

Exploring The Influence of Socialization Agents On Vaping Use Among Adolescents in Negeri Sembilan

Jaya Murugan Chandran¹, Ass.Prof.Dr.Abd Razak Zakaria², Prof.Dr.Zaharah Hussin³

^{1,2,3}Faculty of Education, Universiti Malaya, Kuala Lumpur, Malaysia

Abstract

The use of electronic vaporizers (vapes) among adolescents aged 13 to 17 has escalated into a complex cultural and public health crisis in Malaysia. Using an exploratory qualitative approach, this article analyzed the influence of various socialization agents on vaping tendencies among adolescents in Negeri Sembilan. Grounded in Bronfenbrenner's (1979) Ecological Systems Theory, this study maps the roles of primary socialization agents within the microsystem (family, peers, school), mesosystem, exosystem, and macrosystem (digital media, government policies). Primary qualitative data were collected through semi-structured, in-depth interviews with adolescent participants and vape vendors, field observations, and document analysis of policy frameworks, including the Control of Smoking Products for Public Health Act 2024 (Act 852). Furthermore, the methodological framework, encompassing data triangulation design, expert validation protocols, and thematic analysis procedures, is detailed comprehensively. This study provides theoretical and practical implications for the Ministry of Education Malaysia (MOE) and the Ministry of Health Malaysia (MOH) in formulating psychosocial intervention modules and enforcement policies for vape prevention grounded in local social ecosystems.

Keywords: Vaping, Socialization Agents, Adolescents, Bronfenbrenner's Ecological Theory, Negeri Sembilan, Act 852.

1. Introduction

1.1 Background of the Study

The phenomenon of vaping or Electronic Nicotine Delivery Systems (ENDS) among adolescents is no longer an isolated health issue. Rather, it has evolved into a complex cultural crisis aligned with the national agenda of 'Smoke-Free Malaysia 2030'. The transformation of smoking practices from conventional cigarettes to digital devices triggered national concern when the National Health and Morbidity Survey (NHMS, 2022) revealed a surge in vape usage among adolescents aged 13 to 17, rising from 9.8% in 2017 to 14.9% in 2022. Notably, this statistic signifies a social normalization process in which vaping is increasingly embraced as a contemporary lifestyle within the adolescent ecosystem. From a sociological perspective, this behavioral shift occurs actively through adolescents' interactions with various socialization agents in their immediate environments.

Contemporary socialization dynamics have blurred the boundaries between traditional and digital influences. An adolescent shapes their behavioral orientation based on what they observe and learn from their immediate surroundings (Bandura, 1977). In the context of vaping, primary socialization agents such as the family institution play a critical role, as lenient parental supervision or the presence of smoking modeling behaviors at home has been identified as reducing perceived risks among youth (Azamawaty Mohamad Nor, 2024). At the secondary level, peer influence is the dominant driver, driven by peer pressure and the need for social acceptance within group settings (Farah Atiqah Amran et al., 2023). This culture of peer imitation extends into schools, which currently face severe disciplinary challenges due to innovative vape devices disguised as everyday objects such as stationery and Universal Serial Bus (USB) drives (Lee Lam Thye, 2024).

Moreover, beyond physical institutions, the 21st-century adolescent socialization landscape has been radically transformed by social media as a digital socialization agent. Platforms like TikTok and Instagram propagate covert marketing tactics via social media influencers who display vaping activities as modern status symbols and aesthetic trends (Nurul Hidayah Hamid, 2025). This persistent virtual exposure is further reinforced by community agents through high market accessibility and social indifference among the general public (Nizam Baharom, 2025). The combined influence of these five socialization agents, such as family, school, peers, society, and social media, collectively forms an ecosystem that stimulates and sustains vaping behavior.

1.2 Problem Statement

The shift in nicotine consumption from conventional cigarettes to vaping devices has generated a multifaceted public health crisis. Although the Control of Smoking Products for Public Health Act 2024 (Act 852) has been enforced as a stringent legislative instrument, its implementation at the grassroots level faces various sociocultural anomalies. This study identifies five fundamental problem areas requiring in-depth qualitative exploration:

