

Microtrauma in Adolescent Social Relationships within Contemporary Interaction Spaces

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Abstract:

Adolescent social relationships in contemporary digital interaction spaces increasingly expose young people to subtle yet cumulative relational harm. This study explores the forms, meanings, and psychological implications of microtrauma in adolescent social relationships. Using a qualitative phenomenological design, we collected data from 15 adolescents aged 15–18 through in-depth semi-structured interviews, non-participant observation, and reflective journaling. We analyzed the data using data condensation, reduction, display, and verification procedures. The findings identified three interconnected themes: repeated subtle peer exclusion experienced by 12 participants, internalized social comparison linked to insecurity across all informants, and emotional withdrawal as a protective coping response. These results demonstrate that microtrauma operates cumulatively through ambiguous relational cues rather than overt conflict. The study contributes to the understanding of microtrauma by conceptualizing it as a distinct micro-level relational phenomenon and recommends integrating digital empathy and emotional literacy programs into adolescent support systems.

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INTRODUCTION

The transformation of contemporary interaction spaces, particularly those mediated by digital technology, has significantly reshaped how adolescents construct and experience social relationships. This study matters because adolescence is a critical developmental stage in which social bonds shape identity formation, emotional regulation, and long-term psychological well-being (Burhan et al., 2025; Dzida et al., 2022; Waite et al., 2022). The quality of adolescent relationships directly influences broader social stability, community cohesion, and future generational resilience. However, rapid communication patterns, public visibility, and constant connectivity have introduced subtle forms of psychological harm that often go unnoticed, referred to as microtrauma. Emerging evidence indicates rising levels of social anxiety,



loneliness, and emotional distress linked to everyday social interactions in digital contexts (Kim et al., 2022; Moreno et al., 2021). Therefore, examining microtrauma in adolescent social relationships is essential to develop preventive strategies and informed social interventions.

In everyday reality, adolescents frequently encounter emotionally distressing experiences that appear minor but occur repeatedly, such as exclusion from group chats, sarcastic comments on social media, passive-aggressive reactions, or being intentionally ignored in online conversations. These experiences are rarely categorized as overt aggression, yet they may accumulate and produce meaningful psychological strain (Chaika, 2025; Yu et al., 2022). In contemporary interaction spaces, the boundary between private and public communication has blurred, increasing adolescents' vulnerability to social evaluation and peer judgment. The pressure to maintain a desirable online identity further intensifies sensitivity to rejection and comparison. As a result, adolescents may internalize repeated subtle negative interactions as indicators of social inadequacy (Juang et al., 2025; Lazar et al., 2022). This phenomenon reflects a shift in relational dynamics that requires deeper scholarly attention, particularly in understanding how microtrauma operates within daily social exchanges.

Previous research has extensively explored adolescent social relationships and mental health outcomes. Howell et al. (2021) and Hsing (2024) emphasized the protective role of social support in strengthening adolescent resilience, while Berger et al. (2022) and Liu et al. (2022) highlighted how digital environments shape identity construction. International scholars such as Hellfeldt et al. (2020), Ravens et al. (2023), and Catu (2021) demonstrated associations between intensive social media use and increased anxiety and depressive symptoms among adolescents. Nevertheless, most studies focus on macro-level issues such as cyberbullying, online harassment, or digital addiction. Limited attention has been given to micro-level, repetitive, and subtle relational injuries that do not qualify as explicit abuse yet still produce emotional consequences. This research gap is significant because cumulative microtrauma may gradually undermine adolescents' psychological well-being and relational security without being formally recognized as a social problem.

