has been published, and the cross-sectional dominance of the religion-and-wellbeing field represents a systematic limitation that protocol publication is designed to address. The present study responds to this gap directly.

METHODS

This protocol describes a prospective multi-wave longitudinal study designed to track Christian spirituality, stress, and psychological wellbeing among cadets at STIP Jakarta across their formation journey. The baseline cohort comprises thirty cadets drawn equally from the nautical, engineering, and port and shipping management majors, with ten cadets from each. They were selected through purposive sampling on the basis of self-identified Christian affiliation, regular attendance, and willingness to participate across multiple waves. Five lecturers, three veteran seafarers, and two veteran port masters served as expert validators of the instruments and as informants on the expected developmental trajectory. The longitudinal design calls for four measurement waves: baseline at the beginning of formation, a second wave at the

²³ Söylev, Kaya, and Okan, "Spiritual Orientation and Mental Health: An SEM Analysis of Meaning and Death Attitudes as Mediators in Turkish Religious Officials": 406; Santo Di Nuovo et al., "Dimensions of Hope as Mediators Between Negative Events and Recovery of Well-Being in Adults and Elderly," *Healthcare (Switzerland)* 13, no. 24 (2025): 3259, <https://doi.org/10.3390/healthcare13243259>.

²⁴ Angie Cucchi and M. Walid Qoronfleh, "Cultural Perspective on Religion, Spirituality and Mental Health," *Frontiers in Psychology* 16 (2025): 1568861, <https://doi.org/10.3389/fpsyg.2025.1568861>; Vaingankar et al., "Religious Affiliation in Relation to Positive Mental Health and Mental Disorders in a Multi-Ethnic Asian Population": 3368; Beata Pastwa-Wojciechowska, Iwona Grzegorzewska, and Mirella Wojciechowska, "The Role of Religious Values and Beliefs in Shaping Mental Health and Disorders," *Religions* 12, no. 10 (2021): 840, <https://doi.org/10.3390/rel12100840>.

midpoint of core academic training, a third wave at the conclusion of practical training, and a fourth wave approximately six months into professional employment. The present paper reports on the baseline wave and the expert validation process.²⁵

The instruments comprise a structured questionnaire administered at each wave alongside qualitative interviews conducted at the baseline and final waves. The questionnaire includes validated measures of spiritual wellbeing adapted from the Spiritual Well-Being Scale validated in Polish Catholic settings,²⁶ daily spiritual experience items adapted from the short-form Daily Spiritual Experience Scale,²⁷ perceived stress items drawn from validated instruments in the student mental health literature, and psychological wellbeing items encompassing hedonic and eudaimonic dimensions. Christian-specific items on prayer frequency, worship attendance, and perceived closeness to God are included to capture tradition-specific variation.²⁸ The qualitative interview protocol explores the lived experience of faith, stress, and wellbeing at each wave.

Data collection for the baseline wave took place over a four-week period. Questionnaires were completed in supervised settings; interviews were conducted privately and recorded with informed consent. Expert validation involved a structured feedback session with lecturers and veterans, who evaluated the instruments for face validity, cultural appropriateness, and alignment with their knowledge of cadet experience. Subsequent waves will follow the same procedures at the time points specified.

The planned analytical strategy combines quantitative and qualitative approaches. Quantitative analysis will employ repeated-measures techniques to test for changes in spirituality, stress, and wellbeing across waves, and mediation analysis to test whether meaning and self-efficacy mediate the spirituality-wellbeing relationship over time.²⁹

²⁵ Illueca et al., "The Church and Academia Model: New Paradigm for Spirituality and Mental Health Research": 998; Vieten et al., "Mental Health Professionals' Perspectives on the Relevance of Religion and Spirituality to Mental Health Care."

²⁶ Zarzycka et al., "The Spiritual Well-Being Scale in the Polish Catholic Setting: Construct, Structure, and Relationships with Psychological Well-Being."

²⁷ Shankov, Böttche, and Lotzin, "Validation of the Daily Spiritual Experience Scale Short Forms among Russian Orthodox Christian Women": 794–811.

²⁸ Fides A. Del Castillo, Clarence D. B. Del Castillo, and Harold G. Koenig, "Associations between Prayer and Mental Health among Christian Youth in the Philippines," *Religions* 14, no. 6 (2023): 806, <https://doi.org/10.3390/rel14060806>; Rose and Smith, "Christian Beliefs About Salvation: Measurement and Associations with Mental Health and Well-Being": 757.

