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Beyond Risk Behavior: Psychosocial Vulnerabilities among Unmarried Pregnant Adolescents in Institutional Care in Malaysia

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Abstract	Author Affiliation
Background/ problem: Pregnancy among unmarried adolescents is a psychosocial and public health concern. Existing research has emphasized individual risk behaviors, with less attention to relational contexts and distinctions between social influence and experiences involving coercion, exploitation, or substantially constrained voluntary choice. Evidence from adolescents in institutional care in Malaysia remains limited. Objective/ purpose: This study explored psychosocial vulnerabilities and social influences among unmarried pregnant adolescents in institutional care. Design and Methodology: A qualitative case study involved nine adolescents residing in a government-operated protection institution in Malaysia. In-depth interviews were analyzed using thematic analysis, while interviews with four institutional officers provided contextual perspectives and data-source triangulation. Findings: Five themes were identified: adverse family and relational contexts; sexual coercion, exploitation, and violence; peer and partner social influence; digital contexts of relationships and interpersonal exposure; and behavioral and social challenges. Participants' accounts reflected differing degrees of voluntary choice, from interpersonal persuasion and peer-facilitated situations to force, non-consensual sexual activity, inability to escape, and loss of consciousness. Conclusion and Implications: The findings contribute to a behavioral science understanding of pregnancy among unmarried adolescents by highlighting diverse relational and social contexts and distinguishing social influence from coercion, exploitation, and circumstances in which voluntary choice is substantially constrained. The social influence theory provides a bounded interpretive lens for interpersonal influence where some capacity for voluntary choice remains. Trauma-informed support should address family and relational support, peer and partner influence, digital safety, and protection from sexual exploitation and violence.	¹ Faculty of Human Ecology, Universiti Putra Malaysia, Malaysia. *Corresponding author e-mail: m_azlina@upm.edu.my https://orcid.org/0000-0001-8398-7653 Article Information Received: 06.06.26 Revised: 29.06.26 Accepted for Review: 02.07.26 Keywords Interpersonal relationships, sexual coercion, social influence, social psychology, trauma-informed care

Pregnancy among unmarried adolescents remains a significant psychosocial and public health concern, with consequences that may extend beyond reproductive health to psychological well-being, social relationships, education, and future socioeconomic opportunities (Lesinskienė et al., 2025; Nasongo et al., 2025). Globally, an estimated 21 million pregnancies occur annually among adolescents aged 15–19 years in low- and middle-income countries, approximately half of which are unintended (World Health Organization [WHO], 2024). In Malaysia, 44,263 adolescent pregnancies were recorded between 2019 and 2023, including 17,646 pregnancies among adolescents who were unmarried at the time of pregnancy

(Kawi, 2024). Pregnant adolescents may experience emotional distress, anxiety, stigma, social isolation, and inadequate social support, which may compromise their psychosocial well-being (Bedaso et al., 2021; Nasongo et al., 2025). Importantly, pregnancy outside marriage during adolescence may occur within diverse interpersonal circumstances and should not be understood uniformly as the outcome of voluntary sexual risk-taking. Evidence indicates that some pregnancies may occur in circumstances involving forced sexual activity, sexual violence, exploitation, or substantially constrained voluntary choice (Harada et al., 2024). Recognizing these diverse circumstances is essential to avoid interpreting adolescent pregnancy solely as the consequence of individual risk behavior or voluntary behavioral choice.

Previous research has identified a range of factors associated with adolescent pregnancy, including limited sexual and reproductive health knowledge, socioeconomic disadvantages, family-related difficulties, and peer or social influences (Harada et al., 2024; Idris et al., 2022; Sulaiman et al., 2023). Within Malaysia, recent studies have similarly highlighted the relevance of family relationships, psychological and social vulnerabilities, peer influences, and broader social circumstances in understanding adolescent pregnancy and pregnancy outside marriage (Idris et al., 2022; Nen & Hashim, 2020; Tohid et al., 2021). Although these factors are important, an exclusively individual risk-factor perspective may provide an incomplete account of the relational and social contexts within which adolescents' sexual and reproductive experiences occur. Recent evidence also supports the importance of interpersonal relationships for adolescent well-being (Chen et al., 2026). However, social influence must be conceptually distinguished from coercion and violence. Peer or partner influence may operate within some consensual interpersonal interactions, whereas forced sexual activity, exploitation, and sexual violence involve unequal power and may substantially constrain or eliminate adolescents' capacity for voluntary choice (Harada et al., 2024).

Although Malaysian studies have examined psychosocial factors, family and peer influences, psychological well-being, and the experiences of adolescents and young women facing pregnancy outside marriage (Idris et al., 2022; Nen & Hashim, 2020; Tohid et al., 2021), evidence concerning the experiences of adolescents residing in government-operated protection institutions remains limited. Malaysian research on shelter-based care has provided important insights into the support and services available within residential settings (Shaffie et al., 2021). However, less is known about how unmarried pregnant adolescents in institutional care themselves describe the psychosocial and relational circumstances surrounding their pregnancy experiences, including family, peer, partner, and potentially coercive or exploitative contexts. A behavioral science perspective is useful for understanding these experiences across psychological, interpersonal, and social contexts, including family relationships, peer and partner influences, and broader social environments (Chen et al., 2026; Harada et al., 2024). At the same time, clear theoretical boundaries are necessary because social influence may be relevant to experiences involving some degree of voluntary choice but does not adequately account for coercion, sexual violence, or circumstances in which voluntary choice is substantially constrained or absent (Harada et al., 2024). Accordingly, rather than seeking to establish causal or sequential pathways, this qualitative case study aimed to explore psychosocial vulnerabilities and social influences among unmarried pregnant adolescents residing in a government-operated protection institution in Malaysia.

