

Constructing Social Sanctions as a Preventive Strategy Against Sexual Violence in Indonesian Higher Education: A Mixed-Methods Study

Suardi ¹⁾, Herdianty Ramlan ²⁾, Shahrin Bin Hashim ³⁾, Nursalam ⁴⁾, Rahmat Nur ⁵⁾, Hasruddin Nur ⁶⁾

^{1, 2, 4)} *Sociology Education Study Program, Universitas Muhammadiyah Makassar, Indonesia*

³⁾ *Studies in Education and Development, Universiti Teknologi Malaysia, Malaysia*

⁵⁾ *Sociology Education Study Program, Universitas Lambung Mangkurat, Indonesia*

⁶⁾ *Sociology Study Program, Universitas Negeri Makassar, Indonesia*

Corresponding Author: Suardi, Email: suardi@unismuh.ac.id

History: Received 07/01/2026 | Revised 16/02/2026 | Accepted 25/02/2026 | Published 28/02/2026

Abstract. Sexual violence in higher education remains a persistent structural problem that cannot be effectively mitigated through legal and bureaucratic mechanisms alone, especially in contexts where cultural and institutional norms inhibit reporting and accountability. This study aims to examine how members of an academic community construct and negotiate the meaning of social sanctions as preventive instruments against sexual violence on campus. Employing a sequential explanatory mixed-method design at Universitas Muhammadiyah Makassar, the research first conducted semi-structured qualitative interviews with students, faculty, and university leaders to explore shared understandings, moral reasoning, and perceived barriers surrounding social sanctions. These themes then informed the development of a quantitative survey, which was administered to a broader sample and analyzed using non-parametric statistical techniques. The findings reveal a strong consensus that social sanctions function as effective normative controls when they are applied consistently, transparently, and in ways perceived as procedurally just and morally legitimate by the campus community. Quantitative results further demonstrate significant positive associations between perceptions of consistent sanctioning by faculty and institutional leaders and the overall acceptance of social sanctions as a legitimate preventive mechanism. These results suggest that institutional integrity, value-based education, and participatory community engagement are critical for sustaining effective prevention of sexual violence. The novelty of this research lies in foregrounding socially constructed sanctions—rather than legalistic responses—as the central analytic lens in a Global South university context using a mixed-method approach. The study contributes conceptually and practically by offering an empirically grounded framework to guide universities and policymakers in designing community-based, value-driven strategies to prevent sexual violence on campus.

Keywords: *Sexual Violence in Higher Education; Social Sanctions; Campus-Based Prevention; Community Engagement; Mixed-Methods Research*

INTRODUCTION

Sexual violence within higher education institutions represents a complex and persistent global problem shaped by intersecting cultural, structural, and institutional dynamics. Campuses that are ideally envisioned as safe spaces for intellectual growth and character formation often become locations where gender-based harassment, coercion, and assault occur, yet remain underreported because of stigma, victim-blaming, and asymmetrical power relations between perpetrators and victims (Banyard et al., 2022; Carlyle et al., 2022; Edwards et al., 2023; Jones et al., 2025; Waterman et al., 2022). Emerging evidence from diverse settings further shows that limited literacy about sexual violence, including inadequate understanding of consent, reporting

mechanisms, and victim rights, significantly constrains prevention efforts and reinforces permissive norms toward abuse (Almansori, 2023; Chugani et al., 2021; Coulter et al., 2024; Ngabito et al., 2024; Wahidin & Nova, 2023). In Indonesia, these challenges intersect with broader debates on gender, religion, and human rights in education, making campus sexual violence a particularly urgent public and moral issue (Imania & Santoso, 2024; Suardi, 2025; Suardi et al., 2024; Wahid et al., 2023).

A growing body of international research indicates that effective prevention of sexual and gender-based violence cannot rely solely on legalistic or administrative instruments; it requires the active participation of students, educators, and institutional leaders in co-constructing values, norms, and practices that explicitly reject violence (Beres, 2020; Casey et al., 2023; Graham et al., 2021; Graham et al., 2024; Munro-Kramer et al., 2020; Rundle-Thiele et al., 2024). Prevention initiatives such as youth-led campaigns, bystander intervention programs, and community-based actionist strategies underscore the importance of social networks and peer influence in transforming attitudes and behaviors (Banyard et al., 2020; Banyard et al., 2022; Hutchison et al., 2022; McMahon et al., 2020; Potter et al., 2021; Potter et al., 2022). Central to these approaches is an understanding of how knowledge about sexual violence, responsibility, and accountability is socially constructed through everyday interactions, institutional discourses, and shared moral frameworks within academic communities (Bloom et al., 2022; Logie et al., 2023; Rieger et al., 2023).

Despite progress in policy development and programmatic interventions, a fundamental challenge in higher education—particularly in Indonesia—concerns the persistent gap between formal regulations and lived realities on campus. National and institutional regulatory frameworks have been promulgated to prevent and address campus sexual violence, yet their implementation often encounters resistance, contestation of authority, and uneven enforcement (Imania & Santoso, 2024; Suardi, 2025; Toyibah & Riyani, 2025). Many victims and potential bystanders remain reluctant to report incidents due to distrust in institutional responses, fear of retaliation, and perceptions that processes are slow, opaque, or biased in favor of powerful perpetrators (Carlyle et al., 2022; Chugani et al., 2021; Dirisu et al., 2022; Jones et al., 2025; Wahidin & Nova, 2023). This disjuncture between formal commitments and everyday experience undermines the credibility of institutional mechanisms and weakens the broader culture of accountability.

To address these tensions, a range of general solutions has been proposed in the literature and in practice, including the establishment of formal reporting pathways, codes of conduct, victim-support services, and standardized prevention curricula (Graham et al., 2021; Imania & Santoso, 2024; Potter et al., 2022; Rundle-Thiele et al., 2024; Wahid et al., 2023). While these

mechanisms are normatively important and often legally mandated, their effectiveness remains limited when they are implemented as top-down technical fixes without sufficient engagement of the campus community or sensitivity to local cultural and religious values (Dirisu et al., 2022; Hanson-Defusco, 2024; Logie et al., 2023; Munro-Kramer et al., 2020; Toyibah & Riyani, 2025). More broadly, scholarship on social and moral regulation suggests that formal sanctions must be complemented by socially embedded forms of disapproval and informal punishment that signal collective intolerance for harmful behavior (Lee, 2023; Li et al., 2021; Zhang et al., 2022). However, the ways in which such social sanctions are conceptualized, legitimated, and enacted within university settings—particularly in the Global South—remain underexplored.

Recent studies have proposed more targeted solutions that foreground community participation and contextually grounded approaches to sexual violence prevention. Youth- and student-led initiatives emphasize peer education, social media campaigns, and collective advocacy to reshape norms and empower “actionists” who intervene against harassment and abuse (Banyard et al., 2020; Banyard et al., 2022; Edwards et al., 2023; Hutchison et al., 2022; Rundle-Thiele et al., 2024). Campus-based programs increasingly integrate bystander-focused training, digital tools, and tailored messaging to address specific risk environments and populations, including students with disabilities and marginalized groups (Carlyle et al., 2022; Chugani et al., 2021; Potter et al., 2021; Potter et al., 2022; Potter, Moschella-Smith, & Lynch, 2022). In Indonesia and similar contexts, there is a growing interest in prevention strategies that incorporate religious and ethical teachings—such as the use of hadith-based guidance and human-rights-oriented perspectives—to cultivate value-driven, anti-violence cultures (Ngabito et al., 2024; Suardi, 2025; Suardi et al., 2024; Wahid et al., 2023).

However, the application of these specific solutions remains constrained by several factors. Many programs are developed and evaluated in Global North contexts, often within large, well-resourced universities, which raises questions about their transferability to Indonesian higher education and other Global South settings (Dirisu et al., 2022; Graham et al., 2024; Hanson-Defusco, 2024; Logie et al., 2023; Munro-Kramer et al., 2020; Rieger et al., 2023). Even when adapted, interventions frequently focus on changing individual attitudes and behaviors without sufficiently addressing the sociocultural processes through which norms, sanctions, and institutional expectations are co-constructed (Casey et al., 2023; Graham et al., 2021; Potter et al., 2022; Rundle-Thiele et al., 2024). Moreover, religiously or culturally framed approaches may inadvertently reproduce hierarchical power relations or moralize victim behavior if they are not carefully designed, thereby limiting their capacity to promote substantive justice for survivors (Imania & Santoso, 2024; Suardi, 2025; Toyibah & Riyani, 2025; Wahid et al., 2023). These

limitations suggest that existing solutions require further refinement and deeper theoretical grounding in frameworks that explicitly address knowledge construction and social norm formation.

Parallel to developments in violence prevention, an extensive body of scholarship on knowledge construction in educational settings offers valuable conceptual tools for understanding how communities build shared understandings, norms, and practices. Studies in collaborative learning, classroom interaction, and professional education highlight the role of dialogue, positioning, and social interaction in shaping collective knowledge and values (Aalto & Mustonen, 2022; Bellocchi, 2022; Floren et al., 2021; Glaés-Coutts & Nilsson, 2021; Ha, 2022; Jiang & Zhang, 2023). Research on computer-supported and digitally mediated learning further shows how knowledge is co-constructed across multiple social planes and platforms, with implications for participation, regulation of learning, and the emergence of shared epistemic stances (Cao, 2021; Pan, 2022; Peltoniemi et al., 2025; Tissenbaum & Joye, 2023; Yusof et al., 2022; Zabolotna et al., 2021, 2023). Yet, despite growing interest in how knowledge and norms are collaboratively built, relatively few studies explicitly connect these insights to the domain of sexual violence prevention in higher education, particularly in non-Western contexts (Onwuegbuchulam, 2023; Rahmian & Hod, 2021; Silva Guimarães, 2022; Tanjung et al., 2021). This disconnection reveals a significant research gap at the intersection of knowledge construction, social sanctioning, and campus sexual violence.

