JURNAL VENUS
Vol. 14, No. 1, March 2026, pp. 65–75
p-ISSN 2338-4611 | e-ISSN 2798-0995

Mental Health of Maritime Cadets in the Digital Era: An Instagram Netnographic Study in the Context of the 2026 STCW Amendment

Oktavera Sulistiana[1], Rosmawati[2*], Feronika Sekar Puriningsih[3], Ludfi Pratiwi Bowo[3], Henny Pasandang Nari[4]

[1,4]Politeknik Ilmu Pelayaran Makassar, Makassar, Indonesia
[2]Internship Program on Research Center of Transportation Technology, National Research and Innovation Agency, Indonesia
[3]Research Center for Transportation Technology, National Research and Innovation Agency, Indonesia
* rosmawatimardiana@gmail.com

ARTICLE INFO

Article History
Received: 10 January 2026
Revised: 17 February 2026
Accepted: 31 March 2026
Published: 31 March 2026

Keywords
Maritime Cadets; Mental Health; Digital Social Support; Netnography; STCW Amendment

Corresponding Author
Rosmawati
Politeknik Ilmu Pelayaran Makassar, Jl. Tentara Pelajar No. 173, Makassar 90172, Indonesia
Email: rosmawatimardiana@gmail.com

ABSTRACT

This study aims to analyse the mental health needs and patterns of psychosocial support among maritime cadets in the digital era, particularly in anticipation of the 2026 amendment to the Standards of Training, Certification and Watchkeeping (STCW). A qualitative netnographic approach was employed to analyse public Instagram content related to maritime cadets. Data were collected from 20 digital postings and processed using NVivo thematic coding analysis. The findings indicate that the dominant narrative within the digital ecosystem of maritime cadets is "appreciation and positive support," representing 70% of all coded narratives. Notably, 68.6% of these supportive narratives originate from general internet users, suggesting that emotional validation is largely derived from public digital audiences. In contrast, narratives coded under "struggle" account for only 1.3% of total mentions, indicating possible impression management in social media environments. Digital support functions as a proxy protective factor against psychological pressure. However, the dominance of image-based validation may create a gap between public perception and actual psychological experiences. This study contributes to maritime mental health literature by positioning digital social support as a critical mediating variable and recommends that maritime institutions integrate authentic mental health support programs in preparation for upcoming STCW standards.

Copyright © 2026 The Author(s). Published by Jurnal Venus, Politeknik Ilmu Pelayaran Makassar. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0): https://creativecommons.org/licenses/by/4.0/

How to cite: Sulistiana, O., Rosmawati, Puriningsih, F. S., Bowo, L. P., & Nari, H. P. (2026). Mental health of maritime cadets in the digital era: An Instagram netnographic study in the context of the 2026 STCW amendment. *Jurnal Venus*, *14*(1), 65–75. https://doi.org/10.48192/vns.v14i1.858

1. INTRODUCTION

Maritime cadets represent a critical transitional phase in the development of future seafarers who will support the global maritime industry. The maritime profession has long been associated with demanding working conditions, including isolation, hierarchical organizational structures, and high operational responsibility. Previous studies have consistently reported that maritime personnel experience higher risks of stress, depression, and psychological fatigue compared to many other professional groups, and that the psychosocial work environment on board strongly shapes their mental health (Brooks & Greenberg, 2022; Hayes-Mejia &

Stafström, 2023; Nittari et al., 2024). These psychological pressures often originate during the early stages of professional formation, particularly during maritime education and training.

Within maritime academies, cadets undergo rigorous academic and disciplinary regimes designed to prepare them for operational responsibilities at sea. Although such institutional structures aim to produce highly competent maritime professionals, they may simultaneously generate psychological pressure and emotional challenges. Several studies have highlighted that maritime students and cadets frequently encounter stress related to academic workload, strict institutional discipline, and uncertainty regarding future career demands (Alday & Paet, 2025; Lucas et al., 2023), while resilience and self-efficacy play an important role in their performance during demanding training tasks (Piotrowski et al., 2025). Studies of cadets in other uniformed and highly disciplined institutions likewise show that perceived social support is closely related to their mental health (Nisbet et al., 2023). Despite this growing concern, the mental health experiences of maritime cadets remain relatively underexplored in the academic literature, particularly in relation to their digital social environments.