²⁹ Söylev, Kaya, and Okan, "Spiritual Orientation and Mental Health: An SEM Analysis of Meaning

Qualitative analysis will employ thematic analysis and narrative synthesis to document the lived experience of change across the formation journey.³⁰ Cross-group comparison will test for differences across the three cadet majors. The integration of quantitative and qualitative findings will generate a comprehensive account of how spirituality, stress, and wellbeing evolve across the maritime cadet journey.

RESULT

The results section of a protocol paper reports baseline data and expert validation findings rather than full longitudinal outcomes. The findings are presented in three parts: baseline measurements of spirituality, stress, and wellbeing; expert evaluation of the instruments; and a projected measurement schedule.

Baseline measurements

The thirty cadets in the baseline cohort reported moderate-to-high levels of spiritual wellbeing, moderate levels of perceived stress, and moderate-to-high levels of psychological wellbeing, with patterned variation across the three majors. Table 1 summarises the baseline indicators.

Table 1. Baseline measurements of spirituality, stress, and wellbeing across the three cadet majors (mean scores, 1–5 scale; n = 30).

Indicator	Nautical (n = 10)	Engineering (n = 10)	Port & shipping (n = 10)	Overall mean
Spiritual wellbeing	4.2	3.9	4.3	4.13
Daily spiritual experience	4.0	3.7	4.1	3.93
Prayer frequency	4.3	4.0	4.4	4.23
Perceived closeness to God	4.1	3.8	4.2	4.03
Perceived stress	3.4	3.7	3.2	3.43
Psychological wellbeing (hedonic)	3.8	3.6	4.0	3.80
Psychological wellbeing (eudaimonic)	4.2	4.0	4.2	4.13
Meaning and purpose	4.4	4.1	4.3	4.27

Table 1 establishes the baseline against which subsequent waves will be compared. The patterns are consistent with the cross-sectional findings reported in the earlier studies of this series: spiritual wellbeing and psychological wellbeing are moderate to high, perceived stress is moderate, and engineering cadets report slightly higher stress and slightly lower spiritual indicators than nautical and port and shipping

and Death Attitudes as Mediators in Turkish Religious Officials": 406.

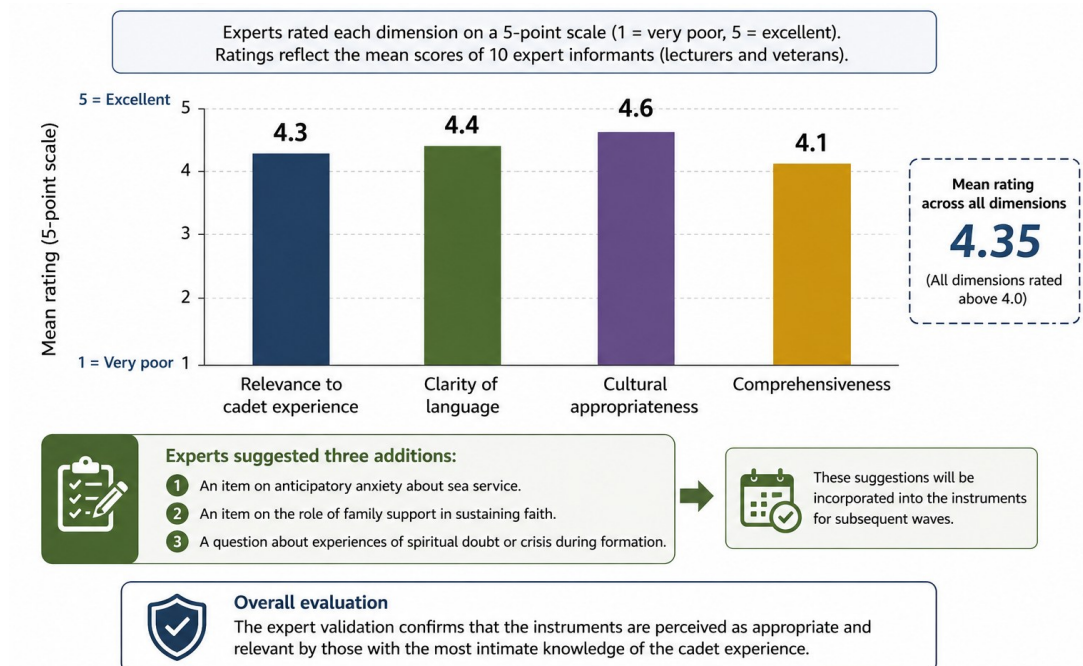
³⁰ Cucchi and Qoronfleh, "Cultural Perspective on Religion, Spirituality and Mental Health."

cadets. These baseline values will be tested for change across the subsequent three measurement waves.