Literature Review

This review synthesizes literature on the psychosocial and relational contexts of adolescent pregnancy, with particular attention to social influence, digital environments, and sexual exploitation. The social influence theory (Kelman, 1958, 2006) is subsequently considered as an interpretive lens for understanding adolescents' interpersonal experiences. The social influence theory (Kelman, 1958, 2006) was selected for its relevance to understanding adolescents' experiences of interpersonal and social influence in contexts where some capacity for voluntary choice remains.

Psychosocial and Relational Contexts of Adolescent Pregnancy

Adolescent pregnancy occurs within complex psychosocial contexts that extend beyond individual sexual or reproductive behaviors. Malaysian qualitative evidence indicates that family circumstances, peer

interactions, psychological concerns, economic conditions, and sexual and reproductive health knowledge may coexist within the social environments surrounding adolescent sexual behavior and pregnancy (Idris et al., 2022). Research involving unmarried pregnant young women in Malaysia further highlights psychosocial challenges involving family support, stigma, financial concerns, and adjustment to pregnancy (Tohid et al., 2021). Rather than viewing these circumstances as isolated risk factors, the literature suggests the importance of considering the broader relational and social contexts within which adolescents experience vulnerability, negotiate relationships, and access support.

Family and interpersonal relationships are particularly relevant within these psychosocial contexts because they may represent both sources of vulnerability and potential sources of support. Difficulties within family relationships and limited psychosocial support have been reported in Malaysian research involving adolescents and young women experiencing pregnancy outside marriage (Idris et al., 2022; Tohid et al., 2021). Chen et al. (2026) found that interpersonal relationships played a significant mediating role in associations between personality characteristics and subjective well-being among adolescents. Accordingly, psychosocial vulnerability should not be understood solely as an individual characteristic but also in relation to the social and relational environments surrounding adolescents.

Peer and romantic relationships constitute important interpersonal contexts during adolescence and may shape adolescents' perceptions, expectations, and relationship experiences. Within the Malaysian context, adolescent romantic relationships have been examined in relation to social media use, pornography exposure, sexual and reproductive health knowledge, and psychological factors such as depression (Mud Shukri & Baharom, 2023). This evidence highlights the broader psychosocial and digital contexts within which adolescent romantic relationships may develop. Peer and romantic relationships can therefore be understood as important interpersonal environments in which social expectations, relationship dynamics, and interpersonal influence may operate.

Digital environments further extend the interpersonal settings in which adolescents communicate, form relationships, and encounter sexual interactions. However, digital engagement should not itself be interpreted as a direct cause of sexual risk or pregnancy. Online environments may also create opportunities for young people to encounter sexual solicitation, grooming, manipulation, or exploitation. A recent systematic review identified cybergrooming as a form of online victimization among young people and synthesized evidence concerning its prevalence, associated risk factors, and psychosocial outcomes (Schittenhelm et al., 2025). Broader global evidence similarly indicates that online child sexual exploitation and abuse encompass diverse experiences, including sexual solicitation, grooming, non-consensual sexual exchanges, image-based abuse, sexual extortion, and other forms of exploitation (Fry et al., 2025). These findings highlight the importance of considering the nature of interpersonal interactions and underlying power dynamics when interpreting adolescents' digital experiences, rather than treating digital engagement uniformly as a form of risk behavior. Within the present study, digital environments are therefore considered part of the broader social and relational contexts in which psychosocial vulnerabilities and social influences may be experienced.

A critical distinction is therefore needed between social influence and experiences involving coercion, grooming, exploitation, or sexual violence. Social influence may be relevant when adolescents respond to peer norms, relationship expectations, interpersonal persuasion, or a desire for acceptance while retaining some capacity for voluntary choice. In contrast, grooming and sexual exploitation may involve manipulation and unequal power, whereas sexual coercion and rape may severely constrain or eliminate the capacity for voluntary choice. Qualitative evidence on unintended adolescent pregnancy further illustrates how socioeconomic and relational vulnerabilities may coexist with exploitative interpersonal circumstances, including relationships involving older or resource-providing partners (Harada et al., 2024). Distinguishing these experiences is important because interpreting coercion, exploitation, or sexual violence simply as peer pressure or risk behavior may obscure differences in power and capacity for voluntary choice and may inadvertently attribute responsibility to adolescents for experiences of victimization.