The novelty of this study lies in conceptualizing microtrauma in adolescent social relationships as a distinct and analytically relevant phenomenon rather than merely a derivative of cyberbullying or overt interpersonal conflict. This research positions microtrauma as subtle emotional injuries emerging from routine social interactions within digitally interconnected environments (Shan et al., 2024; Sukhanova et al., 2022). By focusing on adolescents' lived experiences and subjective meaning-making processes, this study introduces a more nuanced framework for understanding relational harm in contemporary contexts. It advances the theoretical discourse by expanding trauma-related concepts to include micro-level relational stressors embedded in daily communication patterns (Guru et al., 2024; Hsing, 2024). Addressing this issue is crucial because overlooking microtrauma may result in underestimating the cumulative psychological burden carried by adolescents navigating increasingly complex social landscapes.

Based on this background, the research problem centers on identifying the forms of microtrauma adolescents experience in contemporary interaction spaces, understanding how they interpret and internalize these experiences, and examining their implications for psychological well-being and relational quality. Specifically, the study explores how repeated subtle social injuries influence adolescents' self-perception, emotional regulation, and trust in peer relationships. These questions arise from the need to move beyond observable conflicts toward the hidden emotional processes shaping adolescent social development. By clearly articulating the research problem, this study aims to provide a comprehensive, context-sensitive understanding of relational dynamics in digitally mediated environments.

This study argues that microtrauma in adolescent social relationships represents an accumulation of seemingly minor but repeated interpersonal stressors that may generate long-term psychological consequences. It hypothesizes that high-frequency digital interaction amplifies exposure to subtle relational injuries and accelerates their internalization. This research is original in developing a conceptual framework that integrates microtrauma with adolescent social development theory within contemporary interaction spaces. The study contributes theoretically by refining the understanding of relational harm at the micro level and practically by informing school-based and family-centered interventions aimed at strengthening healthy social bonds. Ultimately, this research offers both scholarly and applied contributions to the evolving field of adolescent social psychology.

RESEARCH METHOD

This study employed a qualitative phenomenological research design to explore adolescents' lived experiences of microtrauma within contemporary interaction spaces (Rajasinghe et al., 2024). A phenomenological approach was selected because the study aims to understand the subjective meanings adolescents attach to subtle relational injuries that may not be easily observable or measurable through quantitative methods. Since microtrauma operates at the level of perception, emotion, and interpretation, it requires an in-depth exploration of personal narratives and reflective accounts. The design allows the researcher to capture the essence of participants' experiences and to identify common patterns across individual stories. By focusing on lived experiences, this approach is particularly appropriate for uncovering the nuanced and cumulative nature of microtrauma in everyday social interactions.

The research was conducted in two urban senior high schools located in a metropolitan area characterized by high internet penetration and intensive digital engagement among adolescents. The location was selected because it aligns with the research focus, as students actively use social media platforms and digital communication tools in their daily interactions. A total of 15 informants participated in this study: 9 female and 6 male students aged 15 to 18 years. Participants came from diverse socioeconomic backgrounds and actively used at least two social media platforms. Researchers selected informants using purposive sampling based on criteria such as frequent engagement in online peer interactions and willingness to share personal relational experiences.

Data were collected through in-depth semi-structured interviews, non-participant observation, and reflective journaling (Lobe et al., 2020). In-depth interviews explored participants' experiences of subtle relational conflicts, feelings of exclusion, perceived rejection, and emotional responses in both online and offline contexts. Each interview lasted approximately 60–90 minutes and was audio-recorded with consent. We conducted non-participant observation in school settings to understand peer interaction patterns and communication dynamics. We also invited participants to write short reflective journals describing recent social interactions that caused emotional discomfort. Together, these techniques enabled data triangulation and deepened understanding of microtrauma experiences.

Data analysis followed the interactive model of qualitative analysis, consisting of data condensation, data reduction, data display, and data verification (Beik et al., 2021). Data condensation involved selecting, focusing, and simplifying raw interview transcripts and observational notes while preserving essential meanings. Data reduction involved coding significant statements and categorizing them into thematic clusters related to forms of microtrauma, emotional impact, coping strategies, and relational consequences. The team then organized the data into visual matrices and thematic maps for systematic display, allowing patterns and relationships to emerge clearly. Finally, the team verified the data through iterative review, cross-checking interpretations with raw data, and identifying consistent themes across participants' narratives.