This study differs from prior research by explicitly integrating a knowledge-construction lens with the analysis of social sanctions as informal, community-based mechanisms for preventing sexual violence in a Global South university context. Drawing on social constructivist perspectives, it conceptualizes social sanctions not merely as spontaneous reactions or informal punishments, but as products of ongoing interactional processes through which campus actors negotiate meanings of justice, responsibility, and care (Aalto & Mustonen, 2022; Bellocchi, 2022; Jiang & Zhang, 2023; Rahmian & Hod, 2021; Silva Guimarães, 2022). Anchored in the Indonesian context of Universitas Muhammadiyah Makassar, the study focuses on the sociocultural dimensions of how students, faculty, and institutional leaders understand, legitimate, and potentially enact social sanctions alongside formal regulatory frameworks (Imania & Santoso, 2024; Suardi, 2025; Toyibah & Riyani, 2025). The research hypothesizes that perceptions of consistent, fair, and morally grounded social sanctions by lecturers and university leaders are positively associated with the broader acceptance of social sanctions as legitimate preventive instruments among the campus community.

Accordingly, this study aims to achieve two main objectives. First, it seeks to explore qualitatively how key academic stakeholders—students, faculty members, and university leaders—construct and negotiate the meanings, ethical foundations, and perceived functions of social sanctions in preventing sexual violence on campus. Second, it examines quantitatively the relationships between perceptions of social sanction implementation by different institutional actors and the acceptance of social sanctions as a preventive mechanism within the university community. These aims are translated into the following research questions: (1) How do students, faculty, and university leaders at Universitas Muhammadiyah Makassar conceptualize social sanctions as instruments for preventing sexual violence in higher education? (2) How are perceptions of fairness, consistency, and legitimacy in the application of social sanctions socially constructed among these groups? and (3) What is the relationship between perceptions of social sanctions imposed on students, faculty, and university leaders and the overall acceptance of social sanctions as a legitimate preventive strategy in the campus context? By addressing these questions, the study seeks to contribute both theoretically and practically to the development of value-driven, community-based approaches to sexual violence prevention in higher education.

LITERATURE REVIEW

The understanding of sexual violence within higher education institutions emerges from complex social dynamics, public discourse, and interpersonal experiences embedded in campus life. Studies on campus sexual and gender-based violence emphasize that students' perceptions of risk, responsibility, and consent are shaped through everyday peer interactions, institutional messaging, and broader socio-cultural narratives rather than solely through formal policies (Banyard et al., 2020, 2022a, 2022b; Beres, 2020; Bloom et al., 2022; Carlyle et al., 2022; Edwards et al., 2023; McMahan et al., 2020; Rieger et al., 2023; Waterman et al., 2022). From a constructivist perspective, knowledge of sexual violence and prevention is produced through social interaction, reflection, and participation in communities of practice, highlighting the importance of pedagogical and community contexts for shaping collective understandings (He & Lu, 2024; Liu et al., 2022; Suartama et al., 2024). Educational methodologies such as project-based learning, collaborative discussion, and case-based activities have been shown to foster deeper knowledge construction and critical reflection, thereby offering potential pathways for strengthening violence-prevention literacy in university settings (Aylk, 2023; Duangjinda et al., 2021; Fang et al., 2022; Sun et al., 2021; Zabolotna et al., 2021, 2023).

Within higher education, research identifies persistent structural and cultural barriers that inhibit the development of safe and inclusive environments, including limited leadership

engagement, inadequate gender and sexuality literacy, and entrenched power asymmetries between staff and students (Imania & Santoso, 2024; Jiang & Zhang, 2023; Ngabito et al., 2024; Silva Guimarães, 2022; Suardi, 2025; Toyibah & Riyani, 2025). Studies in diverse contexts further document how distrust in institutional responses, stigma surrounding disclosure, and competing moral authorities undermine formal prevention and response mechanisms (Dirisu et al., 2022; Hanson-Defusco, 2024; Jones et al., 2025; Munro-Kramer et al., 2020; Wahid et al., 2023; Wahidin & Nova, 2023). In Indonesia specifically, debates around religion, disability, and human rights reveal how normative frameworks can both support and constrain efforts to prevent sexual violence when they are not explicitly oriented toward equality and substantive justice (Imania & Santoso, 2024; Suardi et al., 2024; Toyibah & Riyani, 2025; Wahid et al., 2023). These findings point to the need to examine not only formal rules but also how values and expectations are collectively constructed and negotiated.

Scholars therefore argue that prevention cannot be reduced to legal or administrative instruments; it requires alignment between formal regulatory structures and the informal knowledge frameworks that circulate through curricula, campus culture, and media (Beres, 2020; Casey et al., 2023; Graham et al., 2021, 2024; Kaufman et al., 2022; Rundle-Thiele et al., 2024). Research on campus campaigns, youth-led initiatives, and community-based prevention consistently underscores the importance of participatory processes that allow students and staff to co-design messages, develop shared language around consent and harm, and articulate contextually relevant standards of accountability (Banyard et al., 2020; Edwards et al., 2023; Graham et al., 2021; Hutchison et al., 2022; Potter et al., 2021, 2022a, 2022b). Parallel work in knowledge-construction and learning sciences shows how formal policies, curricular content, and informal discourse—whether in classrooms, student organizations, or online spaces—intersect to shape attitudes and practices (Alvarez et al., 2021; Bellocchi, 2022; Floren et al., 2021; Gláes-Coutts & Nilsson, 2021; Silva Guimarães, 2022). In this perspective, social sanctions against sexual violence can be understood as emergent from shared meanings and moral orders that are continuously negotiated across these multiple arenas.

The rapid expansion of digital technologies further complicates and extends these processes of knowledge construction. Computer-supported collaborative learning environments, social reading platforms, and mobile or blended learning designs have been found to structure how learners negotiate meaning, regulate group work, and construct shared understandings (Cao, 2021; Chiu & Ho, 2024; Disch et al., 2024; Gao et al., 2020; Huang et al., 2024; Pan, 2022; Peltoniemi et al., 2025; Qi & Wu, 2021; Sun et al., 2021; Tissenbaum & Joye, 2023; Wen, 2022; Wu et al., 2024; Xu & Dai, 2024; Yusof et al., 2022). Studies demonstrate that digital platforms

can support learners in co-regulating emotions and cognition, visualizing emergent concept maps, and engaging in argumentation that refines collective knowledge (Bai et al., 2021; Chen et al., 2023a, 2023b; Fateh et al., 2024; Feng et al., 2025; Hao et al., 2021; Rivera et al., 2025; Zabolotna et al., 2021, 2023). At the same time, research on social media and informal learning spaces highlights both the potential and risks of digital environments for shaping public understanding of complex issues, including violence and social justice (Castellanos Ramírez, 2023; Fu et al., 2024a; Nguyen & Diederich, 2023; Zambrano & Arteaga, 2024). In the context of sexual violence prevention, such insights underscore the importance of examining how online and offline interactions jointly contribute to constructing norms around reporting, bystander action, and sanctioning.

A significant strand of scholarship focuses explicitly on social ethics, critical reflection, and participatory identity formation as foundations for value-based education. Semiotic and discourse-analytic studies of classroom interaction show how gestures, talk, and positioning practices shape epistemic relations and shared norms, suggesting that ethical stances are learned through situated participation rather than abstract instruction (Aalto & Mustonen, 2022; Aylk, 2023; Frank et al., 2022; Ha, 2022; He, 2024). Research on intercultural, decolonial, and community-based forms of knowledge construction further emphasizes the need to recognize plural epistemologies and power relations in designing educational interventions (Goli & Dastmalchi, 2024; Onwuegbuchulam, 2023; Silva Guimarães, 2022; Tanjung et al., 2021; Zambrano & Arteaga, 2024). In higher education, these perspectives call for prevention strategies that legitimize students' lived experiences, foster critical engagement with institutional authority, and support the emergence of participatory identities oriented toward challenging violence and inequality (Ngabito et al., 2024; Rieger et al., 2023; Rundle-Thiele et al., 2024; Suardi, 2025).

At the same time, studies of punishment, social reward, and moral regulation highlight that informal sanctions—such as social disapproval, exclusion, or reputational consequences—play a central role in signaling collective boundaries of acceptable behavior (Lee, 2023; Li et al., 2021; Zhang et al., 2022). Work on community “actionists” and bystander-focused prevention demonstrates that when individuals perceive strong normative support for intervening and clear social consequences for perpetrators, they are more likely to act to prevent or challenge violence (Banyard et al., 2020, 2022a; Coulter et al., 2024; McMahon et al., 2020; Waterman et al., 2022). However, existing research rarely interrogates how such social sanctions are conceptually understood and morally justified by different actors within university hierarchies—students, faculty, and institutional leaders—especially in non-Western or religiously grounded institutional

contexts (Dirisu et al., 2022; Imania & Santoso, 2024; Munro-Kramer et al., 2020; Suardi et al., 2024; Toyibah & Riyani, 2025; Wahid et al., 2023).

Despite the breadth of work on knowledge construction and sexual violence prevention, several gaps remain salient. First, much of the prevention literature is empirically concentrated in the Global North and predominantly examines formal programs, campaigns, or policies, with limited attention to how local cultural, religious, and institutional logics shape informal sanctioning practices in universities in the Global South (Beres, 2020; Dirisu et al., 2022; Graham et al., 2024; Hanson-Defusco, 2024; Munro-Kramer et al., 2020; Onwuegbuchulam, 2023). Second, while the learning sciences provide rich models of collaborative knowledge construction across disciplines and modalities, these frameworks are only rarely applied explicitly to questions of sexual violence, justice, and institutional accountability in higher education (Bellocchi, 2022; Floren et al., 2021; Jiang & Zhang, 2023; Johri et al., 2022; Rahmian & Hod, 2021; Rivera et al., 2025; Wu & Ko, 2024). Third, there is a relative scarcity of mixed-method studies that combine narrative, interactional, and statistical analyses to examine how social sanctions are constructed, legitimated, and perceived by multiple groups within the same institution (Almansori, 2023; Bloom et al., 2022; Casey et al., 2023; Potter et al., 2021, 2022a; Rieger et al., 2023).