Social Influence Theory as an Interpretive Lens

The social influence theory, originally developed by Kelman (1958), provides a framework for understanding how individuals' attitudes and behaviors may be influenced through their relationships with other people and social groups. Kelman (1958) identified compliance, identification, and internalization as three processes of social influence. Compliance occurs when an individual accepts influence to obtain a favorable response or avoid an unfavorable consequence. Identification occurs when influence is accepted because establishing or maintaining a valued relationship is important. Internalization occurs when the influenced position is perceived as congruent with the individual's own values. Although originally developed in the context of attitude change and persuasive communication, Kelman (2006) subsequently extended the framework to interpersonal relationships and individuals' relationships with broader social systems.

Applied to adolescent peer and romantic relationships, the social influence theory (Kelman, 1958, 2006) offers a useful interpretive lens for understanding different forms of interpersonal influence. Compliance may be relevant when adolescents respond to interpersonal requests or expectations while retaining some capacity for voluntary choice. Identification may help interpret situations in which maintaining acceptance or a valued relationship becomes important. Internalization may be relevant when social or relationship expectations become consistent with adolescents' own beliefs or values (Kelman, 1958, 2006). In the present study, the social influence theory (Kelman, 1958, 2006) is therefore used as an interpretive lens rather than as a causal model or predetermined framework for coding the data. This positioning allows the theory to inform the interpretation of socially influenced experiences without assuming that social influence determines adolescents' behavior.

Despite its explanatory scope, the social influence theory (Kelman, 1958, 2006) has clear boundaries in the context of this study. Compliance, identification, and internalization may help interpret experiences in which adolescents retain some capacity for voluntary choice, but they should not be used to interpret rape, sexual coercion, grooming, or sexual exploitation as forms of social influence. Such experiences may involve manipulation, unequal power, threats, force, or circumstances in which voluntary choice is severely constrained or absent. Power, vulnerability, and constraints on voluntary choice are therefore considered alongside the social influence theory as complementary interpretive considerations rather than as additional formal theories. These concepts help delineate the circumstances within which the social influence theory (Kelman, 1958, 2006) can appropriately inform interpretation. This distinction is necessary to avoid construing victimization as compliance or voluntary risk-taking.

Research Question and Objective

Despite growing evidence on the psychosocial and relational contexts of adolescent pregnancy, comparatively limited attention has been given to how unmarried pregnant adolescents residing in institutional care describe psychosocial vulnerabilities and social influences within their experiences, particularly when these experiences may involve differing degrees of voluntary choice, coercion, or exploitation. Based on this gap, the present study addressed the following research question: What are the experiences of psychosocial vulnerabilities and social influences among unmarried pregnant adolescents residing in institutional care? Accordingly, the study aimed to explore psychosocial vulnerabilities and social influences among unmarried pregnant adolescents residing in a government-operated protection institution in Malaysia.

Method

Research Design

This study employed a qualitative case study design to explore psychosocial vulnerabilities and social influences among unmarried pregnant adolescents residing in institutional care. A qualitative approach was appropriate because it enabled an in-depth exploration of how participants understood and described their experiences within their social and relational contexts (Creswell & Poth, 2018). The case study design

further facilitated a contextually grounded examination of these experiences within a bounded, real-life institutional setting (Yin, 2018). The adolescents' accounts constituted the primary analytic focus, while perspectives from institutional officers were used to provide contextual understanding and support data-source triangulation rather than constitute a separate primary unit of analysis.

Setting

The study was conducted in a government-operated protection institution under the Department of Social Welfare Malaysia in Perak, Malaysia. Within Malaysia's statutory child protection system, the Department of Social Welfare administers specialized residential institutions for children and adolescents requiring care, protection, and rehabilitation. The selected institution provides residential protection, rehabilitation, education, healthcare, vocational training, spiritual guidance, and psychosocial support for vulnerable female adolescents, including those experiencing pregnancy outside marriage. The site was selected because it provided direct access to the target population within a structured government-operated protection and rehabilitation setting. The specific institution and city are withheld to protect participants' confidentiality.

Sampling Procedures

Purposive sampling was used to recruit adolescents with direct experience of pregnancy outside marriage. Potential participants who met the study criteria were initially identified by designated institutional personnel acting as gatekeepers. The researchers subsequently explained the study to potentially eligible adolescents and sought their voluntary agreement to participate. Institutional personnel facilitated participant identification and access but did not determine the adolescents' decision to participate.

Sample adequacy was assessed progressively by examining the recurrence of information and the emergence of new codes and thematic patterns across interviews. Progressively less substantively new information emerged across the later interviews. This assessment considered the focused study aim and the specificity of the participant group rather than relying solely on a predetermined numerical threshold (Hennink & Kaiser, 2022).

Four institutional officers were also purposively selected based on their professional roles and direct involvement in the care and support of the adolescents. Their accounts provided contextual perspectives and supported data-source triangulation rather than constituting a separate primary unit of analysis.

Inclusion and Exclusion Criteria

Adolescent participants were eligible if they were female adolescents aged 13 to 18 years, pregnant outside marriage at the time of data collection, residing at the institution during the data collection period, and willing and able to participate in an in-depth interview. Adolescents were excluded if they were unable to communicate effectively, were considered by the institution's psychology officer to be emotionally unable to participate in the interview, or declined to participate. The psychology officer determined interview suitability based on the adolescent's emotional condition and ability to participate safely. No formal psychological screening instrument was administered by the research team. Institutional officers were eligible if they were directly involved in the management, care, counselling, healthcare, or educational support of the adolescents. Officers who were not directly involved in providing such support or who declined to participate were excluded.

