

Structural Determinants of Risky Sexual Practices Among Ship Crew Members in Indonesia: A Qualitative Study

Mustar^{1*}, Hasnidar¹, Sulfianti¹, Khairil Asnan Haedar², Dyan Paramitha Darmayanti³

¹Faculty of Public Health, Universitas Sibatokkong Mambo, Sulawesi Selatan, Indonesia

²Faculty of Science, Universitas Sibatokkong Mambo, Sulawesi Selatan, Indonesia

³Faculty of Social Science, Universitas Negeri Makassar, Sulawesi Selatan, Indonesia

*Corresponding Author: E-mail: mustar@unsima.ac.id

ARTICLE INFO	ABSTRACT
<p>Manuscript Received: 15 Dec, 2025 Revised: 19 Apr, 2026 Accepted: 06 Jun, 2026 Date of Publication: 12 Jun, 2026 Volume: 9 Issue: 6 DOI: 10.56338/mppki.v9i6.9606</p>	<p>Introduction: Ship crews are highly susceptible of HIV infection. Masculinity (most of crews were men), highly mobile (less peer intervention), ease of commercial sexual intercourse, and emotional distress (limited working space and interaction) are the main drivers that tend to exacerbate crew's vulnerability to high-risk sexual behaviors. However, understanding their structural vulnerabilities (in socio-behavioral scope) remain underexplored. This study aims to examine the socioal, cultural, economic, and occupational factors that influence risky sexual behavior among ship crew members (ABK) in Ambon Port. with particular attention to masculinity norms, mobility, transactional sex, and emotional needs.</p> <p>Methods: Qualitative research approach was employed as the analysis basis of the analysis. Data were gathered using semi-structured, in-depth interviews with 25 male ship crews, recruited through snowball sampling. Pre-determined theories (i.e. hegemonic masculinity theory, sexual economy theory, and mobility and health risk frameworks) were utilized as scoping guide to analyze data thematically, focusing on the structural and psychosocial determinants of sexual risk behavior.</p> <p>Results: Lack of knowledge were not a factor to risky sexual behavior as many informants were aware of HIV risks. On the other hand, the behavior apparently embedded in hypermasculine peer cultures (e.g. normalizing promiscuity, stigmatize prophylactic use, and enforce conformity through social ostracism and marginalization. Crew's financial leverage enables them to have commercial sexual intercourse throughout ship's docking at a port. In addition, permissive culture, identity shifting, and emotional distress (e.g. loneliness, absence of peer-led moral control) alleviates as a coping mechanism.</p> <p>Conclusion: To address sexual risk behavior among ship crew members structural occupational health interventions are needed, which target the most well-heard crew to build community peer moral control. Our analysis highlights the importance of educate maritime workers via Port Health Officers, since the behavior done within a port or while the ship's docked. Site-specific interventions at ports should be the first mitigation to prevent risky behavior or at the very least, facilitate moral adherence to 'safety' practices.</p>
KEYWORDS	
<p>HIV Risk; Risky Sexual Behavior; Occupational Health; Masculinity Norms; Mobility; Transactional Sex</p>	
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INTRODUCTION

The global HIV/AIDS epidemic constitutes a major public health challenge shaped by the interaction of biomedical processes and social, economic, and cultural determinants. HIV is an RNA virus that progressively damages the immune system and may remain asymptomatic for years, facilitating undetected transmission primarily through sexual contact, blood exposure, and mother-to-child routes (1,2). As of 2021, about 38.4 million people reported were living with HIV worldwide, with 650,000 AIDS-related deaths, while Indonesia reported 36,902 cases, predominantly among men of productive age (25–49 years) (3). The epidemic is disproportionately concentrated among high-risk populations, including ship crew, whose occupational conditions (prolonged separation from families, high mobility, and relatively stable income) heighten vulnerability to risky sexual behavior (4). These intersecting factors are often conceptualized as the “3M” constellation (Man, Money, Mobility), describing highly-mobile men with financial leverage who are highly predisposed to engage in casual or transactional sex in port settings. Indeed, HIV can't be treated fully with the absence of a cure. However, its transmission can be effectively reduced through preventive strategies (e.g. mutual monogamy, using condom as safety measures, adherence to sterile practices, prevention of mother-to-child transmission, and well thought education, while antiretroviral therapy limited to viral suppression only).

The mobility risk framework established by UNAIDS has conceptualized a framework that incorporates the risks of high mobility as a factor influencing the transmission of infectious diseases (in this case, HIV). Mobility can weaken the (emotional) stabilizing effects of family and peers, thereby reducing social control (this control can prevent risky behavior) over individual behavior (3). In this case, ship crews, who are closely associated with high mobility from one port to another, are one medium for the proliferation of activities that risk HIV transmission, such as commercial sexual activity. The creation of a permissive environment, such as weak control among colleagues/peers and family, is a daily experience for ship crew members. Therefore, researchers believe that ship crew members are a vulnerable group and that special programs or interventions are needed to protect against these risky behaviors.

Risky sexual behavior is a form of expression that is created by multifactorial factors (e.g., financial conditions, gender interpretations, and psychological stress), in addition to a failure of moral values or a lack of knowledge. Economic theory of sexual risk behavior conceptualizes commercial activity as a market where men leverage financial resources to gain sexual access (5). This philosophical perspective simultaneously operates within the hegemonic masculinity perspective (6) – depicting male gender dominance in the workplace by glorifying physical aspects such as toughness, sexual prowess, and reckless behavior. Within this perspective, researchers identify reckless behavior as the riskiest determinant of sexual activity, where condom use can be neglected. Studies show that individuals (workers) with high mobility are negatively correlated with condom use – thus, a high risk of HIV transmission. Consequently, these individuals can become 'carriers' of infection to others who are not involved in commercial sexual transactions (7).

From the researchers' perspective, other studies discuss risk behavior by linking it to aspects of industrial dynamics (5), economic inequality (6,7), and the influence of friendships or peer or colleagues (8), rather than focusing on the work of ship crew itself as a categorization of vulnerable groups. While it is important to map the determinants of risky behavior, ignoring the occupation itself (where factors such as gender, financial situation, and psychological stress are inevitable) as a vulnerable category can obscure the preventive strategies that need to be formulated going forward. Consequently, existing oversight by the Port Health Office (KPP) has not systematically focused on crew members as a requirement to intervene in the determinants of risky behavior.