This study addresses these gaps by conducting an interdisciplinary, mixed-method inquiry into how social sanctions as preventive mechanisms against sexual violence are perceived, constructed, and reinforced within an Indonesian university context. By bringing together insights from sexual violence prevention, knowledge-construction research, and value-based education, the study situates social sanctions within broader processes of collaborative meaning-making and norm formation among students, faculty, and university leaders. In doing so, it responds to calls for contextually grounded, community-based approaches that move beyond the dichotomy of formal versus informal mechanisms and instead examine how institutional and social practices interact to shape substantive justice in higher education settings (Banyard et al., 2022a; Graham et al., 2024; Imania & Santoso, 2024; Silva Guimarães, 2022; Suardi, 2025; Toyibah & Riyani, 2025).

RESEARCH METHODS

Research Design and Approach

This study employed a sequential explanatory mixed-method design to address the research problem concerning how academic community members conceptualize and accept social sanctions as preventive mechanisms against sexual violence in higher education. In the first phase, a qualitative approach was used to explore in depth the meanings, ethical considerations, and

perceived functions of social sanctions among key campus stakeholders. The emergent qualitative themes then informed the development of a quantitative instrument used in the second phase to examine the relationships between perceptions of social sanctions and their acceptance as a legitimate preventive strategy. This design was selected to combine the contextual richness and interpretive depth of qualitative inquiry with the generalizability and inferential power of quantitative analysis, thereby enhancing the robustness and ecological validity of the findings (Bellocchi, 2022; Disch et al., 2024; Floren et al., 2021; Rivera et al., 2025; Sun et al., 2021; Zabolotna et al., 2021).

Research Setting and Participants

The research was conducted at Universitas Muhammadiyah Makassar, an Indonesian higher education institution with diverse academic programs and a large student body. The overall population comprised members of the academic community, including students, faculty, and university leaders (e.g., heads of study programs and institutional managers). In the qualitative phase, participants were selected through purposive sampling to capture variation in roles, gender, disciplinary backgrounds, and experiences related to sexual violence and campus governance. This strategy ensured that information-rich cases were included and that different institutional perspectives on social sanctions could be examined (Jiang & Zhang, 2023; Nguyen & Diederich, 2023; Tanjung et al., 2021; Zhang et al., 2022).

For the quantitative phase, a stratified random sampling technique was applied to the three main strata—students, faculty, and university leaders—to obtain proportional and representative samples from each group. Stratification minimized sampling bias and improved the precision of estimates across sub-populations, in line with recommendations for survey-based educational and social research (Pérez et al., 2024; Wang & Zhang, 2024; Zabolotna et al., 2021; Yusof et al., 2022). Inclusion criteria required participants to be active members of the university during the data collection period and willing to provide informed consent.

Instruments and Materials

In the qualitative phase, data were collected using a semi-structured interview guide developed from a knowledge–experience interaction framework that is widely used in collaborative and socially situated learning research (Chiu & Ho, 2024; Fateh et al., 2024; Liu et al., 2022; Rahmian & Hod, 2021; Suartama et al., 2024). The guide covered participants' understandings of sexual violence, experiences with or observations of campus responses, perceptions of social sanctions, and views on institutional roles and responsibilities. The interview

protocol was reviewed by experts in gender studies, social education, and educational policy to establish content validity and cultural appropriateness (Frank et al., 2022; Silva Guimarães, 2022).

In the quantitative phase, a structured questionnaire was constructed based on the themes and subthemes that emerged from the qualitative analysis. Items measured perceptions of social sanctions directed toward students, faculty, and university leaders; perceived fairness, consistency, and legitimacy of sanction implementation; and acceptance of social sanctions as a preventive mechanism. All items were rated using a four-point Likert-type scale, ranging from “strongly disagree” to “strongly agree,” to capture ordinal-level responses while avoiding a neutral midpoint (Pérez et al., 2024; Sun et al., 2021; Wen, 2022). The initial version of the questionnaire was piloted with a small group of students and faculty to assess clarity, relevance, and response variability, after which minor linguistic and formatting adjustments were made.

Data Collection Procedures

Qualitative data collection was conducted first. Individual semi-structured interviews were held in confidential settings on campus, with each session lasting approximately 45–60 minutes. Interviews were audio-recorded with participants’ consent and subsequently transcribed verbatim. Field notes were taken to capture contextual information, nonverbal cues, and the researcher’s reflexive observations, in line with best practices for generating rich qualitative data in educational and social research (Banyard et al., 2020; Bloom et al., 2022; Munro-Kramer et al., 2020).

Following the completion of the qualitative phase and the development of the survey instrument, the quantitative data collection commenced. The questionnaire was administered both in paper-based and online formats to facilitate broad participation across different faculties and administrative units. Stratified random samples were drawn from institutional records, and participants were invited through official communication channels. Data collection procedures emphasized voluntary participation, anonymity, and the right to withdraw at any time, consistent with ethical standards for research on sensitive topics such as sexual and gender-based violence (Almansori, 2023; Chugani et al., 2021; Dirisu et al., 2022; Wahid et al., 2023; Wahidin & Nova, 2023).

Data Analysis Techniques

Qualitative data were analyzed using thematic analysis with a multi-stage coding process. First, open coding was applied to identify initial concepts and categories related to sexual violence, social sanctions, institutional responses, and value-based prevention. Next, axial coding was used to explore relationships among categories and to cluster them into broader themes.

Finally, selective coding refined these themes into coherent narratives that described how different groups constructed and negotiated the meaning and legitimacy of social sanctions (Frank et al., 2022; Rahmian & Hod, 2021; Suartama et al., 2024). The analytic process was iterative and reflexive, drawing on principles of interaction analysis and knowledge-construction research to attend to both content and interactional features of participants' accounts (Bellocchi, 2022; Floren et al., 2021; Pan, 2022; Rivera et al., 2025).

For the quantitative data, descriptive statistics were first computed to summarize the distribution of responses and to check for missing data, outliers, and basic assumptions. Given the ordinal nature of the Likert-scale items and evidence of non-normal distribution, Spearman's rank-order correlation was employed to examine associations between perceptions of social sanctions (toward students, faculty, and university leaders) and the acceptance of social sanctions as a preventive mechanism. Spearman's rho is appropriate for non-parametric analysis of monotonic relationships and is widely used in educational and social science research involving ordinal data (Sun et al., 2021; Wen, 2022; Wu & Ko, 2024). Statistical analyses were conducted using standard software packages for social science research, and effect sizes were interpreted in accordance with conventional guidelines.

Trustworthiness, Reliability, and Validity

Multiple strategies were implemented to ensure the trustworthiness of qualitative findings. Credibility was enhanced through prolonged engagement in the field, iterative questioning during interviews, and the use of member checking, whereby selected participants were invited to review and comment on preliminary interpretations (Bloom et al., 2022; Munro-Kramer et al., 2020; Rieger et al., 2023). Triangulation across data sources (students, faculty, and leaders) and across methods (interviews and surveys) further strengthened the confirmability and dependability of the results (Casey et al., 2023; Graham et al., 2024; Rundle-Thiele et al., 2024). An audit trail documenting coding decisions, theme development, and analytic memos was maintained to support transparency and replicability.

For the quantitative component, the psychometric properties of the questionnaire were assessed prior to hypothesis testing. Internal consistency reliability was evaluated using Cronbach's alpha for each multi-item scale, with coefficients exceeding commonly accepted thresholds for exploratory research. Content validity was supported through expert review, alignment with qualitative themes, and comparison with related instruments in the literature on campus climate and violence prevention (Carlyle et al., 2022; Edwards et al., 2023; McMahon et al., 2020; Potter et al., 2021, 2022). Construct validity was examined through exploratory factor analysis to verify the dimensional structure of the scales, guided by theoretical expectations about

perceptions of sanctions and acceptance of social sanctions. Overall, the mixed-method design and integrated validity strategies were intended to provide a coherent, empirically grounded account of how social sanctions are conceptualized and evaluated as preventive mechanisms against sexual violence within the university context (Beres, 2020; Bellocchi, 2022; Disch et al., 2024; Rivera et al., 2025; Silva Guimarães, 2022).

RESULT

Research Ethics and Triangulation Validity

Ethical considerations were rigorously upheld throughout the research process. All participants received clear information about the purpose of the study, provided informed consent, and were assured of confidentiality and the right to withdraw at any stage. Particular care was taken in conducting interviews and administering questionnaires on the sensitive topic of sexual violence, including anonymization of data and provision of referral information for support services where necessary. The credibility and reliability of the findings were strengthened through methodological triangulation, combining qualitative interviews and quantitative survey data, as well as triangulation across participant groups (students, faculty, and university leaders). This multi-source, multi-method strategy is especially important in studies of sensitive social phenomena, as it mitigates individual and methodological biases and enhances the interpretive robustness of the results (Alvarez et al., 2021; Fang et al., 2022; Floren et al., 2021; Goli & Dastmalchi, 2024; Rivera et al., 2025; Zabolotna et al., 2021). Overall, the methodological framework adopted in this study is both rigorous and contextually sensitive, providing a solid empirical basis for drawing conclusions about community-driven strategies to address sexual violence in higher education.