Expert evaluation of the instruments

The expert validation session with lecturers and veterans produced consistent evaluations of the instruments' face validity and cultural appropriateness. Figure 1 represents the expert evaluation.

Figure 1. Expert evaluation of instrument dimensions.



The chart shows expert ratings on a five-point scale for four dimensions: relevance to cadet experience, clarity of language, cultural appropriateness, and comprehensiveness. All four dimensions received mean ratings above 4.0 from the ten expert informants, with cultural appropriateness receiving the highest rating (4.6) and comprehensiveness receiving the lowest (4.1). The experts suggested three additions: an item on anticipatory anxiety about sea service, an item on the role of family support in sustaining faith, and a question about experiences of spiritual doubt or crisis during formation. These suggestions will be incorporated into the instruments for subsequent waves. The expert validation confirms that the instruments are perceived as appropriate and relevant by those with the most intimate knowledge of the cadet experience.

Projected measurement schedule

Table 2 summarises the projected measurement schedule for the four waves of the longitudinal study. Table 2 shows that the four waves are timed to coincide with the major phase transitions of the formation journey. Qualitative interviews are included at the baseline and final waves to capture the lived experience of change at the beginning and end of the trajectory. Questionnaires are administered at all four waves to enable quantitative tracking of change over time.

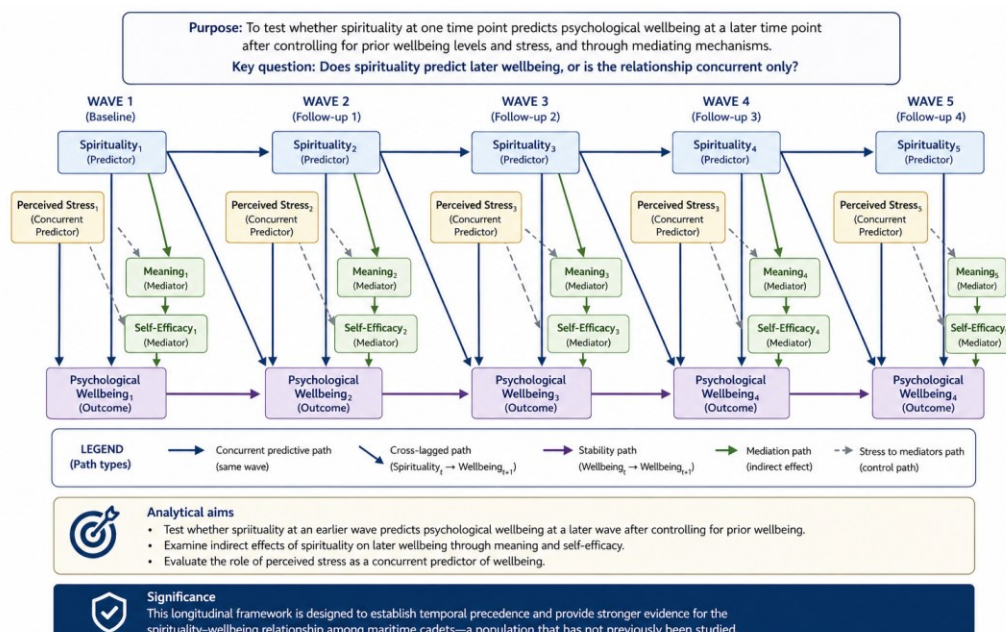
Table 2. Projected measurement schedule for the four-wave longitudinal study.