This gap is the objective of this study (from descriptive observation to academic critique – mapping the structural determinants of risky behavior). This study investigates the factors influencing risky sexual behavior among crew members in the work area of the Class II Ambon Port Health Office, focusing on the role of knowledge about the risk of HIV transmission, forms of self-control (both peer and personal), and interaction patterns among crew members.

METHOD

Data were gathered from 25 male ship crews using snowball sampling technique. The interview initiated by nonhierarchical key informant which is known to the researcher. Key informant was instructed to refer to the next

potential participants without ranks (deck vs. engine), ship types (cargo vs. passenger), and socioreligious backgrounds limitation. Recruitment desisted upon achieving thematic saturation (noted as the answer yielded the redundant responses). Participation was entirely voluntary, with informed consent obtained verbally, prior to interview from all participants and strict assurances of anonymity and confidentiality were upheld to encourage candid disclosure given the sensitivity of the topic. Ambon was purposively selected as the research site for socio-geographical and methodological reasons, as its location in eastern Indonesia and distance from the authors' institutional base in South Sulawesi helped reduce familiarity and relational bias, with additional history of reported HIV cases (five in 2019, seven in 2020, and three in 2021) and nearby commercial sex area. Prior to each interview, participants were provided with a plain-language information sheet informing the study's purpose, procedures, potential risks, and confidentiality measures. Participants were explicitly informed that their decision to participate or decline would not affect their employment or access to health services.

Qualitative approach was used as philosophical view of the data. Narrative technique was implemented to analyze transcripts. The interview instrument was based on three theoretical frameworks:

Gender and Masculinity Theory, which addresses how informants construct masculinity in relation to their social and work roles (D1), how sexual norms are interpreted as markers of masculinity (D2), and the influence of colleagues and the environment on individual masculinity (D3).

Sexual Economy Theory addresses questions addressing the role of economic resources in sexual matters, focusing on financial factors and accessibility to the sexual world (D4), perceptions between parties regarding condom use during sexual interactions (D5), and monetary-based decision-making (D6).

Mobility and Health Risk Theory was used to assess occupational mobility patterns through port stopover frequency (D7), the role of mobility in changing sexual behavior (D8), and the distribution of information regarding levels of sexual risk exposure (D9).

This research has been declared free from ethical review (exempted) by the Ethics Board of Makassar State University through Decree No. 1301/DST/UN36.6/TU/2026, so that all study implementation procedures are confirmed to be in accordance with the principles of the Council for International Organizations of Medical Sciences (CIOMS) International Ethical Guidelines (2016) and the Health Research Ethics Guidelines of the Ministry of Health of the Republic of Indonesia (2017).

Data analysis and coding procedures included verbatim and anonymized transcriptions of interview recordings. Inductive-deductive approach were implemented in thematic analysis. Initial open coding identified recurring concepts in the transcripts, which were then organized into codes aligned with the three theoretical frameworks. A conceptual matrix was constructed to map each informant's narrative against the nine analytical dimensions. Coding consistency was iteratively reviewed to refine theme resolution. Finally, a conceptual model presented in Figures 2–4 was constructed after coding to synthesize empirical relationships.

RESULTS

Coding Schema Table

Table 1. Coding schema and theoretical alignment

Analytical Dimension	Theoretical Framework	Illustrative Code / Empirical Grounding
1. Masculine Identity	Hegemonic Masculinity	"Real man," "sexual conquest," "toughness"
2. Social Norms of Sexuality	Hegemonic Masculinity	"Condoms = weakness," "casual sex is normal"
3. Social Pressure	Hegemonic Masculinity	"Teasing," "shaming," "are you a coward?"
4. Economic Exchange	Sexual Economy Theory	"Money buys access," "disposable cash"
5. Transaction Dynamics	Sexual Economy Theory	"Discount for no condom," "negotiation"
6. Economic Dependence	Sexual Economy Theory	"Validation," "control," "coping mechanism"
7. Frequency of Mobility	Mobility-Health Risk	"3–5 ports monthly," "repeated exposure"
8. Effect on Behavior	Mobility-Health Risk	"Faithful at home," "moral suspension"
9. Risk and Exposure	Mobility-Health Risk	"Unprotected sex," "STI history"

Informant Descriptions

The demographic profile of the 25 crew member informants reveals a predominantly secondary education background, with 73% having completed Senior High School (SHS). Smaller portions hold Junior High School (JHS) qualifications (11%), D3 diplomas (8%), D1 certifications (4%), and Baccalaureate degrees (4%), indicating a limited progression into higher education. Marital status distribution shows that half of the informants are married (50%), while the rest are either widowed (27%) or single (23%). In terms of professionalism, a positive correlation is observed between age and work experience, with most participants aged between 25 and 50 years and possessing 5 to over 30 years of work experience.