- 1. Sociocultural Normalization and Digital Ecosystem Influence:** The spread of aesthetic vaping content on social media is driven by sophisticated algorithms that portray vaping as part of modern youth identity. A significant narrative gap exists between public health messaging and digital influencer lifestyle narratives (Ramamurthi et al., 2023).
- 2. Supply Chain Evolution and Concealed Access Modes:** Although Act 852 prohibits online sales to minors, supply chains have shifted to Peer-to-Peer (P2P) models and encrypted messaging platforms, exploiting vulnerabilities in third-party logistics (Brown et al., 2025). The lack of qualitative data regarding this procurement ecosystem hinders effective prevention.
- 3. Device Innovations and Weaknesses in School Premises Control:** Device designs that mimic stationery, USB drives, and smartwatches have circumvented smoke-free zones in schools and evaded disciplinary inspections (Green et al., 2024; Ministry of Education [MOE], 2025).
- 4. Impact of High-Concentration Nicotine Dependence:** The use of high-concentration nicotine e-liquids without throat irritation accelerates physiological addiction, potentially impairing cognitive functions and triggering emotional instability (World Health Organization [WHO], 2024; Smith & Jones, 2023).
- 5. Gap Between Legislative Intent and Youth Psychological Acceptance:** A disconnect exists between policy objectives (such as the Generational End Game [GEG] policy) and youth perceptions, where adolescents view bans as an infringement on personal autonomy (Lian et al., 2024).

1.3 Research Objectives and Questions

This study is anchored on five primary objectives and corresponding research questions, as summarized in Table 1.1:

Table 1.1: Mapping of Research Objectives and Research Questions

No.	Research Objectives	Research Questions
1	To identify socialization agents influencing vaping use among adolescents in Negeri Sembilan.	What socialization agents contribute to adolescent involvement in vaping activities in Negeri Sembilan?
2	To explore the impacts of vaping use among adolescents in Negeri Sembilan.	What are the effects experienced by adolescents as a result of vaping in Negeri Sembilan?
3	To identify the modes by which adolescents obtain vaping products in Negeri Sembilan.	How do adolescents gain access to vaping products in Negeri Sembilan?
4	To analyze habituated adolescent behaviors associated with vaping in Negeri Sembilan.	To what extent does vaping impact habituated adolescent behavior in Negeri Sembilan?
5	To analyze the culture of vaping normalization among adolescents in Negeri Sembilan.	To what extent has vaping become a normalized culture among adolescents in Negeri Sembilan?

1.4 Significance of the Study

The findings of this study offer significant contributions to key stakeholders:

- **Ministry of Education Malaysia (MOE):** Provides evidence-based guidance on designing health education programs, enhancing disciplinary counseling modules, and integrating vape-prevention elements into the Standard Curriculum and Assessment Document (DSKP), in line with the Malaysia Education Blueprint.
- **Ministry of Health Malaysia (MOH):** Delivers empirical qualitative data to evaluate the enforcement effectiveness of Act 852 (2024), support improvements in clinical vape or smoking cessation services, and reinforce the Smoke-Free Malaysia 2030 campaign.
- **Enforcement Agencies (AADK & PDRM):** Provide critical insights into operational modes of vape e-liquid adulteration with illicit substances (e.g., ketamine/magic mushrooms) and informal market distribution channels.
- **Society and Parents:** Enhances community awareness regarding early indicators of vaping, mitigates social

indifference, and strengthens family roles as protective factors.

1.5 Conceptual and Operational Definitions

- **Influence of Socialization Agents:** Operationally defined as the pressure, modeling, support, normative formation, or information exposure received by adolescents from five primary agents, such as family, school, peers, society, and social media, that encourage or sustain vaping behavior.
- **Vape:** Operationally defined as battery-powered electronic devices that heat e-liquids to produce aerosols/vapors. According to official MOH (2019) classifications and Act 852, this includes nicotine-containing and nicotine-free devices that pose risks of addiction and respiratory toxicity.
- **Adolescents:** Operationally defined as individuals in the biopsychosocial transition phase aged 13 to 17 years (secondary school students) residing in Negeri Sembilan, representing the target cohort of the NHMS (2022).

2. Literature Review and Theoretical Framework

2.1 Theoretical Framework: Bronfenbrenner's Ecological Systems Theory (1979)

This study adopts Uri Bronfenbrenner's (1979) Ecological Systems Theory as its primary analytical lens. The theory posits that human behavioral development is interactively influenced by nested environmental systems:

- **Microsystem:** The immediate environment interacting directly with the adolescent. This study encompasses direct interactions with peers, family dynamics at home, and school environments. Unsupervised home environments and peer pressure act directly within the microsystem.
- **Mesosystem:** Interconnections between two or more microsystems (e.g., parent-school communication, or alignment/conflict between family values and peer culture). Weak mesosystem links facilitate the spread of vaping normalization (Mohamad et al., 2023).
- **Exosystem:** External settings that do not involve the adolescent directly but indirectly impact them, such as parental workplaces, retail or kiosk management policies, and social media platform algorithms.
- **Macrosystem:** The overarching cultural context, encompassing sociocultural norms, modern subcultures, societal belief systems, and government legislation such as Act 852 and the delisting of nicotine from the Poisons Act 1952.
- **Chronosystem:** Socio-historical dimensions and socio-technological changes over time, such as the lifestyle transition from conventional cigarettes to portable digital vaping devices.