Participants

The final analytical sample comprised nine Malay Muslim female adolescents aged 14 to 17 years who were residing in the institution and were pregnant at the time of data collection. Four institutional officers also participated to provide contextual perspectives and support data-source triangulation. They comprised a psychology officer, the head of the institution, a social welfare assistant, and a nurse. Their accounts complemented the adolescents' narratives and were not treated as a separate primary dataset.

Interview Questions and Data Collection

Data were collected through individual, face-to-face, semi-structured in-depth interviews. Adolescent interviews were conducted first, followed by interviews with the four institutional officers. The principal investigator led the interviews, while the student researcher assisted with follow-up questions and probing, took field notes, and managed the audio recording. The interviewers had relevant backgrounds in social psychology and qualitative research. In addition, the principal investigator had training and experience in psychosocial support, guidance, and trauma-related issues. Neither had a prior relationship with the participants. Throughout the research process, they remained attentive to how their roles and the sensitive nature of the topic could influence participants' disclosure and data interpretation. All interviews were conducted in Malay (Bahasa Melayu) in a private setting within the institution, lasted approximately 45–90 minutes, and were audio-recorded with participants' permission. Officer interviews provided contextual perspectives and supported data-source triangulation of the adolescents' accounts.

Separate semi-structured interview guides were developed for adolescents and institutional officers based on the study objective and relevant literature. The guides were reviewed by four experts in counseling, social work, social psychology, and Islamic psychology for relevance, clarity, sensitivity, and appropriateness. The adolescent interview guide was subsequently pilot-tested with three individuals with characteristics similar to the study participants, and the pilot data were excluded from the analysis. Minor refinements were made to the wording, sequence, and probing questions following expert review and pilot testing. Open-ended questions and follow-up probes facilitated detailed accounts, and the interview guides were not structured according to predetermined categories derived from the social influence theory (Kelman, 1958, 2006).

Field notes were recorded during the interviews to document relevant contextual information and nonverbal cues. Interviews were transcribed in Malay and checked against the audio recordings for accuracy. Analysis was conducted using the original Malay-language transcripts, while selected quotations were translated into English at the reporting stage with attention to preserving their original meaning.

Ethical Considerations

Given that the adolescent participants were minors residing in institutional care and the interviews involved sensitive personal experiences, particular attention was given to voluntariness, privacy, confidentiality, and emotional well-being. Guardian consent was obtained in accordance with the approved ethical procedures. Institutional personnel facilitated the process by coordinating with the adolescents' parents or legal guardians and documenting their consent before the interviews commenced. Each adolescent also provided voluntary assent to participate. Before the interviews, participants were informed about the study procedures, confidentiality, and their right to decline any question or withdraw at any time without negative consequences. Institutional personnel facilitated access but did not determine the adolescents' decisions to participate.

Interviews were conducted individually in a private setting, and identification codes were used instead of participants' names during transcription, analysis, and reporting. Participants' emotional well-being was monitored throughout the interviews. If signs of distress emerged, the interview was paused, participants were given time to recover, and they could decide whether to continue or discontinue without pressure. Written informed consent was obtained separately from all institutional officers.

Data Analysis

The interview data were analyzed manually using thematic analysis following the six-phase framework proposed by Braun and Clarke (2006, 2021). The analysis was conducted using the original Malay-language transcripts to preserve the contextual and culturally embedded meanings expressed by the participants. During familiarization, the transcripts were repeatedly reviewed to develop an in-depth understanding of the data. Initial coding was conducted in a data-driven manner through close examination of the transcripts. Meaningful words, phrases, sentences, and segments relevant to the research question

were identified and assigned descriptive codes based on their underlying meanings rather than predetermined theoretical categories. The social influence theory (Kelman, 1958, 2006) was introduced only after the initial data-driven coding and development of themes had been completed. Similar codes were compared across the dataset to identify recurring patterns and conceptual similarities.

Related codes were subsequently grouped into broader categories and preliminary themes. The student researcher conducted the initial coding, which was subsequently reviewed and refined by the principal investigator. The developing themes were reviewed against the coded extracts and the complete dataset to assess their coherence, distinctiveness, and consistency with participants' accounts. Where necessary, themes and their associated codes were refined, merged, separated, or renamed before the final thematic structure was established. The revised thematic structure was further discussed with members of the research team.

The social influence theory (Kelman, 1958, 2006) was subsequently used to interpret socially influenced experiences, particularly those involving peer and romantic relationships. The data-derived themes were retained and were not reorganized according to Kelman's categories of compliance, identification, and internalization. Experiences involving coercion, exploitation, or sexual violence were interpreted separately with attention to power, vulnerability, and substantially constrained or absent voluntary choice.