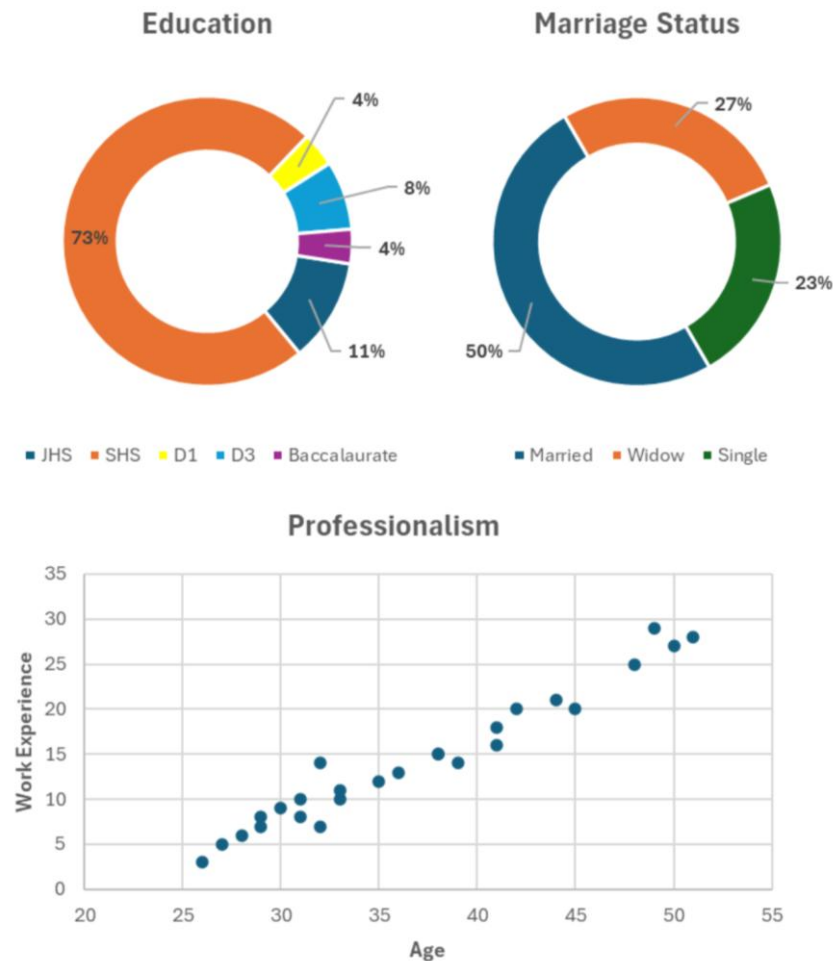


Figure 1. Informant descriptions

Dimensions of Risky Sexual Behavior among Ship Crews

Masculine Identity

The construction of masculine identity among ship crews (ABK) is deeply rooted in expectations of toughness, sexual prowess, and emotional restraint. Several participants ($n = 7$) equated being a “real man” with the ability to resist emotional weakness, provide financially, and demonstrate sexual experience. For example, W12 admitted that early in his career, he believed that masculinity was proven through “hot stories” and sexual conquests, a view reinforced by his peers. W14 bluntly stated, “*On this ship, a real man is the one who sleeps with a woman in every port.*” In contrast, others like W13 and W20 challenged this narrative. W13 asserted, “*True masculinity is about faith and being able to resist temptation,*” while W20 described real strength as being able to uphold integrity and commitment to family despite peer pressure.

Social Norms of Sexuality

Normative expectations around sexuality onboard the ship emphasized casual sex as normal and even necessary. Condom use was often perceived negatively, associated with weakness or mistrust. Informants W1, W3, W22, and W24 admitted that they rarely used condoms, citing decreased pleasure or feeling embarrassed to buy them. Some WPS (female sex workers) themselves discouraged condom use, further complicating safe practices. Others, such as W23, acknowledged feeling conflicted, such as intellectually understanding the risk of HIV but emotionally swayed by peer influence and stigma against safe sex.

Social Pressure and Compliance

Peer pressure played a pivotal role in influencing ship crews' sexual behavior. Junior crew members such as W23 and W24 reported being teased or shamed for not participating in sexual activities, with remarks like “*Are you even a man?*” or “*Don't be a coward.*” W5 also highlighted the social tension: “*If you don't join in, they think you're weak.*” Several men (W21, W25) described scenarios where they reluctantly joined in on visits to sex workers simply to avoid exclusion or ridicule. These pressures illustrate the normalization of high-risk behavior as part of the occupational culture.

Economic Exchange in Sexual Relationships

Transactional sex was a recurrent theme, often enabled by the ship crews' access to cash during port stays. Many participants, including W6, W12, W14, and W22, described sex as a common outlet during long voyages, and money as the primary facilitator. W24 candidly said, “*With money, I can get whatever I want.*” The economic element created both opportunity and temptation, especially in port cities where WPS services are readily accessible. Some even reported that WPS approached them first, knowing they had disposable cash.

Dynamics of Sexual Transactions

Negotiation regarding condom use was often present but frequently unsuccessful. Several informants (W22, W23, W24) attempted to insist on condom use but conceded when the WPS refused or offered a discount for unprotected sex. As W3 admitted, “*I didn't use a condom because she gave me a discount.*” W13 and W25 were exceptions, firm in their stance to withdraw from the transaction if condom use was not agreed upon. These accounts reflect an uneven power dynamic where safer practices are often undermined by immediate gratification or persuasion.

Economic Dependence

While most ABK had stable incomes, some demonstrated a pattern of emotional or psychological dependence on spending for sex as a form of validation or stress relief. W12 and W14 expressed that beyond physical satisfaction, paying for sex made them feel appreciated or “in control.” This dependence was framed as a coping mechanism for emotional needs unmet during months at sea. Others like W6 described the emptiness that followed such encounters: “*It felt better than loneliness, but still empty.*” This emotional economy reveals a deeper layer of vulnerability tied to masculinity, loneliness, and perceived value.

Frequency of Mobility

All informants experienced high geographic mobility, with many reporting stops in 3–5 ports monthly. Ports mentioned include Ambon, Tual, Sorong, Batam, Jayapura, and Manado. W22 noted visiting four ports in a month, while W23 reported five. This frequency created repeated exposure to environments where transactional sex was available and normalized. The availability of sex workers near docking areas (often within walking distance) further facilitated such behaviors. The repetition of this pattern over years of work entrenched certain behaviors into the routines of mobile labor.

The Effect of Mobility on Behavior

Ship crews overwhelmingly reported significant changes in their sexual behavior during port stays compared to their behavior at home. Many, like W22 and W24, described themselves as “faithful at home” but admitted to

feeling a kind of moral suspension while on land. W13 and W20 noted that loneliness, emotional fatigue, and absence of their families created a psychological disconnection that allowed them to engage in behavior they would otherwise avoid. This compartmentalization was central to how many reconciled their actions with their personal values.

Risk and Exposure

Risk-taking behavior was prevalent, with many informants engaging in unprotected sex despite knowing the potential consequences. W3, W22, and W24 confessed to recent encounters without condoms. W3 stated, "I know the risks, but I get bored reading HIV brochures." Some had learned the hard way; W4 and W20 contracted STIs in the past, which became wake-up calls that changed their behavior. Others, like W23, acknowledged the risks but accepted them as "part of the ship crew lifestyle." Notably, several informants now carry condoms (e.g., W21, W25), showing a shift toward harm reduction, even if inconsistent.

DISCUSSION

Dimensions of Risk

Risky sexual behaviors should be understood as a complex phenomenon, which is not rise from individual choices but from a multifactor determinant (i.e. confluence of psychosocial, structural, and cultural factors) that correspondently heighten susceptibility to sexually transmitted infections (STIs) (2). Our findings highlight the ways of hegemonic masculine, holding abundant cash, and established peer social norms sustain risky behaviors. These dimensions synergistically interacted to create a syndemic environment in which crews normalize high-risk sexual practices. Therefore, convergency of these factors are not an individual preference, but as a common ground of understanding among the ship crews. In this sense, intervention needs to apply communal approach.