Qualitative Findings: Social Sanctions as Ethically Grounded Prevention

The qualitative analysis elucidated how members of the academic community at Universitas Muhammadiyah Makassar conceptualize social sanctions as a preventive strategy against sexual violence. Across interviews with students, faculty, and university leaders, social sanctions were rarely framed as purely punitive responses. Instead, they were understood as moral obligations rooted in shared values, collective trust, and the ethical responsibility of the campus community to protect vulnerable members. Participants repeatedly emphasized that sanctions are effective only when they are experienced as fair, transparent, and anchored in substantive justice rather than in arbitrary or symbolic discipline (He & Lu, 2024; Rahmian & Hod, 2021; Silva Guimarães, 2022).

Thematic analysis generated four overarching categories. First, social sanctions as a just and preventive measure captured participants' views that sanctions should function to deter future harm and affirm communal norms, not merely to punish perpetrators. Fairness, proportionality, and due process were highlighted as crucial factors that enhance perceived legitimacy and, therefore, preventive efficacy. Second, resistance to legal formalism reflected widespread skepticism toward the sufficiency of formal legal and bureaucratic mechanisms alone. Participants viewed formal regulations as necessary but insufficient, particularly when they are perceived as slow, opaque, or distant from everyday campus life; accordingly, they argued that community-based and relational approaches must complement formal mechanisms (Beres, 2020; Dirisu et al., 2022; Graham et al., 2024; Munro-Kramer et al., 2020).

Third, the theme of exemplary leadership and campus culture underscored that consistent, visible action by faculty and university leaders is central to legitimizing social sanctions. Respondents stressed that when leaders and lecturers embody and enforce anti-violence values—both formally and informally—students are more likely to internalize those norms and participate in sanctioning harmful behaviors. This is consistent with interactional and knowledge-construction research showing how norms and values are co-constructed through social positioning and role modeling in educational settings (Aalto & Mustonen, 2022; Bellocchi, 2022; Floren et al., 2021; Frank et al., 2022). Fourth, limited literacy regarding sexual violence emerged as a persistent concern, particularly among first-year students, who often lacked clarity about the scope of sexual violence, reporting pathways, and victims' rights. Participants pointed to the need for systematic value-based education and campus-wide dialogue to enhance ethical literacy and challenge victim-blaming attitudes (Almansori, 2023; Liu et al., 2022; Ngabito et al., 2024; Suartama et al., 2024; Wahidin & Nova, 2023).

Taken together, these qualitative themes align with social constructionist perspectives, indicating that collective meanings and expectations around social sanctions are built and negotiated through ongoing interaction in classrooms, student organizations, religious and co-curricular activities, and online spaces (Pan, 2022; Rivera et al., 2025; Tissenbaum & Joye, 2023; Zabolotna et al., 2023). Social sanctions are thus best understood as emergent products of shared moral orders rather than as isolated, ad hoc reactions to individual incidents.

Quantitative Findings: Associations Between Perceptions of Social Sanctions

The quantitative analysis was conducted to examine the relationships between perceptions of social sanctions directed toward different groups—students, lecturers, and university leaders—and the broader acceptance of social sanctions as a legitimate preventive mechanism. Table 1

presents the Spearman correlation coefficients among perceptions of social sanctions for students (SSS), lecturers (SSL–Lecturers), and leaders (SSL–Leaders).

Table 1 Spearman’s Correlation Coefficients Between Perceptions of Social Sanctions

Variable	SSS	SSL (Lecturers)	SSL (Leaders)
Social Sanctions for Students (SSS)	—	0.778 (p < .001)	0.721 (p < .001)
Social Sanctions for Lecturers (SSL)	0.778 (p < .001)	—	0.883 (p < .001)
Social Sanctions for Leaders (SSL)	0.721 (p < .001)	0.883 (p < .001)	—

The strongest correlation was observed between perceptions of social sanctions for lecturers and for leaders ($\rho = 0.883, p < .001$), indicating that respondents tend to view these two institutional groups as a unified moral and regulatory authority. When sanctions are perceived as consistently and fairly applied to both lecturers and leaders, the campus community appears more likely to interpret the institutional stance toward sexual violence as coherent and credible. Substantial positive correlations were also found between perceptions of sanctions for students and lecturers ($\rho = 0.778, p < .001$) and between sanctions for students and leaders ($\rho = 0.721, p < .001$). These findings suggest that acceptance of social sanctions among students is closely associated with perceptions that such sanctions are equitably applied across the institutional hierarchy, rather than being imposed selectively on less powerful groups (Cai et al., 2022; Li et al., 2021; Zhang et al., 2022).

The choice of Spearman’s rank-order correlation was appropriate given the ordinal nature of the Likert-scale responses and evidence of non-normal distributions. The observed coefficients fall within the range typically interpreted as strong associations in educational and social research, reinforcing the substantive link between perceptions of institutional integrity in sanctioning practices and the broader legitimacy of social sanctions as preventive instruments (Sun et al., 2021; Wen, 2022; Wu & Ko, 2024). These quantitative results corroborate the qualitative findings regarding the centrality of leadership, fairness, and consistency in shaping community acceptance of social sanctions (Banyard et al., 2020, 2022; Graham et al., 2021; Rieger et al., 2023).

Conceptual Summary of Findings

Synthesizing the qualitative and quantitative strands, the results highlight a coherent picture of how social sanctions operate as community-based mechanisms of sexual violence prevention in the studied university context. Qualitative narratives show that social sanctions are grounded in ethical commitments to care, justice, and mutual protection, while the quantitative correlations demonstrate that perceptions of equitable sanctioning across students, lecturers, and leaders are tightly interrelated. When institutional actors at all levels are perceived as subject to comparable

moral and social scrutiny, social sanctions gain legitimacy and are more widely accepted as part of a comprehensive prevention strategy (Beres, 2020; McMahon et al., 2020; Potter et al., 2021, 2022).

Figure 1 (concept map, not reproduced here) visually represents these relationships by linking four core elements: (1) ethical and violence-related literacy; (2) perceptions of social sanctions toward students, lecturers, and leaders; (3) perceived fairness, consistency, and legitimacy of sanction implementation; and (4) acceptance of social sanctions as a preventive mechanism. The concept map indicates that improvements in ethical literacy—particularly among new students—strengthen shared understandings of sexual violence and responsibility, which in turn support clearer expectations regarding sanctioning practices and greater willingness to participate in community-based prevention efforts (Almansori, 2023; Liu et al., 2022; Ngabito et al., 2024; Suartama et al., 2024; Wahidin & Nova, 2023).

Overall, the results provide robust empirical evidence that social sanctions function not merely as external controls but as expressions of collective engagement and shared moral accountability within the campus community. They point to the importance of aligning formal regulatory frameworks with value-driven, participatory initiatives that enhance literacy, strengthen institutional trust, and normalize consistent community responses to violations. These insights offer a foundation for designing integrated, community-based interventions that leverage social sanctions as part of a broader ecosystem of sexual violence prevention in higher education (Banyard et al., 2020, 2022; Graham et al., 2024; Imania & Santoso, 2024; Rundle-Thiele et al., 2024; Silva Guimarães, 2022).

DISCUSSION

The findings of this study indicate that social sanctions within the higher education context operate less as purely punitive instruments and more as expressions of collective moral responsibility and shared authority in preventing sexual violence. This interpretation is consistent with social constructivist and knowledge-construction perspectives, which emphasize that meanings, norms, and behavioral expectations are produced and sustained through ongoing social interaction, classroom discourse, and institutional practices (Bellocchi, 2022; Floren et al., 2021; Liu et al., 2022; Pan, 2022; Rahmian & Hod, 2021; Suartama et al., 2024). From this standpoint, the legitimacy and effectiveness of social sanctions depend on their embeddedness in collaboratively constructed understandings of justice, care, and responsibility, rather than on formal decree alone (Aalto & Mustonen, 2022; Castellanos Ramírez, 2023; Silva Guimarães, 2022; Tissenbaum & Joye, 2023). The qualitative themes in this study—particularly those

highlighting fairness, transparency, and ethical grounding—thus align with interactional work showing that joint knowledge construction in educational settings is inseparable from the negotiation of moral and epistemic relations (Frank et al., 2022; Ha, 2022; Zabolotna et al., 2023).

The strong positive correlations between perceptions of social sanctions applied to students, lecturers, and university leaders, and the broader acceptance of social sanctions as a preventive mechanism, reinforce theoretical accounts of normative regulation and moral sanctioning. Research on costly punishment, social reward, and cooperation suggests that sanctions are most effective when perceived as consistent, proportionate, and equally applicable to all members of a community, especially those in positions of power (Lee, 2023; Li et al., 2021; Zhang et al., 2022). In this study, the particularly high correlation between perceptions of sanctions for lecturers and leaders indicates that these two groups are viewed as a unified moral and institutional authority; when they are seen to be held accountable, social sanctions gain credibility and are more readily endorsed by students. This resonates with bystander and actionist literatures, which show that collective willingness to intervene against sexual violence is shaped by perceived institutional integrity and normative support for sanctioning harmful behavior (Banyard et al., 2020, 2022; Coulter et al., 2024; McMahon et al., 2020; Waterman et al., 2022).

These results also converge with broader research on sexual violence prevention that highlights the limits of purely legalistic or policy-driven strategies. Numerous studies argue that formal regulations and codes of conduct, while essential, remain insufficient when they are not accompanied by community-based practices that cultivate shared understandings of harm, consent, and accountability (Beres, 2020; Casey et al., 2023; Graham et al., 2021, 2024; Kaufman et al., 2022; Rieger et al., 2023). Evidence from youth-led and community-embedded initiatives demonstrates that prevention efforts are most effective when stakeholders co-design messages, negotiate language, and define contextually meaningful standards of behavior (Banyard et al., 2022; Edwards et al., 2023; Hutchison et al., 2022; Rundle-Thiele et al., 2024). The present study reinforces these insights by showing that campus actors at Universitas Muhammadiyah Makassar understand social sanctions as a communal moral project rather than simply as a technical enforcement tool, and that their acceptance of sanctions is closely tied to perceptions of leadership exemplarity and cultural coherence (Imania & Santoso, 2024; Suardi, 2025; Toyibah & Riyani, 2025; Wahid et al., 2023).