The urgency of addressing cadet mental health is further amplified by the anticipated 2026 amendment to the Standards of Training, Certification and Watchkeeping (STCW) Convention, which is expected to introduce higher competency standards, particularly in areas related to digital literacy, technological adaptation, and resource management (Dipta et al., 2025; Kim et al., 2023). The digitalization of maritime transport and the emergence of autonomous shipping are changing the competencies required of future officers and, consequently, the content and intensity of maritime education and training (Bogusławski et al., 2022; Sampson & Tang, 2016; Sanchez-Gonzalez et al., 2019). While these regulatory developments aim to strengthen maritime safety and operational efficiency, they may also increase academic pressure and psychological expectations among cadets preparing to enter the maritime workforce.

Simultaneously, contemporary cadets live in an increasingly digitalized social environment. Social media platforms particularly Instagram have become important spaces where individuals construct professional identity, express emotional experiences, and seek social validation. Digital interactions may function as informal psychosocial support systems, especially for individuals operating within highly structured institutional environments. Previous studies suggest that digital social networks can influence perceptions of social support, belonging, and emotional well-being (Caba Machado et al., 2023; Mukta & Akter, 2025; Wegmann et al., 2023), whereas social isolation is a well-documented risk factor for poor mental health (Wang et al., 2017). Information and communication technology has also been

shown to empower seafarers to manage their own well-being (Abila et al., 2023), and digital media and digital interventions can promote the mental health of young people when used appropriately (Garrido et al., 2019; Hamilton et al., 2024). At the same time, intensive technology use may generate technostress that depends on how individuals cope with it (Hauk et al., 2019).

However, existing research on maritime mental health has largely focused on professional seafarers, shipboard working conditions, or occupational health risks, while limited attention has been given to maritime cadets and their digital social environments. Furthermore, few studies have explored how online narratives reflect psychosocial dynamics among maritime cadets, particularly in relation to professional identity formation and perceived social support.

To address this research gap, this study employs a netnographic approach to analyze Instagram-based digital narratives related to maritime cadets. By examining themes of appreciation, support, and struggle expressed within online discourse, the study aims to identify patterns of digital social support and psychosocial representation among cadets. The findings are expected to contribute to the growing body of literature on maritime mental health while offering insights into the role of digital environments in shaping cadets' psychological experiences in the context of the upcoming STCW regulatory changes.

2. METHODS

2.1. Research Design

This study used a qualitative netnographic design. Netnography adapts the principles of ethnography to the study of online communities and digital traces, allowing researchers to examine naturally occurring narratives without formal institutional intervention (James, 2022; Kozinets, 2012, 2015). The approach has been applied to examine how images and meanings are constructed in online environments (Utama & Basuki, 2023), and digital technologies and visual materials are increasingly recognized as legitimate sources of data in qualitative research (Ciolan & Manasia, 2017; Thunberg & Arnell, 2022).

2.2. Netnographic Procedure

The netnographic procedure applied in this study follows a structured analytical framework adapted from Kozinets (2015). The process consists of five iterative stages designed to ensure methodological rigor, transparency, and systematic interpretation of digital ethnographic data. The methodological framework of this study is visually summarized in Figure 1, highlighting the iterative and systematic nature of the netnographic process applied in the analysis.



Figure 1. Five stages of netnographic design

Stage 1: Define Research Questions. The first stage involved defining the research objectives and formulating guiding research questions related to the representation of mental health, support narratives, and psychosocial expressions among maritime cadets in digital environments. This stage also included identifying the relevance of social media as a data source and determining Instagram as the primary research platform due to its popularity among maritime cadets and its visual–narrative communication structure.

Stage 2: Identify Online Communities. In the second stage, relevant digital communities and online spaces were identified. Instagram accounts, hashtags, and publicly available posts associated with maritime cadets were explored using keywords such as "maritime cadet," "taruna," "maritime academy," and "seafarer education." Only publicly accessible content was considered in order to maintain ethical research standards and respect user privacy.

Stage 3: Data Collection and Observation. The third stage involved systematic data collection from the identified digital environment. A purposive sampling strategy was applied to select posts that contained narratives related to maritime training experiences, professional identity, emotional expression, or social interaction surrounding maritime cadets. A total of 20 Instagram posts consisting of captions, comments, images, and short videos were extracted and archived for analysis.