Utilizing Connell's hegemonic masculinity framework, Baumeister and Vohs' sexual economy model, and UNAIDS' mobility-health risk paradigm covers broad values of analytical structure to examine the socio-cultural, economic, psychological aspects highlighted in transcripts. Socio-cultural value for masculinity advocate for behaviors that emphasize sexual confidence and emotional control, whereas economic values related to financial adequacy to involved in commercial sex activity (9,10). Additionally, professional roles induce identity change among ship crews could disrupt the social moral values held – wherein individuals adopt a situational alter ego that normalizes risky behavior.

Masculinity and Social Norms

The expression of masculinity among ship crews manifested as socially constructed performance that resonant to Connell 2016 (11) framework of hegemonic masculinity, which describe dominant cultural ideal of manhood that emphasizes physical strength, sexual dominance, emotional restraint, and patriarchal control over women and lesser masculinities. Our study reveals that for many ABKs, manhood is valued through reckless act of unprotected sexual conquests rather than committed and responsible relationship they had. To illustrate that, informant W14 stated, "*On this ship, the so-called real man is the one who can sleep with many women,*" a notion which was responded to by a small impromptu joke, where reticence or celibacy attracts ridicule, as in, "*You're a sissy, right?*" (W21, W24) and protected sexual practice (using condom) was framed as a sign of weakness (W3, W23). The observed patterns support Connell's argument regarding the maintenance of hegemonic masculinity through interpersonal monitoring and enforcement, in which men collectively uphold normative gender roles, thus continuing cycles of risk in occupational environments susceptible to STI spread (12,13).

Conversely, some ABK (W13 and W20) exemplified rejection to hypermasculine archetypes and redefine manhood through another perspectives which assimilate spiritual and emotional quotients, alongside commitment to monogamy. W13 stated, "*For me, being a real man is about faith,*" a sentiment echoed by W20's introspection "*A true sailor is not one who can conquer storms at sea, but also the storms in his own heart.*" These counter-narratives challenge singular representations of masculinity, suggesting that alternative inner reflection-oriented thought can exist even in environments with risky behavior determinants existed. Nonetheless, this act of defiance incurs psychosocial costs, such as ostracism, ridicule, and marginalization, which further highlight the rooted structural dominance of prevailing norms (14). These divergency of thoughts demonstrates that risky sexual behavior does not

stem solely from an educational gap, but rather from a dialectical tension between inherent values and coercive social norms (14–16).

Furthermore, hegemonic masculinity can be observed based on three-dimensional framework as mentioned in Merdassa (2024), such as proscriptive (restricting emotional expression, passivity, or sexual caution), prescriptive (requiring sexual assertiveness, financial generosity, and emotional resilience), and relational (regulating positional interactions with peers and women) (13). The prescriptive aspect is evident in representations of condom use as “*less masculine*” (W22, W23) or abstinence as “*sissy*” (W21, W24), which acts as performative tools of gender orientation. Traditionally, the concept of manhood is portrayed as involving abundant sexual activity and financial generosity, as illustrated by W14 “*a real man sleeps with a woman in every port,*” positioned sexual prowess as a matter of social respect. Moreover, regarding interpersonal-norms (17), seasonal ABKs exacerbate this phenomenon with subordination or pressure to guide newcomers to follow their values. This is illustrated by the experiences of W5 and W23, who faced ridicule for their non-conformity, thus institutionalizing risky sexual behavior as a rite of passage within the profession.

Other than peer-led indoctrination as mentioned above, risky sexual behavior is intensified by the ship itself, which creates suppression to individual expression and enhanced dominance favor among all subjects within (18). Comparative studies on mobile professions, such as truck drivers in Java, similarly reported the peer-fueled sexual audacity as a counterbalance to occupational disempowerment (19–21), which in parallel to ABK scenarios where hierarchical commands in a ship curtail autonomy at the expense of their health.

Moreover, religious principles adopted by W13 and W20 such as *menjaga diri* (self-preservation) and *tanggung jawab* (accountability) redefined masculinity as a manifestation of emotional sincerity and moral stewardship. This aligns with Merdassa (2024) about progression towards masculinity, which embraces emotional control and dedicated commitment, all while preserving the core attributes of masculinity (13). Ethnographic study of Muhibbuthabry et al. 2023 on Acehnese males explained that notion. Religiosity acts as a protective barrier or inner-limit against risks (in this context about sexuality) (22). This is exemplified by W13’s unwavering abstention in the face of allegations of “*sok suci*” (feigned piety), which underscores the capacity to morally strengthen efforts in reducing STI risks.

However, resistance as elucidated above costed psychosocially, as W11, W13, and W20 describe deep feelings of solitude and isolation. In theoretical view, it explained in the study of McKenzie et al. 2022 regarding various occupational groups exhibiting non-normative masculinities that lead to social alienation and psychological distress, despite better health outcomes (23). Therefore, it is essential to integrate gender-transformative approaches to shifts dominant barriers and promote resilient health-affirmative masculinities among the ABKs.

To better understand the masculinity and social norms of risky sexual behavior among informant, below Figure 2 visualize the concept baseline.