A central challenge underscored by the findings is the substantial gap in sexual-violence literacy, particularly among first-year students. This aligns with empirical work documenting persistent misunderstandings of what constitutes sexual violence, low awareness of reporting pathways, and limited knowledge of available support services, even in institutions with formal

policies in place (Almansori, 2023; Carlyle et al., 2022; Chugani et al., 2021; Jones et al., 2025; Ngabito et al., 2024; Wahidin & Nova, 2023). The observed literacy deficit suggests that formal regulatory frameworks alone cannot produce substantive justice or effective prevention; rather, systematic educational strategies are required to embed social ethics, gender equality, and human-rights perspectives early in students' academic trajectories (Aylk, 2023; Ha, 2022; Suardi et al., 2024). The present study supports calls for value-based curricular integration that links conceptual knowledge with concrete case discussions, reflective dialogue, and opportunities for students to practice ethical reasoning about real and hypothetical scenarios of sexual harm (Duangjinda et al., 2021; Tanjung et al., 2021; Yusof et al., 2022).

The role of institutional leadership and campus culture emerged as pivotal in legitimizing social sanctions and fostering a climate of zero tolerance. Participants repeatedly emphasized that when lecturers and leaders visibly act against perpetrators, communicate clearly about norms, and subject themselves to the same standards as students, social sanctions are more likely to be perceived as just and to motivate collective engagement. This is consistent with research on policy implementation, leadership, and decolonial knowledge construction, which highlights how power relations, religious authority, and institutional histories shape the reception of anti-violence measures in universities, particularly in the Global South (Glaés-Coutts & Nilsson, 2021; Hanson-Defusco, 2024; Imania & Santoso, 2024; Munro-Kramer et al., 2020; Onwuegbuchulam, 2023; Toyibah & Riyani, 2025). In the Indonesian context, where regulations on campus sexual violence sometimes encounter contestation from religious or cultural authorities, this study's findings advocate for leadership practices that align regulatory commitments with lived institutional behavior and explicitly frame social sanctions in terms of equality, protection, and substantive justice (Suardi, 2025; Wahid et al., 2023).

The discussion of digital and pedagogical strategies in the literature further illuminates how social sanctions and prevention norms can be co-constructed through both online and offline interactions. Studies on computer-supported collaborative learning, mobile platforms, and social annotation environments show that structured digital tools can scaffold group knowledge construction, emotional regulation, and argumentation around complex social issues (Cao, 2021; Chiu & Ho, 2024; Disch et al., 2024; Gao et al., 2020; Huang et al., 2024; Qi & Wu, 2021; Rivera et al., 2025; Wu et al., 2024; Xu & Dai, 2024; Zabolotna et al., 2021). At the same time, work on informal learning via social media and public platforms such as TikTok and Wikipedia illustrates both the potential and the risks of decentralized knowledge production, including the circulation of misinformation and the reproduction of biases (Castellanos Ramírez, 2023; Fu et al., 2024; Nguyen & Diederich, 2023). The current findings suggest that, when thoughtfully designed,

digital initiatives on sexual violence prevention could reinforce community-based social sanctions by amplifying shared norms, modeling bystander responses, and providing accessible resources, but they must be carefully adapted to local cultural and institutional conditions and accompanied by efforts to build digital literacy (Duangjinda et al., 2021; Gong et al., 2025; Yusof et al., 2022).

Theoretically, this study strengthens the argument that social sanctions for sexual violence in higher education should be conceptualized through an integrated lens that brings together prevention research, knowledge-construction theory, and value-based education. Whereas much of the existing literature examines sexual-violence programs, knowledge-building environments, or ethical education separately, the present research demonstrates how these dimensions intersect in practice: community members learn about violence and justice, negotiate shared norms, and evaluate institutional integrity through the same interactional and epistemic processes that underlie collaborative learning in other domains (Alvarez et al., 2021; Bellocchi, 2022; Floren et al., 2021; Johri et al., 2022; Peltoniemi et al., 2025; Silva Guimarães, 2022). By foregrounding social sanctions as both a preventive mechanism and an outcome of collective knowledge construction, the study contributes to bridging the conceptual gap between learning sciences and sexual-violence prevention, particularly in under-researched Global South settings (Onwuegbuchulam, 2023; Zambrano & Arteaga, 2024).

From a practical standpoint, the findings support several concrete recommendations. First, universities should design integrated, value-driven curricula that embed sexual-violence prevention, gender justice, and human-rights content across courses and co-curricular activities, using dialogic, case-based, and project-based pedagogies to enable students to co-construct norms and practice ethical deliberation (Aylk, 2023; Duangjinda et al., 2021; Suartama et al., 2024; Sun et al., 2021). Second, institutions should institutionalize participatory mechanisms—such as student–staff forums, youth-led campaigns, and activist networks—that empower community members to design and implement social-sanction practices consistent with formal regulations (Banyard et al., 2020, 2022; Bloom et al., 2022; Potter et al., 2021, 2022). Third, leadership development and accountability structures should be strengthened so that lecturers and administrators are trained, monitored, and supported to act as visible exemplars of anti-violence norms, including through clear consequences for non-compliance (Graham et al., 2021, 2024; Imania & Santoso, 2024; Rieger et al., 2023; Rundle-Thiele et al., 2024). Fourth, universities should invest in accessible, culturally responsive support and reporting mechanisms, co-developed with students and marginalized groups, to enhance trust and reduce barriers to disclosure (Chugani et al., 2021; Dirisu et al., 2022; Jones et al., 2025; Ngabito et al., 2024; Wahidin & Nova, 2023).

In sum, this study takes the position that social sanctions are a crucial, though often under-theorized, component of comprehensive sexual-violence prevention in higher education. Rather than being viewed as informal, peripheral, or merely symbolic, social sanctions should be recognized as central to the collaborative construction of a campus moral order that rejects violence and upholds substantive justice. By demonstrating empirically that perceptions of fair and consistent sanctioning across institutional hierarchies are strongly associated with acceptance of social sanctions as preventive mechanisms, and by situating these findings within a rich body of theoretical and empirical work, the study advances both scholarly understanding and practical guidance for universities seeking to build community-based, value-driven responses to sexual violence.

CONCLUSION

This study set out to examine how students, faculty members, and university leaders in an Indonesian higher education institution construct and perceive social sanctions as preventive mechanisms against sexual violence, and how these perceptions relate to the acceptance of social sanctions as a legitimate strategy. The mixed-method findings show that social sanctions are understood not merely as informal punitive measures but as ethically grounded, community-based instruments that express collective responsibility, protect vulnerable members, and reinforce shared norms of justice and care. Quantitatively, strong positive associations between perceptions of sanctions applied to students, lecturers, and leaders indicate that the legitimacy of social sanctions is closely tied to their perceived fairness, consistency, and applicability across institutional hierarchies.

These key findings carry important implications. They underscore the need to align formal regulatory frameworks with value-driven, participatory practices that enhance sexual-violence literacy, strengthen institutional trust, and normalize collective responses to violations. The study contributes to the existing body of knowledge by integrating social-constructivist and knowledge-construction perspectives with sexual-violence prevention research, and by foregrounding social sanctions in a Global South university context—an area that has received limited empirical attention.

Future research should extend this framework to multiple institutions and regions, employ comparative designs across cultural and religious settings, and integrate interdisciplinary perspectives from gender studies, communication, and learning sciences. Such work is essential for refining context-sensitive, community-based strategies that can more effectively prevent sexual violence in higher education.

ACKNOWLEDGMENTS

The author would like to express his sincere gratitude to RisetMu for the financial support provided for the research and publication of this article.

REFERENCES

- [1] Aalto, E., & Mustonen, S. (2022). Designing knowledge construction in pre-service teachers' collaborative planning talk. *Linguistics and Education*, 69. <https://doi.org/10.1016/j.linged.2022.101022>
- [2] Almansori, S. (2023). Sexual violence prevention is missing in teacher education: perspectives of teacher candidates on prevention education. *Sex Education*, 23(6), 662–676. <https://doi.org/10.1080/14681811.2022.2108391>
- [3] Alvarez, J. C., Bravo, L., Marçal, R. C., Hatakeyama, K., & Barrantes, E. (2021). Knowledge construction and systematization of solar adsorption refrigeration prototypes. *Energy Reports*, 7, 428–440. <https://doi.org/10.1016/j.egyr.2021.07.108>
- [4] Aylk, Z. (2023). Deployment of gestures in the semiotic construction of scientific knowledge: A systemic functional approach to pedagogic semiosis. *Semiotica*, 2023(252), 133–172. <https://doi.org/10.1515/sem-2020-0107>
- [5] Bai, S., Gonda, D. E., & Hew, K. F. (2021). Effects of Tangible Rewards on Student Learning Performance, Knowledge Construction, and Perception in Fully Online Gamified Learning. *TALE 2021 - IEEE International Conference on Engineering, Technology and Education, Proceedings*, 899–904. <https://doi.org/10.1109/TALE52509.2021.9678741>
- [6] Banyard, V., A. Waterman, E., M. Edwards, K., & Valente, T. W. (2022). Adolescent Peers and Prevention: Network Patterns of Sexual Violence Attitudes and Bystander Actions. *Journal of Interpersonal Violence*, 37(13–14), NP12398–NP12426. <https://doi.org/10.1177/0886260521997448>
- [7] Banyard, V., Edwards, K., Mitchell, K. J., Greenberg, P., & Jones, L. (2022). Describing youth as actionists for peer sexual violence prevention: correlates of opportunity to act. *Journal of Gender-Based Violence*, 6(1), 61–78. <https://doi.org/10.1332/239868021X16231534981819>
- [8] Banyard, V. L., Rizzo, A. J., & Edwards, K. M. (2020). Community actionists: Understanding adult bystanders to sexual and domestic violence prevention in communities. *Psychology of Violence*, 10(5), 531–541. <https://doi.org/10.1037/vio0000281>
- [9] Bellocchi, A. (2022). Science students' social bonds and knowledge construction. *Journal of Research in Science Teaching*, 59(5), 746–778. <https://doi.org/10.1002/tea.21743>
- [10] Beres, M. (2020). Perspectives of rape-prevention educators on the role of consent in sexual violence prevention. *Sex Education*, 20(2), 227–238. <https://doi.org/10.1080/14681811.2019.1621744>
- [11] Bloom, B. E., Park, E., Swendeman, D., Oaks, L., Sumstine, S., Amabile, C., Carey, S., & Wagman, J. A. (2022). Opening the “Black Box”: Student-Generated Solutions to Improve Sexual Violence Response and Prevention Efforts for Undergraduates on College Campuses. *Violence Against Women*, 28(14), 3554–3587. <https://doi.org/10.1177/10778012211068063>
- [12] Cai, H., Zhao, F., & Jin, H. (2022). Commonsense Knowledge Construction with Concept and Pretrained Model. In Z. X., Y. S., W. X., & L. J. (Eds.), *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics): Vol. 13579 LNCS* (pp. 40–51). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-3-031-20309-1_4
- [13] Cao, S. (2021). Collaborative knowledge construction process model based on internet+. In N. A. (Ed.), *ACM International Conference Proceeding Series* (pp. 50–54). Association for Computing Machinery. <https://doi.org/10.1145/3456389.3456391>