Data Rigor

Several strategies were employed to enhance the trustworthiness of the study, including peer checking, targeted member checking, data-source triangulation, and maintenance of an audit trail (Creswell & Miller, 2000; Lincoln & Guba, 1985). Peer checking involved discussions with the principal investigator and research team members to review coding, theme development, and interpretation. Targeted member checking was conducted when clarification of specific responses was required to ensure that the researchers' interpretations remained consistent with participants' intended meanings. Data-source triangulation involved comparing adolescents' accounts with supplementary perspectives from institutional officers to provide contextual clarification (Creswell & Miller, 2000). An audit trail comprising original transcripts, coding records, theme development, analytical decisions, and field notes was maintained to support the dependability and confirmability of the findings (Lincoln & Guba, 1985). Representative verbatim quotations were also used to demonstrate the connection between participants' accounts and the researchers' interpretations.

Results

The findings are presented in two sections. The first describes the participants' sociodemographic and pregnancy-related characteristics, while the second presents the thematic findings concerning the psychosocial vulnerabilities and social influences surrounding their pregnancy experiences. The adolescents ($n = 9$), identified by codes A1–A9, constituted the primary source of data, while the institutional officers ($n = 4$), identified by codes O1–O4, provided supplementary contextual information.

Participant Characteristics

The final analytical sample comprised nine Malay Muslim female adolescents aged 14 to 17 years residing in a government-operated protection institution under the Department of Social Welfare Malaysia. Participants had varied educational backgrounds and were between five and nine months pregnant at the time of the interviews. Eight were experiencing their first pregnancy, while one was experiencing a second pregnancy. The reported age at first pregnancy ranged from 12 to 16 years. All participants were from households classified within Malaysia's Bottom 40% (B40) household income group, which represents the lowest 40% of households in the national household income distribution (Department of Statistics Malaysia [DOSM], 2023). Seven reported parental divorce. The individual characteristics of the adolescent participants are presented in Table 1.

Table 1
Characteristics of Adolescent Participants

Participant	Age	Educational level	Pregnancy duration	Parental marital status	Age at first pregnancy	Pregnancy order
A1	15	Form 2	6 months	Divorced	14	First
A2	15	Form 1	6 months	Divorced	14	First
A3	15	Form 1	9 months	Divorced	13	First
A4	14	Standard 6	5 months	Divorced	12	Second
A5	17	Form 3	9 months	Divorced	16	First
A6	16	Form 3	9 months	Divorced	15	First
A7	17	TVET	7 months	Divorced	16	First
A8	17	Form 5	6 months	Married	16	First
A9	16	Form 3	8 months	Married	15	First

Thematic Findings

Thematic analysis identified five themes: (i) adverse family and relational contexts; (ii) sexual coercion, exploitation, and violence; (iii) peer and partner social influence; (iv) digital contexts of relationships and interpersonal exposure; and (v) behavioral and social challenges. These themes represent distinct but interconnected dimensions of participants' experiences, encompassing relational circumstances, coercion and social influence, digital contexts of interpersonal exposure, and behavioral and social challenges. Importantly, participants' accounts reflected differing degrees of voluntary choice, ranging from interpersonal persuasion and peer influence to force, non-consent, and circumstances in which voluntary choice was severely constrained or absent.

Theme 1: Adverse Family and Relational Contexts

The first theme reflected adverse family and relational contexts, including limited parental supervision and emotional support, disrupted caregiving arrangements, and exposure to violence or abuse. These experiences were interpreted as contexts of psychosocial vulnerability rather than direct causes of pregnancy.

Limited Parental Supervision and Emotional Support

Several participants described limited parental monitoring and emotional availability. A1 reflected on changes in her father's involvement:

"I started to wonder why my father never cared when I left the house. He asked where I was going, and then I said I was going out. He's not like before. Dad used to ask who I was going out with and what time I would be back, but now he doesn't ask any of that anymore." (A1)

This account illustrates how reduced parental monitoring was experienced alongside a perceived decline in emotional involvement, reflecting both supervisory and relational dimensions of family vulnerability.

Family Disruption and Caregiving Instability

Participants also described parental divorce, prolonged parental absence, and changes in caregiving arrangements. A1 explained: "After they got divorced, our family was no longer the same as before, and I felt stressed... Dad is not like he used to be... whenever I call Mom, she makes excuses, saying she's busy." (A1)

A5 described difficulty adjusting after moving from her grandmother's care to her mother: "When I lived with my grandmother, my mother never came to see me. Then, when I finally lived with my own mother, it felt different, strange... Grandma is loving, she understands." (A5)

Together, these accounts show how family disruption involved not only changes in caregiving arrangements but also perceived losses of emotional connection and support.

Exposure to Family Violence and Abuse

Some participants also reported violence and abuse within the family. A4 described: “Because he is violent, he likes to hit my mom and me sometimes at home. I’m scared to avoid him.” (A4)

A8 similarly reported: “I have been beaten by that uncle from a young age until now... He took drugs, so if he didn’t get what he wanted, he would hit.” (A8)

An institutional officer provided further context regarding severe family vulnerability: “I did not see the problem as originating from the adolescents themselves; I saw the source as coming from the parents. There was even a pregnant adolescent whose own mother prostituted her.” (O4)

Taken together, these accounts indicate family environments characterized by limited support, disrupted caregiving, violence, or exploitation, representing contexts of psychosocial vulnerability rather than deterministic precursors to pregnancy.