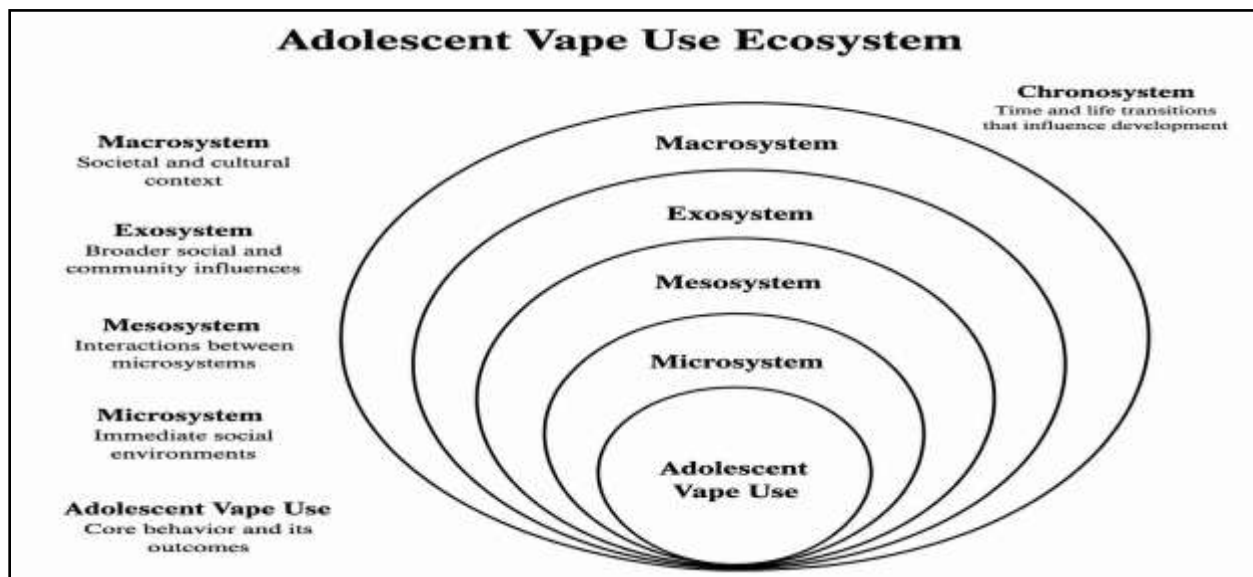


Figure 2.1: Conceptual Framework Based on Bronfenbrenner's Ecological Theory

2.2 Literature Review

- **Involvement Factors and Socialization Agents:** A study by Siti Hajar (2018), using the Theory of Planned Behavior (TPB), reported that peer attitudes and subjective norms significantly influence vaping intentions. Recent studies by Ghani et al. (2024) and Azmawaty Mohamad Nor (2024) confirmed that dysfunctional parenting styles and parental smoking modeling at home lower adolescents' perceived risks regarding nicotine hazards.
- **Role of Social Media and Marketing Strategies:** Research by PubMedal (2020) and Ramamurthi et al. (2023) revealed that over 78% of adolescents are exposed to online vaping promotions. The use of fruity flavorings and sleek, modern device designs serves as a psychological marketing strategy to capture youth test markets (Saran et al., 2022).
- **Physical and Mental Health Consequences:** Prolonged vaping is linked to severe lung injury, specifically E-cigarette or Vaping Product Use-Associated Lung Injury (EVALI) (MOH, 2019; Centre for Disease Control, 2020). Furthermore, studies by Timothy D. Becker et al. (2020) and Weixi Kang and Marvaso (2024) demonstrated a risk of mental health conditions, including chronic anxiety, depression, and severe psychological dependence caused by nicotine-induced neurobiological disruption.

3. Research Methodology

3.1 Research Design

This study adopts an exploratory qualitative research design. This approach was selected because the phenomenon of socialization-agent influences and vaping procurement dynamics among youth requires a contextual understanding grounded in the lived experiences and narratives of study participants (Creswell & Poth, 2018).

3.2 Study Location, Population, and Sampling

The study was conducted in the district of Seremban, Negeri Sembilan. This location was selected based on its mixed urban and suburban sociodemographic profile, which has seen rising trends in adolescent vaping, according to local reports.

Purposive sampling was employed to select participants who met established inclusion criteria. Sample size determination was guided by data saturation principles, whereby data collection ceased when no new themes or information emerged (Merriam & Tisdell, 2016). Participants comprised two key units of the analyzed groups:

1. **Adolescent Vape Users Group (4 Participants):** Adolescents aged 13 to 17 in Negeri Sembilan who are active vape users.
2. **Vape Vendors Group (2 Participants):** Vape vendors operating physical shops or informal businesses in Seremban to provide supply-side and market perspectives.