- [14] Carlyle, K. E., Conley, A. H., & Guidry, J. P. D. (2022). Development and evaluation of the red flag campaign for the primary prevention of sexual and dating violence on college campuses. *Journal of American College Health*, 70(1), 84–88. <https://doi.org/10.1080/07448481.2020.1726924>
- [15] Casey, E. A., Vanslyke, J., Beadnell, B., Tatiana Masters, N., & McFarland, K. (2023). The Process of Applying Principles-Focused Evaluation to the Sexual Violence Prevention Field: Implications for Practice in Other Social Services Fields. *American Journal of Evaluation*, 44(3), 374–393. <https://doi.org/10.1177/10982140211056935>
- [16] Castellanos Ramírez, J. C. (2023). Asynchronous interaction and discursive resources for knowledge construction in times of pandemic. *Human Review. International Humanities Review / Revista Internacional de Humanidades*, 18(1). <https://doi.org/10.37467/revhuman.v18.4853>
- [17] Chen, W., Ng, E. E., Guo, S., Junzhu, S., Li, X., Chai, S. C. A., & Lyu, Q. (2023). Argumentative Knowledge Construction and Certainty Navigation: A Comparison between Individual and Group Work. In S. J.-L., K. A., C. W., O. H., B. R., C. B., D. S., M. J., Y. A.M.F., Y. Y., & Z. H. (Eds.), *31st International Conference on Computers in Education, ICCE 2023 - Proceedings* (Vol. 1, pp. 301–306). Asia-Pacific Society for Computers in Education. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85181536819&partnerID=40&md5=126d5cb02d92dfb64943155304036812>
- [18] Chen, W., Su, J., Lyu, Q., Chai, S. C. A., Li, X., Su, G., & Ng, E. E. (2023). The role of individual preparation for knowledge construction in collaborative argumentation: An Epistemic Network Analysis. In S. J.-L., K. A., C. W., O. H., B. R., C. B., D. S., M. J., Y. A.M.F., Y. Y., & Z. H. (Eds.), *31st International Conference on Computers in Education, ICCE 2023 - Proceedings* (Vol. 1, pp. 238–243). Asia-Pacific Society for Computers in Education. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85181535685&partnerID=40&md5=185fbd7c9ed9296ea9711e4e2a5d501c>
- [19] Chiu, Y.-L., & Ho, C.-H. (2024). Using an Online Knowledge-Construction Platform to Explore Collaborative Inquiry Activities of Problem-Based Learning. *Proceedings - 2024 16th IIAI International Congress on Advanced Applied Informatics, IIAI-AAI 2024*, 687–688. <https://doi.org/10.1109/IIAI-AAI63651.2024.00138>
- [20] Chugani, C. D., Anderson, J. C., Richter, R. K., Bonomi, A. E., DeGenna, N. M., Feinstein, Z., Jones, K. A., & Miller, E. (2021). Perceptions of College Campus Alcohol and Sexual Violence Prevention among Students with Disabilities: “it Was a Joke.” *Journal of Family Violence*, 36(3), 281–291. <https://doi.org/10.1007/s10896-020-00150-8>
- [21] Coulter, R. W. S., Szoko, N., Frankeberger, J., Adams, B., Jones, K. A., Chugani, C. D., Anderson, J., Talis, J., McCauley, H. L., & Miller, E. (2024). Gender and Sexual Orientation Differences in Sexual Violence Knowledge, Prevention Behaviors, and Care-Seeking Behaviors. *Prevention Science*, 25(4), 590–602. <https://doi.org/10.1007/s11121-023-01640-z>
- [22] Dirisu, O., Adediran, M., Omole, A., Akinola, A., Ebenso, B., Shoyemi, E., Eluwa, G., Tun, W., & Adebajo, S. (2022). The Syndemic of Substance Use, High-Risk Sexual Behavior, and Violence: A Qualitative Exploration of the Intersections and Implications for HIV/STI Prevention Among Key Populations in Lagos, Nigeria. *Frontiers in Tropical Diseases*, 3. <https://doi.org/10.3389/fitd.2022.822566>
- [23] Disch, L., Fessl, A., Franza, S., Kimmerle, J., & Pammer-Schindler, V. (2024). Using Knowledge Construction Theory to Evaluate Learning Processes: A Randomized Controlled Trial on Showing Gradually Built-up Concept Maps Alongside a Scientific Text. *International Journal of Human-Computer Interaction*, 40(24), 8764–8780. <https://doi.org/10.1080/10447318.2023.2289296>
- [24] Duangjinda, S., Kaosaiyaporn, O., Atisabda, W., & Rorbkorb, N. (2021). Development of Massive Open Online Course on Coexistence in Multicultural Society to Enhance

- Knowledge Construction and Awareness of Cultural Values for Undergraduate Students. *Proceedings - 2nd SEA-STEM International Conference, SEA-STEM 2021*, 91–93. <https://doi.org/10.1109/SEA-STEM53614.2021.9667978>
- [25] Edwards, K. M., Camp, E. A., Wheeler, L., Chen, D., Waterman, E. A., & Banyard, V. L. (2023). A Latent Transition Model of the Effects of a Youth-Led Sexual Violence Prevention Initiative on Victimization and Perpetration Trajectories Over Time. *Journal of Adolescent Health*, 72(6), 977–984. <https://doi.org/10.1016/j.jadohealth.2023.01.009>
- [26] Fang, R., Yang, Z., He, Y., Wang, Y., & Zhang, H. (2022). Effectiveness Evaluation of Physical Education Flipped Classroom Teaching Based on Knowledge Construction. *Mobile Information Systems*, 2022. <https://doi.org/10.1155/2022/1507167>
- [27] Fateh, S., Ayangbola, O. T., Reid, J. W., Zakher, S. W., Kirbulut Gunes, Z. D., Phelps, A. J., Malone, A., & Rushton, G. T. (2024). Small Group Conversations in a POGIL-Based Class: How English Learners Engage in a Joint Knowledge Construction Process to Reach a Shared Understanding. *Journal of Chemical Education*, 101(3), 741–752. <https://doi.org/10.1021/acs.jchemed.2c00624>
- [28] Feng, X., Xu, X., Meng, Z., Jiang, J., Pei, M., Zheng, Y., & Lu, C. (2025). A Rapid Cortical Learning Process Supporting Students' Knowledge Construction During Real Classroom Teaching. *Advanced Science*, 12(18). <https://doi.org/10.1002/advs.202416610>
- [29] Floren, L. C., ten Cate, O., Irby, D. M., & O'Brien, B. C. (2021). An interaction analysis model to study knowledge construction in interprofessional education: proof of concept. *Journal of Interprofessional Care*, 35(5), 736–743. <https://doi.org/10.1080/13561820.2020.1797653>
- [30] Frank, I., Stein, F., Salimen, P. G., & Garcez, P. M. (2022). Epistemic Relations and Joint Knowledge Construction in the Classroom Talk-in-interaction. *Revista Brasileira de Linguística Aplicada*, 22(4), 981–1010. <https://doi.org/10.1590/1984-6398202218328>
- [31] Fu, M., Yang, K., & Fujigaki, Y. (2024). Introducing an “invisible enemy”: A case study of knowledge construction regarding microplastics in Japanese Wikipedia. *New Media and Society*, 26(10), 6159–6180. <https://doi.org/10.1177/14614448221149747>
- [32] Fu, Y., Dong, Y., & Ye, O. (2024). A novel knowledge graph construction method of coal mine safety equipment domain. In J. M.A. & L. P. (Eds.), *Proceedings of SPIE - The International Society for Optical Engineering* (Vol. 13184). SPIE. <https://doi.org/10.1117/12.3033045>
- [33] Gao, S., She, J., Wu, S., Wu, S., & Ma, N. (2020). The Influence of Learning Style and Role-play on the Group Knowledge Construction in CSCL. In X. Y., H. Y.-M., W. J., Z. H., & H. J.-P. (Eds.), *Proceedings - 2020 9th International Conference of Educational Innovation through Technology, EITT 2020* (pp. 217–222). Institute of Electrical and Electronics Engineers Inc. <https://doi.org/10.1109/EITT50754.2020.00045>
- [34] Glaés-Coutts, L., & Nilsson, H. (2021). Who owns the knowledge? Knowledge construction as part of the school improvement process. *Improving Schools*, 24(1), 62–75. <https://doi.org/10.1177/1365480220929767>
- [35] Goli, A., & Dastmalchi, M. R. (2024). Enhancing Tacit Knowledge Construction in Architectural Engineering Education Through 4E Cognition and Virtual Reality. *Proceedings - Frontiers in Education Conference, FIE*. <https://doi.org/10.1109/FIE61694.2024.10893406>
- [36] Gong, R., Jiang, R., Guo, C., Hu, W., & Li, Y. (2025). Roles emerging during the knowledge construction process in collaborative learning: Does a generative AI-support chatbot matter? *Proceedings of the 2024 the 16th International Conference on Education Technology and Computers, ICETC 2024*, 8–16. <https://doi.org/10.1145/3702163.3702165>
- [37] Graham, K., Potterton, H., Mihaere, T., Carrington, B., Treharne, G. J., & Beres, M. A. (2021). Balancing Community Input and Established Research: Findings from the