Theme 2: Sexual Coercion, Exploitation, and Violence

This theme captured experiences involving sexual coercion, exploitation, and violence in circumstances where participants’ capacity for voluntary choice was substantially constrained or absent. Two subthemes were identified: forced and non-consensual sexual experiences and exploitative situations involving severely constrained voluntary choice.

Forced and Non-Consensual Sexual Experiences

Some participants described sexual experiences involving force, fear of violence, or inability to resist. A4 explicitly described her experience as rape: “I was raped, it was forced, but my mother didn’t know at that time... I didn’t reject him because I was afraid of being beaten... he always hits me on the back.” (A4)

A8 described being taken to an abandoned location where she was unable to escape and subsequently lost consciousness:

“After arriving at that abandoned house, I wanted to try to escape, but couldn’t because there were many men outside... At that time, I was unconscious. Waking up in the middle of the night... suddenly realizing I was naked... Then I ran to the bathroom, and I cried.” (A8)

These accounts involved force, fear, inability to escape, or loss of consciousness and were therefore interpreted as non-consensual experiences in which voluntary choice was severely constrained or absent.

An institutional officer provided contextual support for the presence of sexual violence among adolescents in institutional care: “I once had a case involving a 12-year-old when I first reported for duty here in 2022. The 12-year-old had been raped by her cousin.” (O1)

Exploitative Situations Involving Severely Constrained Voluntary Choice

Other participants described situations initially facilitated by peers or acquaintances that subsequently involved fear, incapacitation, or inability to leave. A2 explained: “I just followed everything... then her friend came over... At that moment, I was scared, couldn’t run away because it was a residential area with many men around.” (A2)

A9 similarly described accepting a drink from a friend before losing consciousness: “She gave me a drink, not sure what it was... I was tired, so I just drank it. Suddenly, I lost consciousness. Then this happened.” (A9)

Although peers or acquaintances facilitated these situations, the subsequent experiences were not interpreted as ordinary peer influence because participants’ capacity for voluntary choice became substantially constrained. An institutional officer similarly observed: “Not all of these cases are consensual... Some have friends who sell them to other people; they did not want that to happen.” (O3)

Taken together, these accounts demonstrate a consistent distinction between situations involving interpersonal influence and those characterized by force, fear, incapacitation, exploitation, or inability to escape. The latter were interpreted as coercive or exploitative experiences in which voluntary choice was substantially constrained or absent, rather than as social influence or voluntary risk-taking.

Theme 3: Peer and Partner Social Influence

This theme reflected experiences in which peer or romantic relationships influenced participants' sexual involvement while some capacity for voluntary choice remained. Two subthemes were identified: (i) Partner Persuasion and Relational Influence and (ii) Peer Influence and Social Facilitation.

Partner Persuasion and Relational Influence

Some participants described how persuasion or reassurance from intimate partners influenced their decisions. A1 explained: "At first, I didn't want to do any of that because I was afraid of getting pregnant at that time. Then he said it's okay. Then I just let it be." (A1)

A5 similarly described changing her decision after repeated persuasion: "At that time, I didn't want to sleep at his house because I wanted to go home since I had work tomorrow. Then he kept persuading me... before I knew it, I followed him back to his house." (A5)

Across these accounts, partner influence operated through persuasion and reassurance rather than force, with participants describing changes in their initial decisions while retaining some capacity for voluntary choice. This pattern distinguishes relational influence from the coercive experiences described in Theme 2. An institutional officer similarly observed: "From what I have seen, many of the consensual cases involve their boyfriends. The cases I personally handled were with boyfriends rather than rape." (O1)

Peer Influence and Social Facilitation

Peer relationships also facilitated some social situations in which sexual involvement occurred. A7 described:

"Before this, I had never had sex at all, it only started in Form 3. The first-time having sex, it was my female friend who suggested checking in... She brought her fiancé, and then we checked into a hotel." (A7)

This account illustrates how peer influence operated through the facilitation of a social situation in which sexual involvement became possible, rather than through explicit force. Overall, peer and partner influence occurred through persuasion, reassurance, and facilitation where some capacity for voluntary choice remained, distinguishing these experiences from coercion, exploitation, and sexual violence.

Theme 4: Digital Contexts of Relationships and Interpersonal Exposure

Digital environments emerged as interpersonal contexts through which participants established or maintained contact with peers, romantic interests, and unfamiliar individuals. A2 described becoming acquainted with an older female through Instagram: "She said she wanted to find an adik angkat [younger-sister figure] online on Instagram. Then I just believed her when she said she wanted to be my kakak angkat [older-sister figure]." (A2)

A6 similarly described meeting an unfamiliar male through Telegram: "At first, I met that guy on Telegram, my friend gave me the ID... Don't even know him, but recognize his face because he sent a picture." (A6)

These accounts indicate that digital platforms expanded participants' interpersonal networks by enabling contact and relationship formation with individuals beyond their immediate face-to-face social environments. An institutional officer similarly described a relationship that originated through digital communication: "There was a former resident who was involved with a foreigner man. She met him through her phone, and when her mother went out, she invited him to the house." (O4)

Overall, digital platforms functioned as interpersonal contexts for contact and relationship formation rather than as direct causes of pregnancy. Their relevance depended on the nature of the relationships and interactions that developed through these environments.