To ensure data validity and trustworthiness, this study applied several verification strategies (Lee et al., 2024). Credibility was strengthened through triangulation of data sources (interviews, observations, and reflective journals) and member checking, in which participants reviewed and confirmed the accuracy of interpreted findings. The study addressed transferability by providing thick descriptions of the research context and participants' backgrounds. The study ensured dependability through an audit trail documenting all research procedures, coding processes, and analytical decisions. The study maintained confirmability through reflexivity, in which the researcher continuously reflected on potential biases and ensured findings were grounded in participants' authentic experiences rather than personal assumptions. Through these strategies, the study upholds rigor and reliability in qualitative inquiry.

RESULT AND DISCUSSION

Result

Based on data condensation and reduction of interview transcripts, observational notes, and reflective journals from 15 informants, three major themes emerged that represent the essence of adolescents' lived experiences of microtrauma within contemporary interaction spaces.

Repeated subtle peer exclusion experiences

The first theme emerging from data condensation highlights repeated subtle peer exclusion as a dominant form of microtrauma. Across interviews, participants

described experiences such as being excluded from shared content, receiving information later than peers, or discovering separate online groups created without them. These incidents were rarely direct or confrontational but were perceived as “small things” carrying emotional weight. Through open coding, the narratives were categorized into digital invisibility, selective acknowledgment, and symbolic exclusion. The findings indicate that repeated minor exclusions can gradually become emotionally meaningful experiences within adolescents’ everyday peer interactions.

Observational data supported the interview findings by showing limited engagement among some adolescents who reported subtle exclusion. During school breaks, certain students remained physically present but participated minimally in group conversations, sometimes turning to their phones instead. Voluntarily shared screenshots similarly illustrated uneven digital interaction, including shorter responses directed toward particular individuals. Data display matrices showed that 12 of 15 informants reported recurring experiences of subtle exclusion from online peer exchanges. The repetition across contexts suggests that isolated incidents do not necessarily cause microtrauma but can accumulate through recurring interpersonal disruptions.

Participants emphasized that the ambiguity surrounding subtle exclusion intensified its emotional impact. Because exclusion was rarely explicit, adolescents often questioned whether they were interpreting ordinary interactions too negatively or overreacting to minor events. This uncertainty frequently encouraged self-blame rather than confrontation. Through member checking, participants confirmed that their emotional discomfort stemmed not from one incident but from repeated patterns that gradually signaled possible social marginalization. The findings show that ambiguous exclusion creates interpretive uncertainty, making adolescents less certain about their social position while also increasing emotional sensitivity to subsequent peer interactions.

Data verification across interviews and reflective journals demonstrated consistent emotional responses, particularly confusion, embarrassment, and quiet disappointment. These responses suggest that subtle exclusion can become socially normalized within contemporary peer interaction spaces, especially when individual incidents appear too minor to warrant confrontation. However, normalization does not eliminate their emotional consequences. Instead, repetition accumulates relational disruptions and gradually increases their psychological significance. The findings indicate that microtrauma emerges through this cumulative process, in which seemingly minor experiences of exclusion become emotionally consequential and contribute to adolescents’ changing perceptions of belonging, interpersonal security, and peer relationships.

Internalized social comparison and insecurity

The second theme reveals how microtrauma becomes psychologically embedded through internalized social comparison. During data reduction, recurring codes such as “counting likes,” “waiting for replies,” and “feeling less interesting” were

grouped into evaluative self-assessment. Adolescents interpreted digital engagement metrics as indicators of relational value. When posts received fewer reactions or messages were answered briefly, participants questioned their social worth. These responses demonstrate that ordinary digital interactions became personally meaningful. Rather than evaluating online activity neutrally, adolescents used visible engagement patterns to assess their acceptance, popularity, and perceived position within peer relationships.