Wave	Timing	Data collection	Focus
Wave 1 (baseline)	Beginning of formation	Questionnaire + qualitative interview	Initial levels of spirituality, stress, wellbeing
Wave 2	Midpoint of core training	Questionnaire	Change during intensive academic/technical phase
Wave 3	End of practical training	Questionnaire	Change during practical/operational phase
Wave 4	Six months into employment	Questionnaire + qualitative interview	Transition effects; early-career adjustment

Projected analytical framework

Figure 2 represents the projected analytical framework for the full longitudinal study. The diagram shows spirituality at each wave as a predictor of psychological wellbeing at the same and subsequent waves, with perceived stress as a concurrent predictor and meaning and self-efficacy as mediators.

Figure 2. Projected longitudinal analytical framework.



Cross-lagged paths connect spirituality at each wave to wellbeing at the next, allowing the analysis to test whether earlier spirituality predicts later wellbeing after controlling for prior wellbeing levels. The framework is designed to test the temporal precedence question that cross-sectional designs cannot answer: does spirituality at one time point predict wellbeing at a later time point, or is the relationship concurrent only?

These baseline results and the projected design establish the foundation for a longitudinal study that, upon completion, will provide the temporal evidence that the religion-and-wellbeing field has long called for, generated from a population that has not previously been studied.

DISCUSSION

The present protocol paper contributes to the religion-and-wellbeing literature in four principal ways: methodologically, by proposing a multi-wave longitudinal design that directly addresses the field's most frequently cited limitation; substantively, by generating baseline data from a previously unstudied population; practically, by demonstrating the feasibility of longitudinal research in a maritime academy setting; and strategically, by establishing priority and inviting collaboration through protocol publication.

The methodological contribution is the most fundamental. The cross-sectional dominance of the religion-and-wellbeing literature has been repeatedly criticized,³¹ yet few researchers have responded with actual longitudinal designs. The proposed four-wave design, timed to coincide with the major phase transitions of the maritime formation journey, provides a structure within which the temporal dynamics of spirituality and wellbeing can be examined for the first time in this population. The cross-lagged analytical framework allows the testing of temporal precedence, addressing the question of whether spirituality at one time point predicts wellbeing at a later time point. If subsequent waves confirm this pattern, the causal case for spirituality as a protective factor will be substantially strengthened. If they do not, the field will have valuable null evidence that is currently impossible to generate from

³¹ Brečka et al., "Impact of Religion and Spirituality on the Incidence of Depression and Mental Health among Young Adults in the Czech Republic": 1423730; Zwingmann, "Religiosity, Spirituality and Mental Health: Meta-Analysis of Studies from the German-Speaking Area"; Söylev, Kaya, and Okan, "Spiritual Orientation and Mental Health: An SEM Analysis of Meaning and Death Attitudes as Mediators in Turkish Religious Officials": 406.

cross-sectional data.

The substantive contribution concerns the baseline data themselves. The findings are consistent with the cross-sectional evidence reported in the earlier studies of this series: spiritual wellbeing and psychological wellbeing are moderate to high, perceived stress is moderate, and engineering cadets report slightly elevated stress.³² The consistency provides confidence that the instruments are functioning as expected and that the baseline cohort is representative of the population of interest. The baseline also establishes the reference values against which change will be measured at subsequent waves.

The practical contribution concerns the demonstration of feasibility. Longitudinal research in institutional settings requires cooperation from the institution, commitment from participants over time, and procedures for managing attrition. The successful completion of the baseline wave, together with the positive expert evaluation of the instruments, demonstrates that longitudinal research is feasible at STIP Jakarta and provides a model that other maritime academies can adapt. The four-wave structure is designed to be manageable within existing institutional schedules, minimising disruption and maximising retention.

The strategic contribution concerns the function of protocol publication itself. By publishing the design before full data collection is complete, the study establishes priority, creates accountability for follow-through, and invites the research community to evaluate, critique, and build upon the design.³³ Other maritime academies in Indonesia and the wider region may choose to implement parallel studies using the same instruments, creating opportunities for multi-site longitudinal evidence that no single institution could generate alone.