Theme 5: Behavioral and Social Challenges

Participants also described behavioral and social challenges, particularly substance use and running away from home. These experiences were interpreted within broader family, peer, and relational contexts rather than as direct causes of pregnancy.

Substance Use and Social Contexts

Some participants described substance use within their broader social experiences. A7 reflected:

“I started rebelling in Standard 5 or 6, but not to this extent, just a different kind of wild. It started in Standard 4, when I started smoking and trying various things. After three years, then I started getting to know boys and all that, only then did I understand all about sex and everything.” (A7)

This account situates substance use within a broader pattern of changing social and relationship experiences, rather than indicating a direct progression from substance use to pregnancy.

Running Away in the Context of Family and Relationship Strain

Running away from home was described in relation to both romantic relationships and family strain. A3 reported:

“After that, for a few days, I ran away from home with him for five months. For those five months, I didn't go back home. I ran away from home last year, 2023, when I was in Form Two. Then I went back home. Then I acted up again, and I ran away with my boyfriend again for a week.” (A3)

A5 linked her experience more explicitly to family conflict: “I often run away from home because I'm sulking with mom, stressed about studying, and everything. The conflict with mom is about her affection for my siblings.” (A5)

The accounts indicate that running away occurred within differing relational circumstances, including romantic involvement and family conflict, rather than representing a uniform or direct pathway to pregnancy. A summary of the five themes and their analytic descriptions is provided in Table 2.

Table 2

Summary of Themes and Analytic Descriptions of Psychosocial Vulnerabilities and Social Influences

Theme	Analytic description
1. Adverse family and relational contexts	Family disruption, limited emotional support, caregiving instability, and exposure to violence or abuse reflected relational contexts of psychosocial vulnerability.
2. Sexual coercion, exploitation, and violence	Experiences involving force, fear, incapacitation, or inability to escape reflected circumstances in which voluntary choice was substantially constrained or absent.
3. Peer and partner social influence	Persuasion, reassurance, and social facilitation reflected interpersonal influence in circumstances where some capacity for voluntary choice remained.
4. Digital contexts of relationships and interpersonal exposure	Digital platforms expanded interpersonal contact and relationship formation beyond participants' immediate face-to-face social environments.
5. Behavioral and social challenges	Substance use and running away occurred within broader family, peer, and relational circumstances rather than representing direct pathways to pregnancy.

Discussion and Conclusion

Discussion of Main Results

This study explored psychosocial vulnerabilities and social influences among unmarried pregnant adolescents residing in institutional care. Five themes were identified, comprising adverse family and relational contexts, sexual coercion, exploitation, and violence, peer and partner social influence, digital contexts of relationships and interpersonal exposure, and behavioral and social challenges. Importantly, participants' accounts reflected differing degrees of voluntary choice. Some described persuasion or peer-facilitated situations in which some capacity for voluntary choice remained, whereas others reported force, non-consensual sexual activity, inability to escape, or loss of consciousness. This distinction indicates that pregnancy among unmarried adolescents should not be interpreted uniformly as an outcome of voluntary sexual risk behavior. Across the themes, family and relational vulnerabilities, peer and partner relationships, digital interpersonal contexts, and behavioral challenges sometimes intersected, while coercive and exploitative experiences remained conceptually distinct where voluntary choice was substantially constrained or absent. This combined pattern extends a risk-factor perspective by showing how participants' pregnancy experiences were embedded within interconnected social and relational contexts that differed in the degree of voluntary choice involved.

Adverse family and relational contexts included limited parental supervision and emotional support, caregiving instability, family disruption, and exposure to violence or abuse. Previous research has highlighted family support and psychosocial vulnerability in adolescent pregnancy (Boobpamala et al., 2019; Idris et al., 2022; Mohamad Fakhryamin et al., 2024). The present findings extend this evidence by showing how family disruption, limited emotional support, caregiving instability, and exposure to violence coexisted within the relational circumstances described by adolescents in institutional care. More broadly, relational resources such as attachment and social support are important for psychological well-being, with recent evidence indicating that supportive relationships may contribute to well-being partly through the satisfaction of basic psychological needs (Chen et al., 2025). This reinforces the importance of viewing family relationships as contexts of both vulnerability and psychosocial support. However, the present findings suggest that family adversity should not be interpreted as a deterministic precursor to pregnancy. Rather, these circumstances formed part of the broader relational environments within which participants navigated emotional difficulties, peer and partner relationships, access to interpersonal support, and, in some cases, unsafe situations.

The boundaries of the social influence theory (Kelman, 1958, 2006) are particularly important when interpreting experiences involving sexual coercion, exploitation, and violence. Participants described force, fear of physical harm, inability to escape, and loss of consciousness. Such experiences should not be interpreted as compliance, conformity, or ordinary social influence because coercive circumstances may substantially constrain or eliminate voluntary choice. Previous research has highlighted the developmental and relational conditions surrounding adolescent sexual assault (Bailey et al., 2024) and the coexistence of relational and socioeconomic vulnerabilities with exploitative circumstances and unequal power in unintended adolescent pregnancy (Harada et al., 2024). The present findings add an important distinction by showing that experiences involving force, fear, incapacitation, or inability to escape should be analytically separated from interpersonal influence where some capacity for voluntary choice remains.