Reflective journals provided deeper insight into adolescents' cognitive-emotional responses to ambiguous digital interactions. Several participants described repeatedly analyzing short responses, delayed messages, or changes in communication frequency, interpreting them as possible signs of declining friendship quality. Thematic mapping revealed a consistent connection between ambiguous online cues and increased insecurity. Adolescents rarely treated minimal changes in tone or responsiveness as neutral; instead, they attached personal meanings to them. This process encouraged repeated self-evaluation and uncertainty, showing how microtrauma may develop through everyday interpretations of seemingly ordinary digital communication patterns.

Table 1. Indicator of Micro-Level

Comparison	Participant Expression	Psychological Impact
Monitoring likes and comments	"I check who reacts."	Self-doubt
Interpreting delayed responses	"Maybe I'm annoying."	Anxiety
Comparing follower counts	"They're more popular."	Inadequacy
Overthinking short replies	"Why only one word?"	Insecurity

Cross-case verification confirmed that these interpretative patterns appeared across participants with different gender and socioeconomic backgrounds. The accumulation of comparison-based interpretations gradually influenced adolescents' perceptions of themselves and their relationships. Importantly, insecurity did not primarily emerge from explicit rejection or direct interpersonal conflict. Instead, it developed through repeated micro-evaluations embedded in everyday digital communication. Monitoring reactions, interpreting response delays, and comparing visible indicators of popularity created continuous opportunities for self-assessment. Over time, these seemingly minor evaluations contributed to persistent self-doubt and altered how adolescents perceived their social worth within peer networks.

Emotional withdrawal and relational distancing

The third theme captures how adolescents behaviorally respond to accumulated microtrauma. Through data condensation, statements such as "I stopped posting," "I muted the group," and "I just read but do not reply" were categorized as emotional withdrawal strategies. Participants did not frame these behaviors as protest but as self-protective mechanisms intended to minimize further disappointment. Participants explained that reducing interaction provided temporary emotional safety, particularly after repeated experiences of subtle exclusion, misunderstanding, or unmet

expectations. Thus, withdrawal emerged as a gradual coping response through which adolescents managed vulnerability within everyday peer relationships and digitally mediated social spaces.

Observational findings showed reduced verbal participation among adolescents who previously reported subtle exclusion. During classroom group activities, these participants contributed less frequently, avoided initiating conversations, and appeared more selective in responding to peers. Data display mapping indicated a gradual progression in which repeated subtle hurt increased interpersonal sensitivity and subsequently encouraged selective disengagement from peer spaces. Rather than completely rejecting social interaction, adolescents appeared to regulate their involvement by limiting exposure to situations perceived as emotionally risky. This pattern demonstrates how accumulated microtrauma can gradually influence everyday participation and reshape adolescents' willingness to engage with peers.

Importantly, withdrawal did not eliminate emotional distress. Participants described feeling temporarily safer after reducing interaction, yet they also experienced increasing loneliness and relational distance. Data verification across interviews confirmed that distancing functioned in a protective yet paradoxical manner: it reduced immediate exposure to interpersonal hurt while simultaneously weakening relational closeness. Adolescents therefore remained emotionally affected even when they appeared less engaged. This finding illustrates how microtrauma can gradually reshape social behavior, as strategies initially developed to protect emotional well-being may unintentionally reduce opportunities for connection, communication, and mutual understanding within peer relationships.

Member checking reinforced the interpretation that emotional withdrawal represented a coping adaptation rather than indifference toward friendships. Adolescents continued to value their peer relationships and remained concerned about maintaining social connections, but they deliberately reduced exposure to situations that could increase emotional vulnerability. Their distancing therefore reflected an attempt to regulate interpersonal risk rather than a loss of relational interest. The findings indicate that microtrauma affects not only adolescents' emotional states but also gradually restructures patterns of participation, trust, and relational openness. Over time, repeated subtle hurts may consequently transform how adolescents approach, maintain, and negotiate contemporary peer relationships.