The expert evaluation produced constructive feedback that will strengthen the instruments for subsequent waves. The suggestion to include items on anticipatory anxiety about sea service aligns with the distinctive stressor profile of maritime cadets documented in the earlier comparative study. The suggestion to include items on family

³² Pamela Hendra Heng, Septi Lathiifah, and Franklin Hutabarat. "Relationship Between Spiritual Well-Being and Quality of Life of University X Students during Covid-19". *QUAERENS: Journal of Theology and Christianity Studies* 3, no. 2 (2022): 176-185. <https://doi.org/10.46362/quaerens.v3i2.53>

³³ Illueca et al., "The Church and Academia Model: New Paradigm for Spirituality and Mental Health Research": 998; Vieten et al., "Mental Health Professionals' Perspectives on the Relevance of Religion and Spirituality to Mental Health Care."

support recognises that cadets' faith lives are embedded in family and community networks that questionnaires must capture. The suggestion to include items on spiritual doubt or crisis is perhaps the most analytically important, since it addresses the possibility that the formation journey involves not only growth but also challenge and regression in spiritual life, a dynamic that the current instruments may not adequately capture.³⁴

Several strengths deserve acknowledgement. The four-wave design is ambitious by the standards of the field and is well suited to the phasic structure of maritime formation. The combination of quantitative tracking with qualitative depth at the baseline and final waves allows both measurement of change and interpretation of its meaning. The expert validation process ensures cultural and contextual appropriateness. The protocol format creates transparency and invites scrutiny.

The limitations are also important. The sample size of thirty cadets is small for quantitative longitudinal analysis and will limit the statistical power of the repeated-measures and cross-lagged tests. Attrition is a risk across four waves, particularly at the transition to professional employment. The single-institution design limits generalisability. The focus on Christian cadets limits the applicability to other religious traditions. The planned analytical framework assumes linear change, which may not capture non-linear dynamics. These limitations are acknowledged as features of a protocol-stage study that subsequent work can address through larger samples, multi-site designs, and more complex analytical models.

Future research directions follow directly from the design. The most immediate is the completion of the four waves and the publication of the full longitudinal results. Multi-site replication at other maritime academies would extend the evidence base. Parallel studies among cadets of other religious traditions would test cultural specificity. Studies that combine the longitudinal quantitative design with more intensive qualitative methods, such as experience sampling or diary-based approaches, would generate richer temporal data. Intervention studies that introduce specific spiritual support programmes and track their effects longitudinally would translate the

³⁴ Pastwa-Wojciechowska, Grzegorzewska, and Wojciechowska, "The Role of Religious Values and Beliefs in Shaping Mental Health and Disorders": 840; Village and Francis, "The Effects of Spiritual Wellbeing on Self-Perceived Health Changes Among Members of the Church of England During the COVID-19 Pandemic in England": 2899–2915.

descriptive evidence into evidence for practice.

CONCLUSION

This protocol paper has presented the design, instruments, baseline data, and expert validation of a multi-wave longitudinal study tracking Christian spirituality, stress, and psychological wellbeing across the maritime cadet journey at STIP Jakarta. The baseline data confirm that the initial cohort reports moderate-to-high spiritual wellbeing and psychological wellbeing alongside moderate stress, establishing the reference values against which subsequent waves will be measured. By directly addressing the cross-sectional limitation that has constrained the religion-and-wellbeing field, the protocol opens a new line of temporal inquiry into how spirituality and wellbeing interact across the formative years of a demanding vocation. The publication of the protocol at this stage establishes priority, invites collaboration, and creates accountability for the completion of a study that the field urgently needs.

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REFERENCES

Alroomi, Anwar S., and Sherif Mohamed. "Occupational Stressors and Safety Behaviour among Oil and Gas Workers in Kuwait: The Mediating Role of Mental Health and