Stage 4: Thematic Analysis and Interpretation. The collected data were analyzed using NVivo qualitative analysis software (Dhakal, 2022). Thematic coding followed the reflexive thematic analysis framework proposed by Braun and Clarke (2024). The analysis included several steps: data familiarization, generation of initial codes, clustering of related codes into thematic nodes, and interpretation of thematic relationships. Coding results were organized into multiple narrative themes, with particular emphasis on two key dimensions: Theme 5 (Appreciation & Positive Support) representing digital social support, and Theme 7 (Struggle) representing expressions of psychological pressure.

Stage 5: Report Findings. The final stage involved interpreting the thematic patterns within the broader theoretical context of digital social support, impression management, and maritime mental health. The findings were then integrated with existing literature to explain how digital narratives may function both as sources of emotional reinforcement and as potential mechanisms of image construction within online environments.

3. RESULTS AND DISCUSSION

3.1. Dominance of Digital Support Narratives

The findings indicate that the most dominant theme within the digital ecosystem of maritime cadets is "Appreciation and Positive Support," with 105 coded mentions. This represents approximately 70% of all identified narratives. To provide a clearer visual representation of the overall thematic distribution, the coding results are summarized in Figure 2.



Figure 2. Distribution of thematic coding across all narratives

Figure 2 summarizes the NVivo Matrix Coding Query output by visualizing the frequency of coded mentions across the study's qualitative coding scheme (5 nodes; 18 narrative themes). The treemap is dominated by Theme 5 (Appreciation & Positive Support) with 105 mentions, represented by the largest block area.

Substantially lower frequencies are recorded for secondary themes: Theme 2 (Success Aspiration) with 10 mentions and Theme 8 (Social Solidarity) with 8 mentions. Two themes show identical mid-range frequencies, namely Theme 1 (Professional Aspiration) and Theme 4

(Future Orientation) with 7 mentions each, followed by Theme 6 (Collective Prayers & Hope) with 6 mentions. The least frequent category is Theme 7 (Struggle) with 2 mentions, represented as the smallest block. In the themes displayed in Figure 2 (n = 145 total mentions across the listed themes), Theme 5 accounts for 72.4%, with the remaining shares distributed across Theme 2 (6.9%), Theme 8 (5.5%), Theme 1 (4.8%), Theme 4 (4.8%), Theme 6 (4.1%), and Theme 7 (1.4%).

The treemap highlights the proportional dominance of each identified theme, allowing a direct comparison of narrative emphasis across categories. The visual composition immediately reveals the overwhelming prevalence of "Appreciation and Positive Support" relative to other themes, thereby reinforcing the central finding of this study.

Of the 105 mentions in Theme 5, 72 (68.6%) originated from general internet users, demonstrating that public digital audiences play a central role in shaping supportive discourse surrounding maritime cadets. These supportive narratives primarily emphasized (a) professional image, (b) discipline, (c) the symbolic prestige of the uniform, and (d) admiration and motivational encouragement. This suggests that digital social support functions as an external validation mechanism, reinforcing cadets' professional identity in highly structured educational environments. This pattern is consistent with studies showing that the use of social network sites is associated with higher perceived social support (Caba Machado et al., 2023; Mukta & Akter, 2025).

3.2. Limited Narratives of Struggle

In contrast, Theme 7 ("Struggle") recorded only 2 mentions, both originating from family members. No explicit expressions of struggle were found from active cadets or internet users. This minimal frequency does not indicate the absence of stress. Instead, it suggests the presence of impression management, where negative experiences are underrepresented in public digital spaces. Studies that directly assessed merchant officer cadets have found considerable psychological strain (Lucas et al., 2023), which supports the interpretation that the scarcity of struggle narratives reflects selective self-presentation rather than the absence of difficulties.

The imbalance between dominant positive narratives and minimal struggle narratives reveals a potential discrepancy between public image and private psychological experience.