Discussion

The findings show that repeated subtle peer exclusion constitutes a significant form of microtrauma in adolescent social relationships. This result aligns with Waite et al. (2022) and Kong et al. (2023), who emphasized the central role of social connectedness in shaping adolescents' psychological resilience. However, while previous research has largely focused on explicit forms of rejection or bullying, the present study reveals that indirect and ambiguous exclusion, such as being ignored in digital conversations, can generate comparable emotional strain. This expands the understanding of relational harm beyond overt aggression. The findings also resonate with Molina et al. (2025) and Feingold et al. (2021), who noted that digital interaction

amplifies peer visibility, yet this study adds nuance by showing that harm often emerges through subtle relational signals rather than direct hostility.

The second finding concerning internalized social comparison supports Lin et al. (2024) argument that digital environments intensify self-evaluative processes among adolescents. Consistent with prior studies linking social media engagement to anxiety and depressive symptoms, this research confirms that adolescents interpret online metrics as indicators of social worth. However, unlike earlier work that primarily examined screen time or platform usage, this study highlights interpretative meaning-making as the core mechanism. The psychological impact does not stem solely from exposure to social media but from how adolescents cognitively process ambiguous relational cues (Fehér et al., 2023; Kosyakova et al., 2024). This distinction contributes theoretically by shifting the focus from technological intensity to relational perception and symbolic interaction.

The third finding, emotional withdrawal and relational distancing, partially supports Park et al. (2023) assertion that adolescents actively reconstruct identity within digital spaces. However, the current study reveals a paradox: instead of fostering expressive identity formation, repeated microtrauma may lead to protective disengagement. While previous literature often portrays digital withdrawal as a sign of disinterest or digital fatigue, the findings here interpret withdrawal as an adaptive coping response to cumulative relational strain (Lu et al., 2022; Peterson et al., 2021). This suggests that behavioral disengagement should not be simplistically categorized as antisocial behavior but understood as a strategy to regulate emotional vulnerability within unstable interaction environments.

Theoretically, this study contributes to adolescent social psychology by conceptualizing microtrauma as a cumulative relational phenomenon embedded in everyday communication practices. It extends trauma discourse by integrating micro-level interpersonal stressors into developmental and social comparison frameworks (Hawari et al., 2020; Cano et al., 2020). The findings indicate that microtrauma operates through three interconnected processes: subtle exclusion, internalized evaluation, and behavioral withdrawal. This integrative model enriches existing theories of peer relations by demonstrating how minor, repetitive relational disruptions can gradually reshape self-concept and participation patterns (Birk et al., 2024; Smit et al., 2021). Thus, the study advances a more sensitive framework for understanding contemporary adolescent relational harm.

Practically, the findings highlight the need for preventive interventions that move beyond addressing overt bullying. Schools and families should develop programs that foster digital empathy, emotional literacy, and critical awareness of online interaction norms. Educators can incorporate discussions about subtle exclusion and interpretative biases into social-emotional learning curricula. At the same time, parents can be guided to recognize signs of relational withdrawal as potential indicators of microtrauma. Furthermore, digital literacy initiatives should emphasize reflective communication practices rather than solely focusing on usage duration. By addressing micro-level relational dynamics, stakeholders can strengthen adolescents' resilience.

CONCLUSION

This study concludes that adolescent microtrauma develops through cumulative and subtle relational experiences that shape psychological well-being, self-perception, and peer relationships. Repeated exclusion, internalized social comparison, and emotional withdrawal form an interconnected cycle in which seemingly minor interactions gradually generate emotional distress and relational distance. The study contributes theoretically by extending trauma discourse into micro-level interpersonal contexts and foregrounding adolescents' lived experiences. However, its small urban sample and cross-sectional design limit broader generalization and developmental interpretation. Future research should use diverse contexts and longitudinal designs, and examine protective factors such as resilience and digital literacy.

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