- Fatigue." *International Journal of Environmental Research and Public Health* 18, no. 21 (2021): 11700. <https://doi.org/10.3390/ijerph182111700>.
- Arslan, Gökmen, and Murat Yıldırım. "Meaning-Based Coping and Spirituality During the COVID-19 Pandemic: Mediating Effects on Subjective Well-Being." *Frontiers in Psychology* 12 (2021): 646572. <https://doi.org/10.3389/fpsyg.2021.646572>.
- Brečka, Tabor A., Radek Ptáček, Ivan Sebal, Martin Anders, and Martina Sebalová. "Impact of Religion and Spirituality on the Incidence of Depression and Mental Health among Young Adults in the Czech Republic." *Frontiers in Psychology* 15 (2024): 1423730. <https://doi.org/10.3389/fpsyg.2024.1423730>.
- Castillo, Fides A. Del, Clarence D. B. Del Castillo, and Harold G. Koenig. "Associations between Prayer and Mental Health among Christian Youth in the Philippines." *Religions* 14, no. 6 (2023): 806. <https://doi.org/10.3390/rel14060806>.
- Crete, Abigail, Suza C. Scalora, Elisabeth J. Mistur, Micheline Anderson, and Lisa Miller. "Spiritual Growth and Mental Health Gains: Benefits of Awakened Awareness for U.S. College Students at Three-Month Follow-Up." *Religions* 16, no. 6 (2025): 674. <https://doi.org/10.3390/rel16060674>.
- Cucchi, Angie, and M. Walid Qoronfleh. "Cultural Perspective on Religion, Spirituality and Mental Health." *Frontiers in Psychology* 16 (2025): 1568861. <https://doi.org/10.3389/fpsyg.2025.1568861>.
- Ekşi, Halil, Dilek Günel, Ece Yağcı Akgündüz, Emre Gürkan, Fadile Z. Çavuş, and Yasemin Altıntaş. "Unveiling the Multifaceted Nature of Spirituality: Assessing the Dimensions of the Spirituality Inventory in the Turkish Context—A Preliminary Adaptation and Validity Reliability Study." *Journal of Religion and Health* 64, no. 4 (2025): 3105–3127. <https://doi.org/10.1007/s10943-025-02313-7>.
- Heng, Pamela Hendra, Septi Lathiifah, and Franklin Hutabarat. "Relationship Between Spiritual Well-Being and Quality of Life of University X Students during Covid-19". *QUAERENS: Journal of Theology and Christianity Studies* 3, no. 2 (2022): 173-189. <https://doi.org/10.46362/quaerens.v3i2.53>.
- Illueca, Martha, Samantha M. Meints, Megan M. Miller, Digachi Osaji, and Benjamin R. Doolittle. "The Church and Academia Model: New Paradigm for Spirituality and Mental Health Research." *Religions* 16, no. 8 (2025): 998. <https://doi.org/10.3390/rel16080998>.

- Kasapoğlu, Figen. "The Relationship Among Spirituality, Self-Efficacy, COVID-19 Anxiety, and Hopelessness During the COVID-19 Process in Turkey: A Path Analysis." *Journal of Religion and Health* 61, no. 1 (2022): 767–785. <https://doi.org/10.1007/s10943-021-01472-7>.
- Kavvadia, Maria, Maria Saridi, Aikaterini Toska, Vissarion Bakalis, Stella Zetta, Theodosios Paralikas, Pavlos Sarafis, and Evangelos C. Fradelos. "The Effect of Medication Adherence and Spirituality in Quality of Life of Patients with Rheumatic Diseases." *Healthcare (Switzerland)* 13, no. 4 (2025): 436. <https://doi.org/10.3390/healthcare13040436>.
- Mamcarz, Piotr, and David Alexander. "From Military to Civilian Context: Adaptation of the SOCOM Spiritual Fitness Scale and Its Associations with Positive Mental Health and Depression in Poland." *Journal of Religion and Health* 65, no. 1 (2026): 752–793. <https://doi.org/10.1007/s10943-025-02518-w>.
- Nuovo, Santo Di, Catarina Ugolini, Rita Zarbo, and Paola Magnano. "Dimensions of Hope as Mediators Between Negative Events and Recovery of Well-Being in Adults and Elderly." *Healthcare (Switzerland)* 13, no. 24 (2025): 3259. <https://doi.org/10.3390/healthcare13243259>.
- Pastwa-Wojciechowska, Beata, Iwona Grzegorzewska, and Mirella Wojciechowska. "The Role of Religious Values and Beliefs in Shaping Mental Health and Disorders." *Religions* 12, no. 10 (2021): 840. <https://doi.org/10.3390/rel12100840>.
- Rammouz, Ismail, Laila Lahlou, Zineb Salehddine, Omar Eloumary, Hicham Laaraj, Mina Ouhamou, Khalid Mouhadi, Jalal Doufik, Rachid Aalouane, and Said Boujraf. "Religiosity, Stress, and Depressive Symptoms among Nursing and Medical Students during the Middle Stage of the COVID-19 Pandemic: A Cross-Sectional Study in Morocco." *Frontiers in Psychiatry* 14 (2023): 1123356. <https://doi.org/10.3389/fpsyt.2023.1123356>.
- Rose, Anthony E., and Timothy B. Smith. "Christian Beliefs About Salvation: Measurement and Associations with Mental Health and Well-Being." *Religions* 16, no. 6 (2025): 757. <https://doi.org/10.3390/rel16060757>.
- Şahin Altun, Özlem, Duygu Özer, Mehtap Satılmış, and Fatih Şahin. "Investigation of the Relationship Between the Spiritual Orientation and Psychological Well-Being Levels of Inpatients with a Diagnosis of COVID-19 in Turkey: A Cross-Sectional