3.3 Data Collection Techniques and Triangulation

To ensure trustworthiness and validity, this study employed a data triangulation strategy that combined three primary data collection methods (Patton, 2015).

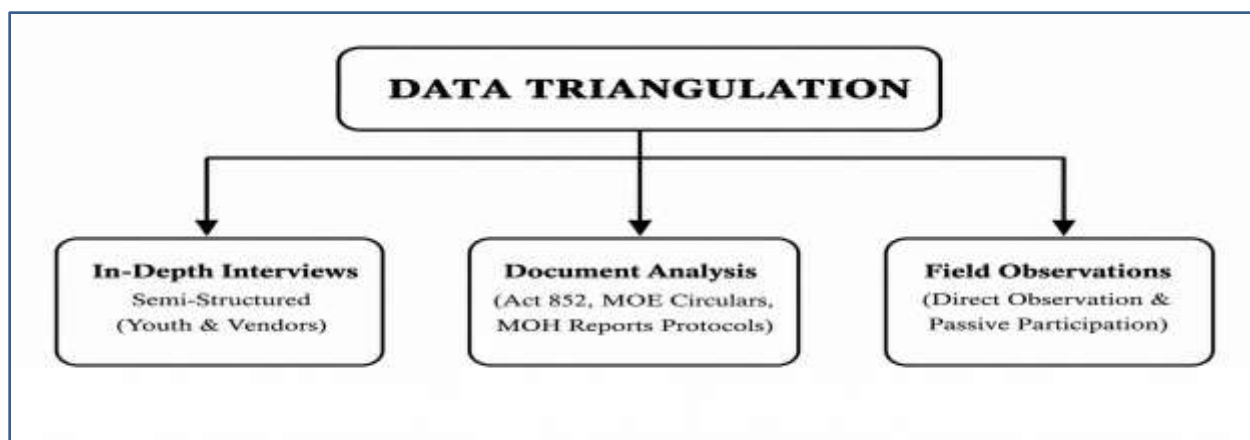


Figure 3.1: Data Triangulation Matrix

3.3.1 Semi-Structured In-Depth Interviews

Interview sessions were conducted using semi-structured interview protocols aligned with the research questions. Questions were open-ended to allow participants to express their experiences independently.

3.3.2 Field Observations

Field observations utilized direct observation and passive participation at youth hotspots, such as areas near schools, commercial kiosks, and community gathering spaces, to record social interaction patterns and vaping behaviors.

3.3.3 Document Analysis

Document analysis was conducted on official legislative and policy documents, including the Control of Smoking Products for Public Health Act 2024 (Act 852), MOE Professional Circular No. 17/2015, NHMS (2022) survey reports, and official MOH EVALI reports.

3.4 Instrument Validity and Trustworthiness

To ensure instrument validity and data quality, interview and observation protocols underwent expert validation (expert judgment) by a panel comprising experts in educational sociology, adolescent psychology, and qualitative methodology from public universities.

Table 3.1: Summary Profile of Expert Panel for Instrument Validation

Expert	Area of Expertise	Validation Focus
Expert 1	Educational Sociology & Adolescent Development	Construct validity of socialization questions and peer/family interaction dynamics.
Expert 2	Counseling Psychology & Habituated Habitual Behavior	Validity of questions addressing cognitive effects, dependence, and emotional responses.

3.5 Data Analysis Procedures

Raw qualitative data from audio recordings were transcribed verbatim. The data analysis process utilized Thematic Analysis following Braun and Clarke's (2006) six-phase framework:

1. **Data Familiarization:** Repeated reading and listening to verbatim transcripts to gain immersion in the data.
2. **Initial Code Generation:** Labeling meaningful text segments relevant to the research questions.
3. **Searching for Themes:** Grouping derived codes into categories and sub-themes grounded in Bronfenbrenner's Ecological Theory.
4. **Reviewing Themes:** Reviewing candidate themes against coded extracts and the entire dataset.
5. **Defining and Naming Themes:** Refining and defining the specific essence of each theme.
6. **Producing the Report:** Presenting findings supported by verbatim participant quotations.

4. Implications and Strategic Recommendations

Based on the synthesis of Sections 1 to 3, this publication draft outlines strategic recommendations grounded in ecological systems theory for stakeholder implementation:

- **Development of Family-Based Psychosocial Intervention Modules:** Strengthening parent roles within the microsystem via modern parenting modules to enhance supervision and emotional communication.
- **Digital Market Audits and P2P Transaction Monitoring:** Tightening Act 852 enforcement across social media platforms and third-party logistics to dismantle illicit vape supply chains targeting minors.
- **Longitudinal Evaluation of Act 852 (2024) Efficacy:** Conducting continuous monitoring studies on the enforcement of display and advertising bans at retail premises and school zones.

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