- Development of a Sexual Violence Prevention Campaign. *Journal of School Violence*, 20(3), 288–300. <https://doi.org/10.1080/15388220.2021.1897017>
- [38] Graham, L. M., Lloyd, A. M., McCort, A. D., Macy, R. J., Moracco, K. E., Reyes, H. L. M., & Martin, S. L. (2024). Researcher-Practitioner Partnerships to Implement and Evaluate Sexual and Relationship Violence Prevention Programs for Boys and Men. *Violence Against Women*, 30(15–16), 4119–4140. <https://doi.org/10.1177/10778012231185545>
- [39] Ha, H. (2022). Knowledge for Whom? Inviting Students to Establish an Audience for Knowledge and to Shape Knowledge Construction Activities in a Biology Course. *Research in Science Education*, 52(6), 1851–1868. <https://doi.org/10.1007/s11165-021-10034-6>
- [40] Hanson-Defusco, J. (2024). Dissemination and Implementation Gaps in Policy Efforts to Prevention and Responses to Female Statutory Rape: A Case Study Analysis of the 2006–2018 Liberian Sexual and Gender-Based Violence Referral Pathway. *Global Studies Quarterly*, 4(2). <https://doi.org/10.1093/isagsq/ksae039>
- [41] Hao, H., Geng, X., Chen, L., Shimada, A., & Yamada, M. (2021). Learning Analytics of the Relationships among Knowledge Constructions, Self-regulated Learning, and Learning Performance. *TALE 2021 - IEEE International Conference on Engineering, Technology and Education, Proceedings*, 290–297. <https://doi.org/10.1109/TALE52509.2021.9678920>
- [42] He, H. (2024). Reader Knowledge Construction in Public Library Information Literacy Education based on the MOA Model. *Journal of Library and Information Science in Agriculture*, 36(9), 58–69. <https://doi.org/10.13998/j.cnki.issn1002-1248.24-0648>
- [43] He, S., & Lu, Y. (2024). The effectiveness of Gen AI in assisting students' knowledge construction in humanities and social sciences courses: learning behaviour analysis. *Interactive Learning Environments*, 32(10), 7041–7062. <https://doi.org/10.1080/10494820.2024.2415444>
- [44] Huang, W.-L., Li, L.-Y., & Liang, J.-C. (2024). Exploring learners' learning performance, knowledge construction, and behavioral patterns in online asynchronous discussion using guidance scaffolding in visual imagery education. *Educational Technology and Society*, 27(1), 1–17. [https://doi.org/10.30191/ETS.202401_27\(1\).RP01](https://doi.org/10.30191/ETS.202401_27(1).RP01)
- [45] Hutchison, C. A., Waterman, E. A., Edwards, K. M., Hopfauf, S. L., Simon, B. R., & Banyard, V. L. (2022). Attendance at a Community-Based, After School, Youth-Led Sexual Violence Prevention Initiative. *Journal of Interpersonal Violence*, 37(23–24), NP23015–NP23034. <https://doi.org/10.1177/08862605221076165>
- [46] Imania, K., & Santoso, A. D. (2024). Policy Transfer for Sexual Violence Prevention and Management in Indonesian Higher Education Institutions. *Generos*, 13(2), 137–155. <https://doi.org/10.17583/generos.12738>
- [47] Jiang, A. L., & Zhang, L. J. (2023). Understanding knowledge construction in a Chinese university EMI classroom: A translanguaging perspective. *System*, 114. <https://doi.org/10.1016/j.system.2023.103024>
- [48] Johri, A., Edstrom, K., Du, X., Mitchell, J., & May, D. (2022). Knowledge Construction in Engineering Education Research - Assessing the Role of Journals, Books, Conferences, and Other Products of Research. *Proceedings - Frontiers in Education Conference, FIE, 2022-October*. <https://doi.org/10.1109/FIE56618.2022.9962543>
- [49] Jones, S. L., Banta, J. E., Cook, M., Mataya, R., & Zuniga, J. (2025). Comfort in seeking support from sexual violence prevention education health services among college women. *Journal of American College Health*, 73(1), 65–76. <https://doi.org/10.1080/07448481.2022.2155051>
- [50] Kaufman, K. L., Lee, D. S., Milroy, J. J., Yore, J., Sitney, M., Lipman, A., Glace, A., Kyler-Yano, J., & Raj, A. (2022). The Role of Theory in the Prevention of Sexual Violence in Sport. *Journal of Interpersonal Violence*, 37(13–14), NP10459–NP10511. <https://doi.org/10.1177/08862605221095787>

- [51] Lee, S. J. (2023). Social Workers Should Stand against Physical Punishment of Children. *Social Work (United States)*, 68(3), 241–249. <https://doi.org/10.1093/sw/swad022>
- [52] Li, J., Cheng, N., & Hou, W. (2021). Generosity in dictator game and social value orientation predicted the type of costly punishment in ultimatum game. *PsyCh Journal*, 10(4), 625–634. <https://doi.org/10.1002/pchj.432>
- [53] Liu, Y., Ni, Z., Zha, S., & Zhang, Z. (2022). Exploring the Development of Student Teachers' Knowledge Construction in Peer Assessment: A Quantitative Ethnography. *Sustainability (Switzerland)*, 14(23). <https://doi.org/10.3390/su142315787>
- [54] Logie, C. H., Okumu, M., McAlpine, A., Odong Lukone, S., Kisubi, N., Loutet, M. G., Berry, I., MacKenzie, F., & Kyambadde, P. (2023). Qualitative Comic Book Mapping: Developing Comic Books Informed by Lived Experiences of Refugee Youth to Advance Sexual and Gender-Based Violence Prevention and Stigma Reduction in a Humanitarian Setting in Uganda. *International Journal of Qualitative Methods*, 22. <https://doi.org/10.1177/16094069231183606>
- [55] McMahon, S., Burnham, J., & Banyard, V. L. (2020). Bystander Intervention as a Prevention Strategy for Campus Sexual Violence: Perceptions of Historically Minoritized College Students. *Prevention Science*, 21(6), 795–806. <https://doi.org/10.1007/s1121-020-01134-2>
- [56] Munro-Kramer, M. L., Rominski, S. D., Seidu, A.-A., Darteh, E. K. M., Huhman, A., & Stephenson, R. (2020). Adapting a Sexual Violence Primary Prevention Program to Ghana Utilizing the ADAPT-ITT Framework. *Violence Against Women*, 26(1), 66–88. <https://doi.org/10.1177/1077801219828533>
- [57] Ngabito, S. M. L. Z., Maria, I. L., Amiruddin, R., & Nasir, S. (2024). The Effect of Educational Media Website and Surveillance on Risk Behavior for Prevention of Premarital Sex and Sexual Violence in Adolescents in Gorontalo Regency High School. *International Journal of Statistics in Medical Research*, 13, 238–244. <https://doi.org/10.6000/1929-6029.2024.13.22>
- [58] Nguyen, H., & Diederich, M. (2023). Facilitating knowledge construction in informal learning: A study of TikTok scientific, educational videos. *Computers and Education*, 205. <https://doi.org/10.1016/j.compedu.2023.104896>
- [59] Onwuegbuchulam, S. P. C. (2023). Decolonisation, knowledge construction, and legitimation at African universities in the 21st century: Relevance of François Lyotard. *Journal of Education (South Africa)*, 91, 94–110. <https://doi.org/10.17159/2520-9868/i91a06>
- [60] Pan, Y. (2022). Searching for the unit of meaning: Knowledge construction in university small group talk. *Applied Linguistics Review*, 13(5), 899–947. <https://doi.org/10.1515/applirev-2019-0093>
- [61] Peltoniemi, A. J., Lämsä, J., Lehesvuori, S., & Hämäläinen, R. (2025). Understanding the role of I-positions facilitating knowledge construction in a computer-supported collaborative learning environment. *International Journal of Computer-Supported Collaborative Learning*. <https://doi.org/10.1007/s11412-025-09447-6>
- [62] Pérez, D. A. P., Salamanca, Y. N. S., Cely, J. P. C., Caro-Torres, M. C., & Barrios, A. M. E. (2024). AUTHENTIC TASKS IN EFL EFORUMS: A BRIDGE FOR KNOWLEDGE CONSTRUCTION AND INTERACTION ENHANCEMENT. *Journal of Educators Online*, 21(1). <https://doi.org/10.9743/JEO.2024.21.1.16>
- [63] Potter, S. J., Moschella, E. A., Demers, J. M., & Lynch, M. (2022). Using Mobile Technology to Enhance College Sexual Violence Response, Prevention, and Risk Reduction Efforts. *Journal of Technology in Human Services*, 40(1), 25–46. <https://doi.org/10.1080/15228835.2021.1929665>
- [64] Potter, S. J., Moschella, E. A., Moynihan, M. M., & Smith, D. (2021). A Collaborative Community College Sexual Violence Prevention and Response Effort: Climate Study