- Study." *Journal of Religion and Health* 61, no. 5 (2022): 4189–4204.
<https://doi.org/10.1007/s10943-022-01602-9>.
- Shankov, Fedor, Maria Böttche, and Annette Lotzin. "Validation of the Daily Spiritual Experience Scale Short Forms among Russian Orthodox Christian Women." *Journal of Religion and Health* 65, no. 1 (2026): 794–811.
<https://doi.org/10.1007/s10943-025-02402-7>.
- Skalski-Bednarz, Sebastian B., and Dariusz Krok. "Adaptation and Validation of the Christian Sanctification of Suffering Scale (CSSS) in a Polish Catholic Chronic Pain Sample." *BMC Psychology* 13, no. 1 (2025): 966. <https://doi.org/10.1186/s40359-025-03339-y>.
- Skalski-Bednarz, Sebastian B., Loren L Toussaint, Jon R. Webb, Colwick M Wilson, Everett L. Worthington, David R. Williams, Sandra D. Reid, and Janusz Surzykiewicz. "Religion and Flourishing among Afro-Trinidadians: The Influence of Proneness to Guilt/Shame and Forgiveness by God on the Relationship between Religious Commitment and Health." *Frontiers in Public Health* 12 (2024): 1443960. <https://doi.org/10.3389/fpubh.2024.1443960>.
- Söylev, Ömer F., Çınar Kaya, and Nesrullah Okan. "Spiritual Orientation and Mental Health: An SEM Analysis of Meaning and Death Attitudes as Mediators in Turkish Religious Officials." *BMC Psychology* 13, no. 1 (2025): 406.
<https://doi.org/10.1186/s40359-025-02729-6>.
- Vaingankar, Janhavi Ajit, Niyanta Choudhary, Siow Ann Chong, Fiona Devi Siva Kumar, Edimansyah Abdin, Saleha Shafie, Boon Yiang Chua, Rob M. van Dam, and Mythily Subramaniam. "Religious Affiliation in Relation to Positive Mental Health and Mental Disorders in a Multi-Ethnic Asian Population." *International Journal of Environmental Research and Public Health* 18, no. 7 (2021): 3368.
<https://doi.org/10.3390/ijerph18073368>.
- Vieten, Cassandra, Holly K. Oxhandler, Michelle Pearce, Nina Fry, Chloe Tanega, and Kenneth Pargament. "Mental Health Professionals' Perspectives on the Relevance of Religion and Spirituality to Mental Health Care." *BMC Psychology* 11, no. 1 (2023): 439. <https://doi.org/10.1186/s40359-023-01466-y>.
- Village, Andrew, and Leslie J Francis. "Psychological and Spiritual Well-Being Among Church of England Clergy and Laity Three Years After the COVID-19 Lockdowns."

Journal of Religion and Health 64, no. 6 (2025): 5125–5146.

<https://doi.org/10.1007/s10943-025-02412-5>.

Village, Andrew, and Leslie J Francis. “The Effects of Spiritual Wellbeing on Self-Perceived Health Changes Among Members of the Church of England During the COVID-19 Pandemic in England.” *Journal of Religion and Health* 62, no. 4 (2023): 2899–2915. <https://doi.org/10.1007/s10943-023-01790-y>.

Zarzycka, Beata, Kamil Tomaka, Michal Grupa, Raymond F. Paloutzian, and Rodger K. Bufford. “The Spiritual Well-Being Scale in the Polish Catholic Setting: Construct, Structure, and Relationships with Psychological Well-Being.” *Journal of Religion and Health* 63, no. 6 (2024): 4191–4214. <https://doi.org/10.1007/s10943-024-02138-w>.

Zwingmann, Christian. “Religiosity, Spirituality and Mental Health: Meta-Analysis of Studies from the German-Speaking Area.” *Journal of Religion and Health* 65, no. 1 (2026): 132–157. <https://doi.org/10.1007/s10943-025-02406-3>.



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