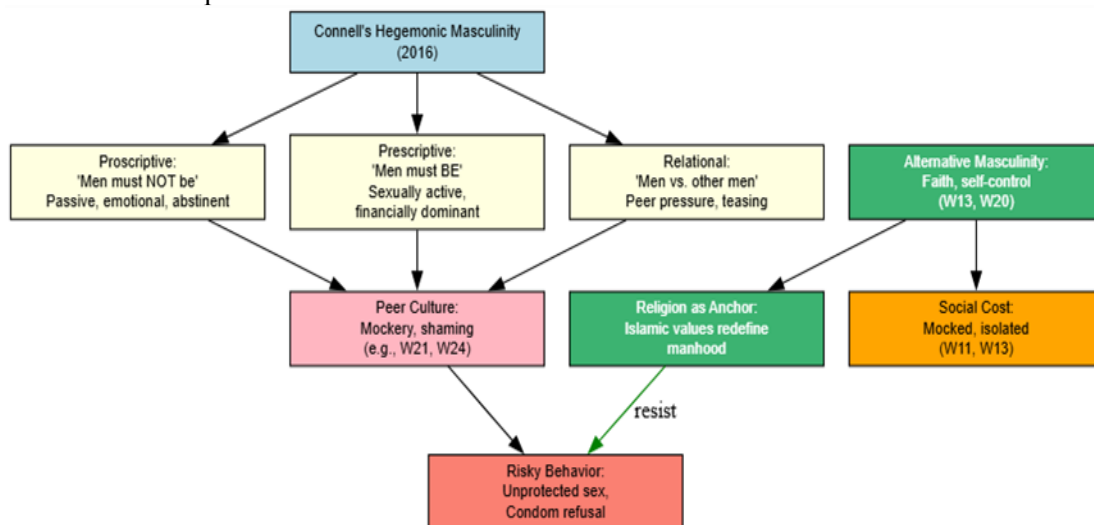


Figure 2. Masculinity and social norms of risky sexual behavior concept

The visualization above depicts the framework and impact of Connell's theory of hegemonic masculinity (2016) in relation to dangerous sexual behavior among ship crews. Central to this discussion is hegemonic masculinity, which functions through three interconnected discourses: proscriptive norms (attributes men should avoid, such as passivity or abstinence), prescriptive norms (attributes men should embody, such as sexual activity and financial dominance), and relational norms (the definition of masculinity in relation to other men, frequently characterized by peer comparison and rivalry). The convergence of these dimensions results in the establishment of peer culture, wherein mockery and shaming serve as mechanisms for social enforcement. The culture of masculinity contributes to risky sexual behaviors, as it is enhanced by communal dominant values.

Economic Drivers

The economic dimension significantly influences ship crews' sexual behavior, offering both the resources and motivation for participation in transactional sex. Baumeister & Vohs (2004) propose the Sexual Economy Theory, which elucidates the mediation of sexual access through market-like exchanges involving the trade of money, status, or goods for sexual favors (24). This study reveals that several ship crews acknowledged utilizing their income for purchasing sex, characterizing it as a customary outlet following extended voyages. The presence of cash in port cities such as Ambon facilitated the accessibility and normalization of transactional sex for many individuals. The commodification of sex establishes unequal power dynamics in condom negotiation. Certain crew members observed that sex workers provided discounts for unprotected sex, while others reported being discouraged from utilizing protection. The choice to forgo condoms was often characterized as an economic transaction rather than a health-related decision, underscoring the transactional logic inherent in the sexual economy of port environments. However, this economic exchange is not purely transactional; it is gendered, as spending money on sex serves to validate masculine status among peers, linking economic capacity directly to identity performance.

In addition to financial considerations, emotional and psychological factors also arise. Multiple informants utilized paid sex as a strategy to mitigate feelings of loneliness, boredom, or emotional disconnection, thereby linking economic behavior to emotional needs. The findings indicate that sexual risk encompasses not only physical necessity but also emotional and symbolic significance. The emotional dynamics inherent in these transactions complicate the straightforward assertion that "money buys sex," highlighting the necessity for interventions focused on the mental health and emotional well-being of ship crews.

Transactional sexual encounters among crew members are characterized by asymmetric power relations that complicate condom negotiation and heighten HIV risk. While crew members (ABK) possess economic capital, female sex workers (WPS) often exert situational control over the terms of intimacy, particularly by offering financial incentives for condomless sex. Several informants reported accepting discounts in exchange for unprotected intercourse, indicating that health decisions are frequently subordinated to economic and symbolic considerations. Condom refusal was also framed within a moral economy of intimacy, in which protection is interpreted as a sign of distrust or insufficient desire, thereby exerting emotional pressure on clients to comply. This dynamic reveals a paradox of power: despite initiating transactional sex, ABK often relinquish control over their own safety as performances of masculinity and the desire to appear generous or sexually authentic override rational risk assessment.

The economic dimension also includes in factor influencing ABK's risky sexual behavior, related to financial adequacy and motivation to participate in commercial sexual activity. Baumeister & Vohs (2004) propose the Sexual Economy Theory, which elucidates the mediation of sexual access through market-like exchanges involving the trade of money, status, or goods for sexual favors (24). As Baumeister & Vohs view, phenomenon observed in this study elucidates that several ABKs acknowledged the utilization of their income in commercial sexual activity as a customary spending. Certain ABKs informed that WPS provided discounts for unprotected sex, some also being discouraged to utilize protective measure. The choice to forgo condoms was often characterized as an economic transaction rather than a health-related decision, which underscores commerce-logic in sexual activity as risky behavior. In addition to financial aspect, emotional and psychological factors also arise. Multiple ABKs undergo commercial sex as feeling-aversion of loneliness and boredom, which links economic behavior to emotional needs. Thus, risk of commercial sexual intercourse can be viewed not only as physical necessity but also emotional and symbolic aversion.

Furthermore, commercial sex also viewed as an emotional coping mechanism. For many ABKs (n=16), commercial sex temporarily alleviates loneliness and as emotional suppression, which induced by prolonged periods at sea (where expressions of vulnerability are stigmatized and psychosocial support is limited). Informants described sexual activity as moments of relief that mitigate emotional emptiness (not purely to fulfill physical desire) (25,26). Hence, the commercial sexual intercourse being considered as a normal activity, which might led to risky sexual behavior, such as unprotected sex.

To better understand the economic drivers of risky sexual behavior among informant, below **Figure 3** visualize the concept baseline.