3.3. Digital Support as a Proxy Protective Factor

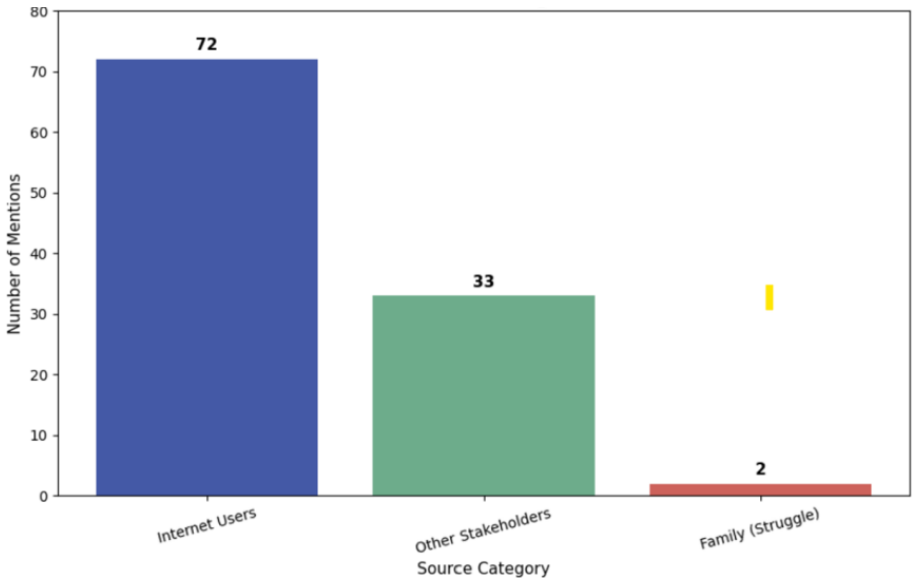


Figure 3. Distribution of narrative sources

Figure 3 presents the distribution of narrative sources contributing to the digital discourse surrounding maritime cadets. The data demonstrate that internet users constitute the most dominant source category, contributing 72 mentions within Theme 5 (Appreciation & Positive Support). Other stakeholders collectively account for 33 mentions, while expressions categorized under Theme 7 (Struggle) are limited to only 2 mentions and originate exclusively from family members.

The strong predominance of supportive narratives generated by public digital audiences indicates that digital social support may function as a proxy protective factor against psychological pressure. Public validation can enhance self-esteem and provide motivational reinforcement, particularly in anticipation of increasing academic and professional demands associated with the 2026 STCW amendment (Abila et al., 2023; Hamilton et al., 2024). However, the asymmetrical distribution of narrative sources also suggests a structural vulnerability. When validation is predominantly image-based and externally driven, over-reliance on public affirmation may create psychological dependency. Cadets who encounter real-world failure, stress, or institutional pressure that cannot be publicly displayed may experience dissonance between their digital identity and private emotional realities. Social network use can serve as either an adaptive or a maladaptive coping strategy, depending on how it is used (Hauk et al., 2019; Wegmann et al., 2023).

Therefore, digital support simultaneously acts as (a) a resilience enhancer and (b) a potential source of psychological dependency when external validation substitutes for internal coping mechanisms.

3.4. Implications for STCW 2026 Readiness

The anticipated STCW 2026 amendment is expected to increase technical and professional standards (Dipta et al., 2025; Kim et al., 2023). While digital support may strengthen motivation and resilience, the lack of authentic discussion about struggle may hinder the development of internal coping mechanisms. True psychological readiness requires not only public validation but also safe spaces for vulnerability, reflection, and stress management. Evidence-based digital mental health interventions for young people (Garrido et al., 2019) could be adapted by maritime institutions to complement existing support and reduce the risk of social isolation during training and later service at sea (Wang et al., 2017).

4. CONCLUSION

This netnographic study concludes that digital narratives surrounding maritime cadets are overwhelmingly dominated by appreciation and positive support, primarily generated by general internet users. These findings position digital social support as a critical environmental factor influencing cadets' psychological well-being. The minimal representation of struggle narratives suggests the presence of impression management in social media environments, potentially masking underlying psychological pressures.

In the context of the anticipated STCW 2026 amendment, which is likely to increase academic and professional demands, maritime institutions must recognize digital social support as both a protective resource and a potential vulnerability. This study contributes to maritime mental health research by (a) expanding theoretical frameworks to include digital social support as a mediating variable, (b) demonstrating the methodological value of netnography in maritime education research, and (c) highlighting the specific psychosocial dynamics of maritime cadets, a population underrepresented in previous literature.