Peer and partner relationships were particularly relevant to experiences in which social influence appeared to operate. Participants described partner persuasion, reassurance, and peer facilitation of interpersonal situations. The social influence theory provides a useful interpretive lens for these experiences through Kelman's (1958, 2006) processes of compliance, identification, and internalization. Partner persuasion may resemble compliance when adolescents respond to interpersonal influence while retaining some capacity for voluntary choice, whereas peer-facilitated situations may reflect identification when maintaining valued relationships or social belonging becomes salient. Nevertheless, the qualitative data do not permit definitive classification of individual participants into these theoretical processes. The theory is

therefore used to interpret socially mediated experiences in which some capacity for voluntary choice remains, rather than as a causal explanation of pregnancy.

Digital platforms represented another interpersonal context within participants' accounts. Instagram, WhatsApp, and Telegram enabled contact and relationships beyond participants' immediate offline networks. Malaysian research similarly indicates that digital environments can facilitate social interaction and connections beyond geographical boundaries (Mohd Zaharim et al., 2024). However, the present findings do not establish digital media as a direct cause of sexual behavior or pregnancy. Rather, digital environments functioned as relational spaces through which interpersonal interactions occurred. Research involving young people further indicates that online environments may expose them to sexual solicitation, manipulation, and exploitation (Fry et al., 2025; Schittenhelm et al., 2025). Thus, attention should focus on the nature and power dynamics of online interactions rather than technology use itself.

Behavioral and social challenges, including substance use and running away from home, also occurred within broader family and relational circumstances. Malaysian research has identified substance use, family circumstances, and peer interactions in relation to adolescent sexual behavior and pregnancy (Idris et al., 2022). The present findings extend this evidence by showing that substance use and running away occurred within broader family, peer, and relational contexts rather than as isolated factors associated with pregnancy. However, the retrospective qualitative design does not establish these behaviors as causes of pregnancy. Instead, they formed part of participants' broader social experiences and sometimes intersected with family strain, peer relationships, and romantic relationships. These findings support the interpretation of such behaviors within their broader social and relational contexts rather than as direct causes of pregnancy.

Theoretically, the findings support a bounded application of the social influence theory (Kelman, 1958, 2006) within behavioral science. The theory may help interpret peer and partner influence where some capacity for voluntary choice remains, but should not be extended to coercion, exploitation, or sexual violence. Recent research similarly highlights unequal power and relational vulnerability in adolescent sexual assault and unintended pregnancy (Bailey et al., 2024; Harada et al., 2024). Behavioral science interpretations should therefore consider social influence alongside power, vulnerability, and the capacity for voluntary choice.

Limitations

Several limitations should be considered when interpreting the findings. The study involved nine Malay Muslim adolescents from a single government-operated protection institution, making the findings context-specific rather than statistically generalizable (Lincoln & Guba, 1985; Yin, 2018). The retrospective and sensitive nature of the interviews, together with the presence and characteristics of the interviewers, may have influenced participants' recall and willingness to disclose sensitive experiences. The interpretation and development of themes may also have been influenced by the researchers' perspectives, although several strategies were used to enhance the trustworthiness of the analysis. Institutional officers provided supplementary contextual and triangulation data rather than an independent primary dataset. Although analysis was conducted using the original Malay transcripts, some linguistic or cultural nuance may have been reduced when selected quotations were translated into English. Finally, the qualitative case study design cannot establish temporal or causal relationships among the experiences identified (Yin, 2018). Future multi-site or longitudinal research could examine how these experiences develop and intersect over time.

Implications for Behavioral Science

At the applied level, the findings directly highlight the relevance of family and relational support, attention to peer and partner influence, digital safety, and trauma-informed responses to sexual coercion, exploitation, and violence within institutional care. More broadly, these findings, considered alongside the literature reviewed in this study, support comprehensive sexuality education and safeguarding approaches that address adolescents' wider psychosocial and relational contexts. Responses should avoid stigmatizing

adolescents or assuming that pregnancy necessarily reflects voluntary behavioral choice. Institutional personnel should be equipped to recognize differences in vulnerability and capacity for voluntary choice and respond appropriately to disclosures of coercion, exploitation, or violence.

Conclusion

In this qualitative case study of unmarried pregnant adolescents residing in a government-operated protection institution in Malaysia, participants described diverse and intersecting family, relational, digital, and behavioral contexts surrounding their pregnancy experiences. Some experiences reflected peer or partner social influence where some capacity for voluntary choice remained, whereas others involved coercion, sexual violence, exploitation, or substantially constrained or absent voluntary choice. The social influence theory provides a bounded interpretive lens for socially influenced experiences. These findings highlight the relevance of non-stigmatizing, trauma-informed responses that address relational support, digital safety, and protection from exploitation and violence.

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Declarations

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