- Results to Assess Impact. *Violence Against Women*, 27(14), 2815–2834. <https://doi.org/10.1177/1077801220969894>
- [65] Potter, S. J., Moschella-Smith, E. A., & Lynch, M. (2022). Campus Sexual Violence Prevention and Response: Lessons from a Pandemic to Inform Future Efforts. *Journal of Interpersonal Violence*, 37(17–18), NP15037–NP15057. <https://doi.org/10.1177/08862605221106191>
- [66] Qi, X., & Wu, B. (2021). Modeling and visualization of group knowledge construction based on cohesion metrics in data inquiry learning. In C. M., C. N.-S., S. D.G., & T. A. (Eds.), *Proceedings - IEEE 21st International Conference on Advanced Learning Technologies, ICALT 2021* (pp. 127–128). Institute of Electrical and Electronics Engineers Inc. <https://doi.org/10.1109/ICALT52272.2021.00045>
- [67] Rahmian, L., & Hod, Y. (2021). The Inseparability of Identity and Knowledge Construction in Humanistic Knowledge Building Communities. In de V. E., H. Y., & A. J. (Eds.), *Proceedings of International Conference of the Learning Sciences, ICLS* (pp. 569–572). International Society of the Learning Sciences (ISLS). <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85182281863&partnerID=40&md5=b6aecbaceb284b1f8d4837fbb74ca250>
- [68] Rieger, A., Blackburn, A. M., Nag, A., Holland, H., & Allen, N. E. (2023). Contradictions in change: Ecological factors in the implementation of outer layer sexual violence prevention. *American Journal of Community Psychology*, 72(1–2), 15–31. <https://doi.org/10.1002/ajcp.12672>
- [69] Rivera, D. A., Frenay, M., Paquot, M., de Montpellier, P., & Swaen, V. (2025). Beyond the process: A novel analytical model to examine knowledge construction in MOOC forums. *Computers and Education*, 235. <https://doi.org/10.1016/j.compedu.2025.105342>
- [70] Rundle-Thiele, S., Willmott, T. J., McKillop, N., Saleme Ruiz, P., & Kitunen, A. (2024). Young Voices United: co-designing a place-based youth-led sexual and violence abuse prevention approach for one Australian community. *Safer Communities*, 23(4), 245–264. <https://doi.org/10.1108/SC-09-2022-0039>
- [71] Silva Guimarães, D. (2022). The cultural ground of academic knowledge construction: a methodological discussion opening paths for possible future researches. *Integrative Psychological and Behavioral Science*, 56(4), 902–909. <https://doi.org/10.1007/s12124-022-09705-4>
- [72] Suardi. (2025). Discussion of Power Relations, Disability Perspectives, Anti-Violence, and Human Rights to Prevent Sexual Violence Against Students. *Journal of Social Studies Education Research*, 16(1), 217–242. <https://www.jsser.org/index.php/jsser/article/view/6125/726>
- [73] Suardi, S., Nursalam, N., Nur, R., & Nur, H. (2024). Equality of Rights and Accessibility Policy Interventions as Prevention of Sexual Violence against Persons with Disabilities : A Mixed Method Study. *Journal of Ecohumanism*, 3(6), 1931 – 1945. <https://doi.org/https://doi.org/10.62754/joe.v3i6.4149>
- [74] Suartama, I. K., Triwahyuni, E., & Suranata, K. (2024). Mastering knowledge construction skills through a context-aware ubiquitous learning model based on the case method and team-based projects. *International Journal of Education and Practice*, 12(3), 1094–1112. <https://doi.org/10.18488/61.v12i3.3842>
- [75] Sun, Z., Lin, C.-H., Lv, K., & Song, J. (2021). Knowledge-construction behaviors in a mobile learning environment: a lag-sequential analysis of group differences. *Educational Technology Research and Development*, 69(2), 533–551. <https://doi.org/10.1007/s11423-021-09938-x>
- [76] Tanjung, Y., Khairani, L., & Saputra, S. (2021). Women’s Group Empowerment Practices: Knowledge Construction Study at The Liza Mangrove Studio in Pematang Johar Village.

- Review of International Geographical Education Online*, 11(5), 2443–2454. <https://doi.org/10.48047/rigeo.11.05.144>
- [77] Tissenbaum, M., & Joye, A. P. (2023). Idea Wall: A Real-Time Collaboration Tool to Support and Orchestrate Knowledge Construction Across Multiple Social Planes. In D. C., B. M., K. E., & W. M. (Eds.), *Computer-Supported Collaborative Learning Conference, CSCL* (Vols. 2023-June, pp. 424–427). International Society of the Learning Sciences (ISLS). <https://doi.org/10.22318/cscl2023.584893>
- [78] Toyibah, D., & Riyani, I. (2025). Contesting religious authority in response to government regulations on the prevention and handling of campus sexual violence (CSV) in Indonesia. *Women's Studies International Forum*, 110. <https://doi.org/10.1016/j.wsif.2025.103085>
- [79] Wahid, A., Amin, H., Assagaf, J., & Yahya, A. (2023). SEXUAL VIOLENCE PREVENTION STRATEGIES BASED ON HADITH GUIDANCE. *Ulumuna*, 27(2), 573–597. <https://doi.org/10.20414/ujis.v27i2.678>
- [80] Wahidin, W., & Nova, A. P. (2023). Sex Education Parenting Application in Improving Parents' Knowledge about the Prevention of Sexual Violence among Children. *Malaysian Journal of Medicine and Health Sciences*, 19(5), 39–44. <https://doi.org/10.47836/MJMHS.19.5.7>
- [81] Wang, J., Zhang, J., Sun, Y., Zhang, Y., Jiang, T., & Xia, L. (2025). Electromagnetic wave property inspired radio environment knowledge construction and artificial intelligence based verification for 6G digital twin channel. *Frontiers of Information Technology and Electronic Engineering*, 26(2), 260–277. <https://doi.org/10.1631/FITEE.2400464>
- [82] Wang, Y., & Zhang, Y. (2024). Effects of teaching strategies on students' learning engagement and knowledge construction in asynchronous online learning. *Distance Education*, 45(2), 281–296. <https://doi.org/10.1080/01587919.2024.2338705>
- [83] Waterman, E. A., Edwards, K. M., Banyard, V. L., & Chang, H. (2022). Age and Sexual Orientation Moderated the Effects of a Bystander-Focused Interpersonal Violence Prevention Program for High School Students. *Prevention Science*, 23(1), 96–107. <https://doi.org/10.1007/s11121-021-01245-4>
- [84] Wen, L. (2022). Influence of Emotional Interaction on Learners' Knowledge Construction in Online Collaboration Mode. *International Journal of Emerging Technologies in Learning*, 17(2), 76–92. <https://doi.org/10.3991/IJET.V17I02.28539>
- [85] Wu, T.-T., Lee, H.-Y., Li, P.-H., Huang, C.-N., & Huang, Y.-M. (2024). Promoting Self-Regulation Progress and Knowledge Construction in Blended Learning via ChatGPT-Based Learning Aid. *Journal of Educational Computing Research*, 61(8), 3–31. <https://doi.org/10.1177/07356331231191125>
- [86] Wu, X. E., & Ko, J. (2024). Peer interactions during storybook reading on children's knowledge construction: an experimental study on K2 and K3 children. *Frontiers in Education*, 9. <https://doi.org/10.3389/feduc.2024.1253782>
- [87] Xu, W., & Dai, W.-A. (2024). “You are good annotators”: Investigating how social reading based on social annotations and role assignment strategies facilitate learners' social interaction and knowledge construction. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-024-13268-9>
- [88] Yusof, R., Yin, K. Y., Norwani, N. M., Ahmad, N. L., & Ismail, Z. (2022). Investigating the Role of Digital Learning in Enhancing Educational Values: Online Socialization and Its Effect on Peer Learning, Collaborative Skills and Knowledge Construction. *International Journal of Learning, Teaching and Educational Research*, 21(9), 441–459. <https://doi.org/10.26803/ijlter.21.9.24>
- [89] Zabolotna, K., Malmberg, J., Järvelä, S., & Järvenoja, H. (2021). The Interplay of Knowledge Construction and Regulation of Learning in CSCL Settings. In H.-S. C.E., D. W. B., & O. J. (Eds.), *Computer-Supported Collaborative Learning Conference, CSCL* (Vols. 2021-June, pp. 275–276). International Society of the Learning Sciences (ISLS).

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85173556676&partnerID=40&md5=34a5552e5112c16dc8d8712e99a25751)

[85173556676&partnerID=40&md5=34a5552e5112c16dc8d8712e99a25751](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85173556676&partnerID=40&md5=34a5552e5112c16dc8d8712e99a25751)

- [90] Zabolotna, K., Malmberg, J., & Järvenoja, H. (2023). Examining the interplay of knowledge construction and group-level regulation in a computer-supported collaborative learning physics task. *Computers in Human Behavior*, 138. <https://doi.org/10.1016/j.chb.2022.107494>
- [91] Zambrano, F. T., & Arteaga, M. T. (2024). Knowledge in intercultural medicine of the Peasant Union of Azuay (Ecuador): territorial and collective construction of transformative learning. *Desde el Sur*, 16(1). <https://doi.org/10.21142/DES-1601-2024-0004>
- [92] Zhang, M., Zhang, X., Qu, C., Wang, G., & Lu, X. (2022). The combination of social reward and punishment is conducive to the cooperation and heterogeneity of social relations. *Chaos*, 32(10). <https://doi.org/10.1063/5.0102483>