Future research should integrate mixed-method approaches, including direct psychological assessment and institutional data, to better understand the relationship between digital validation and actual mental health outcomes. Maritime institutions are encouraged to develop structured mental health programs that complement digital support with confidential, authentic, and professionally guided psychosocial services.

5. DECLARATIONS

Author contributions: O.S.: Conceptualization, Methodology, Writing – original draft; R.: Investigation, Data curation, Formal analysis, Writing – original draft; F.S.P.: Methodology, Supervision, Writing – review & editing; L.P.B.: Validation, Supervision, Writing – review & editing; H.P.N.: Visualization, Writing – review & editing. All authors have read and approved the final manuscript.

Conflict of interest: The authors declare no conflict of interest.

AI usage statement: The authors did not use generative AI tools in preparing this manuscript.

Ethical approval: Not applicable. This study analysed only publicly accessible Instagram content and did not involve direct interaction with participants; no account names or other personal identifiers are reported.

Funding: This research received no external funding.

Data availability: The coded data supporting the findings of this study are available from the corresponding author upon reasonable request.

Acknowledgments: The authors thank Politeknik Ilmu Pelayaran Makassar and the Research Center for Transportation Technology, National Research and Innovation Agency, for their support during this study.

REFERENCES

Abila, S., Kitada, M., Malecosio, S., Tang, L., & Subong-Espina, R. (2023). Empowering seafarers as agents of their mental health: The role of information and communication technology in seafarers' well-being. *Inquiry*, *60*. https://doi.org/10.1177/00469580231162752

Alday, C. L., & Paet, R. A. R. (2025). Health related experiences of maritime students during their on-board training on inter-island vessels. *Proceedings Series on Health & Medical Sciences*, *6*, 94–102. https://doi.org/10.30595/pshms.v6i.1411

Bogusławski, K., Gil, M., Nasur, J., & Wróbel, K. (2022). Implications of autonomous shipping for maritime education and training: The cadet's perspective. *Maritime Economics & Logistics*, *24*(2), 327–343. https://doi.org/10.1057/s41278-022-00217-x

Braun, V., & Clarke, V. (2024). Supporting best practice in reflexive thematic analysis reporting in Palliative Medicine: A review of published research and introduction to the Reflexive Thematic Analysis Reporting Guidelines (RTARG). *Palliative Medicine*, *38*(6), 608–616. https://doi.org/10.1177/02692163241234800

Brooks, S. K., & Greenberg, N. (2022). Mental health and psychological wellbeing of maritime personnel: A systematic review. *BMC Psychology*, *10*(1). https://doi.org/10.1186/s40359-022-00850-4

Caba Machado, V., Mcilroy, D., Padilla Adamuz, F. M., Murphy, R., & Palmer-Conn, S. (2023). The associations of use of social network sites with perceived social support and loneliness. *Current Psychology*, *42*(17), 14414–14427. https://doi.org/10.1007/s12144-021-02673-9

Ciolan, L., & Manasia, L. (2017). Reframing photovoice to boost its potential for learning research. *International Journal of Qualitative Methods*, *16*(1). https://doi.org/10.1177/1609406917700647

Dhakal, K. (2022). NVivo. *Journal of the Medical Library Association*, *110*(2), 270–272. https://doi.org/10.5195/jmla.2022.1271

Dipta, I. W. G., Giyas, M., Azmi, M. A., & Wanadi, A. (2025). The importance of providing safety training for ship crews based on STCW. *Jurnal Aplikasi Pelayaran dan Kepelabuhanan*, *15*(2), 349–353. https://doi.org/10.30649/japk.v15i2.157

Garrido, S., Millington, C., Cheers, D., Boydell, K., Schubert, E., Meade, T., & Nguyen, Q. V. (2019). What works and what doesn't work? A systematic review of digital mental health interventions for depression and anxiety in young people. *Frontiers in Psychiatry*, *10*. https://doi.org/10.3389/fpsyt.2019.00759

Hamilton, J. L., Torous, J., Szlyk, H. S., Biernesser, C., Kruzan, K. P., Jensen, M., Reyes-Portillo, J., Primack, B. A., Zelazny, J., & Weigle, P. (2024). Leveraging digital media to promote youth mental health: Flipping the script on social media-related risk. *Current Treatment Options in Psychiatry*, *11*(2), 67–75. https://doi.org/10.1007/s40501-024-00315-y