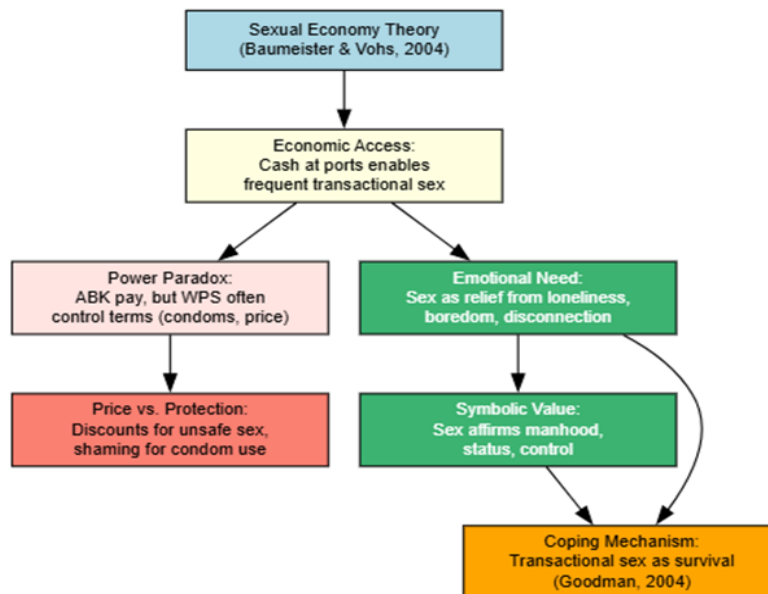


Figure 3. Empirical model of economic drivers derived from thematic analysis

Figure 3 examines the economic foundations of risky sexual behavior among ship crews using Sexual Economy Theory as a framework. The role of economic possession is decisive, as crew members (ABK) with cash-on-hand during port stops can access the commercial sex activity. However, as we observe from transactional lens, the ABK as 'consumer' who paid for the activity, frequently find themselves bound by the conditions requested or even established by female sex workers (WPS) without further considered protective measures. Negligence of the WPS's requirement might induce a sense of emasculation, which developed the perception of personal weakness.

Mobility and Behavior

Mobility, as conceptualized by UNAIDS (2021) is not limited to physical movement but also as a structural determinant of individual health by reshaping psycho-social orientation and behavioral decision-making (3,27). In this study context, frequent port movement, prolonged distance from home which led to emotional isolation and weaken normative social controls, intensified ABK's to risky sexual behavior (e.g. inducing risk-taking behavior, strengthened by permissive peer norms and adequate access to commercial sex) (28). Therefore, as a product of occupational environment, the ABKs experienced "moral free zones," which offers temporary relief from familial obligations because it removes the social surveillance, allowing the economic and masculine aspect to be developed onboard. These vulnerabilities are further intensified by the access factor to red-light district, sometimes disguised as legitimate commerce, creating an atmosphere as a localized "total institution" where transactional sex is immediate, accessible, and normalized (29–31).

Intervention Policy

Addressing risky sexual behavior among ship crews (ABK) should require a philosophical baseline, whether to intervene individual or communal values at once. Based on our exploration above, risky sexual behaviors are embedded on communal-values as the first layer, then hierarchical organization among ship crews further ameliorates

masculinity and peer-led values. Later on, the nature of the occupation itself (as a ship crew) led to the development of emotional pressures (e.g. boredom or loneliness or less controlled behavior) and streamlined with adequate financial and spatial access to the "red-light district". Although Indonesia has established a framework for HIV prevention through Presidential Regulation No. 124/2016, Permenkes No. 23/2022, and the National Action Plan for HIV and AIDS 2020–2024; the implementation seemingly focused on individual-level intervention (by educating risk group and therapy or antiviral treatment to the positive patients), which we see it as a gap for those potentially risked (1–3). That policy gap underscores the urgency of reclassifying populations based on occupation such as ship crew as a distinct bridging population within national HIV strategies and strengthening port-based interventions coordinated by Port Health Offices. Alongside educational intervention, complementary psychosocial and faith-based counseling can further mitigate emotional pressure on the voyages. Institutionalizing these measures through a formal cross-ministerial protocol is essential to ensure continuity, accountability, and resource allocation, thereby shifting HIV prevention for ship crews from individual to community-based intervention.