Hauk, N., Göritz, A. S., & Krumm, S. (2019). The mediating role of coping behavior on the age-technostress relationship: A longitudinal multilevel mediation model. *PLoS ONE*, *14*(3). https://doi.org/10.1371/journal.pone.0213349

Hayes-Mejia, R., & Stafström, M. (2023). Psychosocial work environment and mental health among the global workforce of seafarers in the wake of the COVID-19 pandemic. *BMC Public Health*, *23*(1). https://doi.org/10.1186/s12889-023-17035-2

James, S. (2022). Thinking ethnographically. *American Journal of Qualitative Research*, *6*(1), 226–227. https://doi.org/10.29333/ajqr/11981

Kim, J., Lee, C., Jeong, M., Cho, E., & Lee, Y. (2023). Identifying optimal approaches for sustainable maritime education and training: Addressing technological, environmental, and epidemiological challenges. *Sustainability*, *15*(10). https://doi.org/10.3390/su15108092

Kozinets, R. V. (2012). Marketing netnography: Prom/ot(ulgat)ing a new research method. *Methodological Innovations Online*, *7*(1), 37–45. https://doi.org/10.4256/mio.2012.004

Kozinets, R. V. (2015). *Netnography: Redefined* (2nd ed.). SAGE Publications.

Lucas, D., Coadic, N., & Jégaden, D. (2023). Assessment of mental health and psychosocial factors in French merchant officer cadets. *International Maritime Health*, *74*(1), 62–69. https://doi.org/10.5603/IMH.2023.0007

Mukta, K. J., & Akter, S. (2025). Effect of social support on mental health: The study of social networks in times of crisis. *Journal of Posthumanism*, *5*(7). https://doi.org/10.63332/joph.v5i7.2899

Nisbet, J., Jamshidi, L., Andrews, K. L., Stewart, S. H., Shields, R. E., Teckchandani, T. A., Maguire, K. Q., & Carleton, R. N. (2023). Mental health and social support among Royal Canadian Mounted Police cadets. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1092334

Nittari, G., Gibelli, F., Bailo, P., Sirignano, A., & Ricci, G. (2024). Factors affecting mental health of seafarers on board merchant ships: A systematic review. *Reviews on Environmental Health*, *39*(1), 151–160. https://doi.org/10.1515/reveh-2021-0070

Piotrowski, A., Sygit-Kowalkowska, E., Królikowska, I., & Suchocka, A. (2025). Resilience, sense of self-efficacy, and risk-taking in the context of task performance during ship simulator training. *Current Issues in Personality Psychology*. https://doi.org/10.5114/cipp/204038

Sampson, H., & Tang, L. (2016). Strange things happen at sea: Training and new technology in a multi-billion global industry. *Journal of Education and Work*, *29*(8), 980–994. https://doi.org/10.1080/13639080.2015.1102213

Sanchez-Gonzalez, P. L., Díaz-Gutiérrez, D., Leo, T. J., & Núñez-Rivas, L. R. (2019). Toward digitalization of maritime transport? *Sensors*, *19*(4). https://doi.org/10.3390/s19040926

Thunberg, S., & Arnell, L. (2022). Pioneering the use of technologies in qualitative research: A research review of the use of digital interviews. *International Journal of Social Research Methodology*, *25*(6), 757–768. https://doi.org/10.1080/13645579.2021.1935565

Utama, A. A. G. S., & Basuki, B. (2023). The exploration of corporate image sustainability: A netnography study. *ETNOSIA: Jurnal Etnografi Indonesia*, *8*(1), 174–196. https://doi.org/10.31947/etnosia.v8i1.26440

Wang, J., Lloyd-Evans, B., Giacco, D., Forsyth, R., Nebo, C., Mann, F., & Johnson, S. (2017). Social isolation in mental health: A conceptual and methodological review. *Social Psychiatry and Psychiatric Epidemiology*, *52*(12), 1451–1461. https://doi.org/10.1007/s00127-017-1446-1

Wegmann, E., Schiebener, J., & Brand, M. (2023). Social-networks use as adaptive or maladaptive strategy for coping with stress. *Scientific Reports*, *13*(1). https://doi.org/10.1038/s41598-023-39042-4