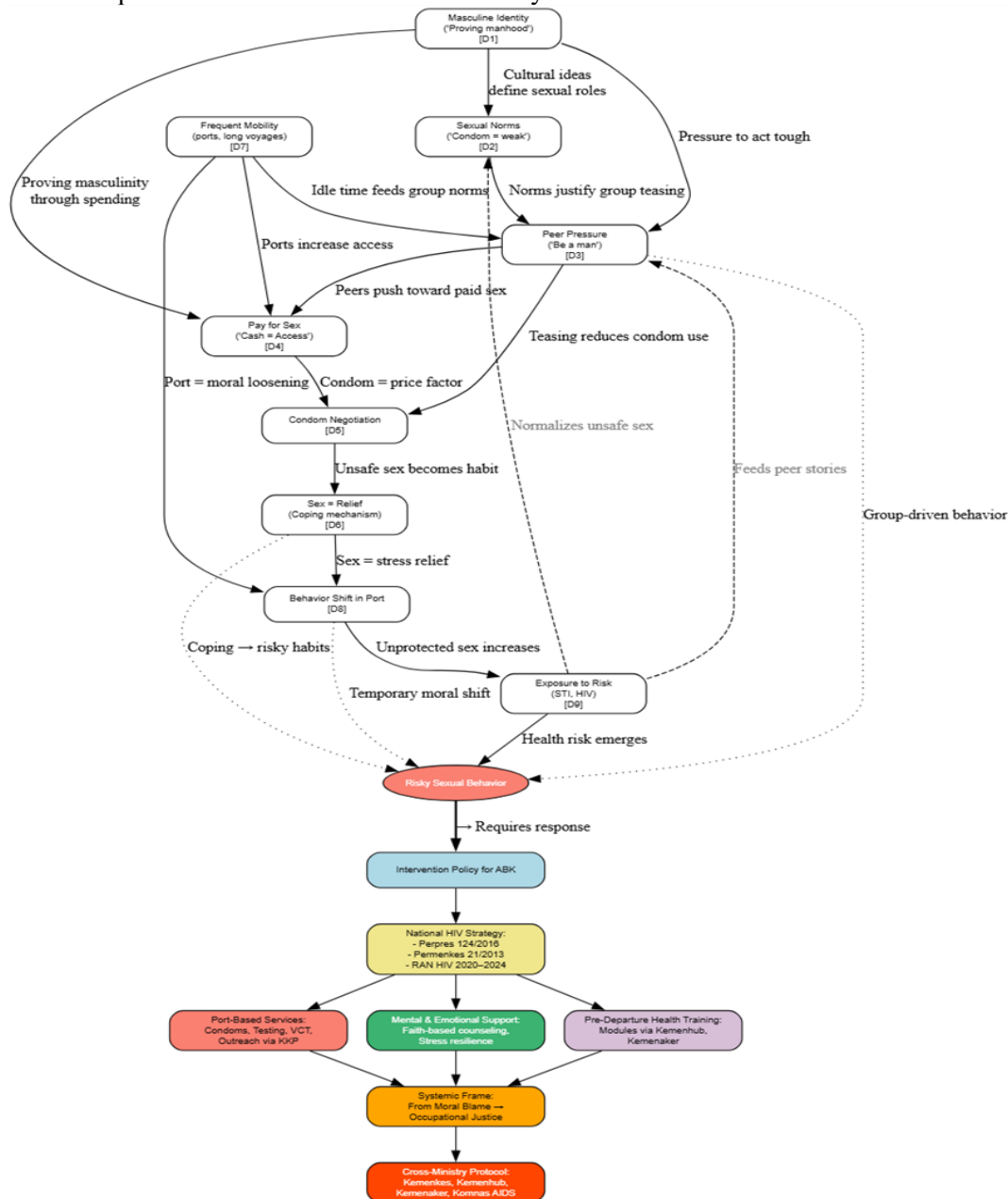


Figure 4. Integrated Structural Model and Intervention Framework Based on Empirical Findings

Theoretical and Practical Contributions

This study contributes to risky sexual behavior-led HIV transmission prevention studies by:

Demonstrated the emotional aspects of transactional sex economies and hegemonic masculinity as mediating mechanisms that link communal drivers to individual behavior (established supportive paradigm between mobility and health).

Practically, this analysis reframes occupational health interventions by demonstrating that risky behaviors are driven not by a lack of knowledge but by structural determinants. Consequently, we argue for a shift from individual-focused education to community-based interventions.

CONCLUSION

Risky sexual behavior among ship crews (ABK) converged from community-led values that strengthened individual pressure (both economic and psychologically). The reinforcement of masculinity at the locus involves the suppression of emotional expression (led to ostracism and mocked), the stigmatization of protective measure during sexual intercourse, and the hegemony of casual sex culture.

AUTHOR'S CONTRIBUTION STATEMENT

Mustar (A1), Hasnidar (A2), Sulfianti (A3), Khairil Asnan Haedar (A4), and Dyan Paramitha Darmayanti (A5). The study concept was developed by A1, A2, and A5, collectively. Data curation and collection both handled by A2, A3, and A4. For data analysis, A1, A4 and A5 contributed on this step. Moreover, A1, A2, and A3 prepared the manuscript, while A4 and A5 collectively validate and peer reviewed the writing.

CONFLICTS OF INTEREST

Author declares no conflict of interest.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

Authors used Grok AI and Quillbot to help with the writing clearance. No data were fabricated, as well as data analysis.

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BIBLIOGRAPHY

1. Arifin B, Rokhman MR, Zulkarnain Z, Perwitasari DA, Mangau M, Rauf S, et al. The knowledge mapping of HIV/AIDS in Indonesians living on six major islands using the Indonesian version of the HIV-KQ-18 instrument. *PLoS One* [Internet]. 2023 [cited 2026 Feb 18];18(11):e0293876. Available from: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0293876>
2. Pougnet R, Pougnet L, Dewitte JD, Rousseau C, Gourrier G, Lucas D, et al. Sexually transmitted infections in seafarers: 2020's perspectives based on a literature review from 2000–2020. *Int Marit Health* [Internet]. 2020 [cited 2026 Feb 18];71(3):166–73. Available from: <https://pubmed.ncbi.nlm.nih.gov/33001427/>
3. UNAIDS. AIDS, Crisis and the Power to Transform [Internet]. 2025. Available from: <https://www.unaids.org/en/resources/documents/2025/2025-global-aids-update>
4. Chowdhury SAA, Smith J, Trowsdale S, Leather S. HIV/AIDS, health and wellbeing study among International Transport Workers' Federation (ITF) seafarer affiliates. *Int Marit Health* [Internet]. 2016 [cited 2026 Feb 18];67(1):42–50. Available from: <https://pubmed.ncbi.nlm.nih.gov/27029929/>

5. Baumeister RF, Vohs KD. Sexual Economics: Sex as Female Resource for Social Exchange in Heterosexual Interactions. *Personality and Social Psychology Review* [Internet]. 2004 [cited 2026 Feb 18];8(4):339–63. Available from: <https://pubmed.ncbi.nlm.nih.gov/15582858/>
6. Connell RW. New directions in gender theory, masculinity research, and gender politics. *Ethnos* [Internet]. 1996 [cited 2026 Feb 18];61(3–4):157–76. Available from: <https://www.semanticscholar.org/paper/New-directions-in-gender-theory%2C-masculinity-and-Connell/cc24e56a4a2e5937ea1e8656c6d2b1cdac32e211>
7. Jocelyn, Nasution FM, Nasution NA, Asshiddiqi MH, Kimura NH, Siburian MHT, et al. HIV/AIDS in Indonesia: current treatment landscape, future therapeutic horizons, and herbal approaches. *Front Public Health* [Internet]. 2024 [cited 2026 Feb 18];12. Available from: <https://pubmed.ncbi.nlm.nih.gov/38420030/>
8. Inman EM, Zharima C, Hammock A, Violari A, Kidman R. The role of masculinity in HIV disclosure among adolescent South African boys living with HIV. *AIDS Care* [Internet]. 2025 Oct 3 [cited 2026 Feb 18];37(10):1785–94. Available from: <https://pubmed.ncbi.nlm.nih.gov/40838871/>
9. Gatanaga OS, Lanza DV, Pitts RA, Braithwaite RS, Lim S. Multi-level factors influencing HIV risk behaviors and oral PrEP use among Black and Latino men with heterosexual contact in New York City. *PLoS One* [Internet]. 2025 Jul 11 [cited 2026 Feb 18];20(7):e0327677. Available from: <https://pubmed.ncbi.nlm.nih.gov/40644436/>
10. Connell R. Masculinities in global perspective: hegemony, contestation, and changing structures of power. *Theory Soc* [Internet]. 2016 [cited 2026 Feb 18];45(4):303–18. Available from: <https://philpapers.org/rec/CONMIG>
11. Hergenrather KC, Emmanuel D, Zeglin RJ, Ruda DJ, Rhodes SD. Men Who Have Sex With Men and HIV Risk Behavior: Exploring the Influence of Masculinity Within the Social Ecological Model. *AIDS Education and Prevention* [Internet]. 2021 [cited 2026 Feb 18];33(6):511–33. Available from: <https://pubmed.ncbi.nlm.nih.gov/34874760/>
12. Merdassa AB. Traditional masculinity, peer pressure, and sensation seeking as correlates of risky behaviours. *Int J Adolesc Youth* [Internet]. 2024 [cited 2026 Feb 18];29(1). Available from: <https://www.tandfonline.com/doi/full/10.1080/02673843.2023.2298087>
13. Ani JI, Katende-Kyenda LN. Norms of Masculinities and Gender Socialization Among Young Boys in South Africa: Implications for Gender-Based Violence, Policies, and Interventions. *Sexes* [Internet]. 2025 Oct 2 [cited 2026 Feb 18];6(4):54. Available from: <https://www.mdpi.com/2411-5118/6/4/54>
14. Adrian H, Kuo C, Rasmeni A, Gana N, Orchowski LM, Berkowitz AD, et al. Correcting misperceived norms: An integrated intervention to prevent adolescent sexual violence and HIV in South Africa. *Glob Public Health* [Internet]. 2025 Dec 31 [cited 2026 Feb 18];20(1). Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12836470/>
15. Natalis A. Condom use in Indonesia: Interplay with societal norms and human rights. *Journal of Medicine, Surgery, and Public Health* [Internet]. 2026 Apr [cited 2026 Feb 18];8:100225. Available from: <https://www.sciencedirect.com/science/article/pii/S2949916X26000010>
16. Perales F, Kuskoff E, Flood M, King T. Like Father, Like Son: Empirical Insights into the Intergenerational Continuity of Masculinity Ideology. *Sex Roles* [Internet]. 2023 [cited 2026 Feb 18];88(9–10):399–412. Available from: https://www.researchgate.net/publication/369823128_Like_Father_Like_Son_Empirical_Insights_into_the_Intergenerational_Continuity_of_Masculinity_Ideology
17. Nilan P. Contemporary Masculinities and Young Men In Indonesia. *Indones Malay World* [Internet]. 2009 [cited 2026 Feb 18];37(109):327–44. Available from: <https://research-repository.uwa.edu.au/en/publications/contemporary-masculinities-and-young-men-in-indonesia/>
18. Putri FS, Herbawani CK. Risky Sexual Behavior among Men Who Have Sex with Men (MSM) in Indonesia: A Literature Review. *Jurnal Kesehatan Pasak Bumi Kalimantan* [Internet]. 2024 [cited 2026 Feb 18];7(1):36. Available from: https://www.researchgate.net/publication/391996690_Risky_Sexual_Behavior_among_Men_Who_Have_Sex_with_Men_MSM_in_Indonesia_A_Literature_Review

19. Singh R, Joshi H. Sexual behavior among truck drivers. *Indian J Public Health* [Internet]. 2012 [cited 2026 Feb 18];56(1):53. Available from: <https://pubmed.ncbi.nlm.nih.gov/22684174/>
20. Pachauri S, Pachauri A, Mittal K. Sexual Behaviors of Long-Distance Truck Drivers. In: *Sexual Health and Behaviour* [Internet]. 2022 [cited 2026 Feb 18]. p. 61–76. Available from: https://link.springer.com/chapter/10.1007/978-981-16-4578-5_5
21. Scott A, Davis-Sramek B. Driving in a man’s world: examining gender disparity in the trucking industry. *International Journal of Physical Distribution & Logistics Management* [Internet]. 2023 [cited 2026 Feb 18];53(3):330–53. Available from: <https://www.emerald.com/ijpdlm/article/53/3/330/163182/Driving-in-a-man-s-world-examining-gender>
22. Muhibbuthabry, Jailani, Siregar PA, Hutasoit EF. Qanun, religious education, religiosity and sexual activity among Muslim youth. *HTS: Theological Studies* [Internet]. 2023 [cited 2026 Feb 18];79(1). Available from: <https://hts.org.za/index.php/hts/article/view/8020/24191>
23. McKenzie SK, Oliffe JL, Black A, Collings S. Men’s Experiences of Mental Illness Stigma Across the Lifespan: A Scoping Review. *Am J Mens Health* [Internet]. 2022 [cited 2026 Feb 18];16(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/35125015/>
24. Goodman MK. Reading fair trade: political ecological imaginary and the moral economy of fair trade foods. *Polit Geogr* [Internet]. 2004 [cited 2026 Feb 18];23(7):891–915. Available from: https://www.researchgate.net/publication/223641403_Reading_Fair_Trade_Political_Ecological_Imaginary_and_the_Moral_Economy_of_Fair_Trade_Foods
25. Palomera J, Vetta T. Moral economy: Rethinking a radical concept. *Anthropological Theory* [Internet]. 2016 [cited 2026 Feb 18];16(4):413–32. Available from: <https://journals.sagepub.com/doi/10.1177/1463499616678097>
26. UNAIDS. *Confronting Inequalities: Lessons for pandemic responses from 40 years of AIDS* [Internet]. 2021 [cited 2026 Feb 18]. Available from: <https://www.unaids.org/en/resources/documents/2021/2021-global-aids-update>
27. Pollak C, Cotton K, Winter J, Blumen H. Health Outcomes Associated with Loneliness and Social Isolation in Older Adults Living with HIV: A Systematic Review. *AIDS Behav* [Internet]. 2025 Jan 4 [cited 2026 Feb 18];29(1):166–86. Available from: <https://pubmed.ncbi.nlm.nih.gov/39231919/>
28. Becker HS. The Politics of Presentation: Goffman and Total Institutions. *Symb Interact* [Internet]. 2003 [cited 2026 Feb 18];26(4):659–69. Available from: <https://www.cchla.ufpb.br/rbse/BeckerArt.pdf>
29. Schliehe AK. Re-discovering Goffman: contemporary carceral geography, the “total” institution and notes on heterotopia. *Geogr Ann Ser B* [Internet]. 2016 [cited 2026 Feb 18];98(1):19–35. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1111/geob.12087>
30. Waldmann G, Zippel S, Reinholz M, Fuchs C. From Misunderstanding to Marginalization: The Role of Knowledge in HIV-Related Discrimination and Risk Behavior Among Adolescents in Germany. *AIDS Patient Care STDS* [Internet]. 2025 Jul 1 [cited 2026 Feb 18];39(7):281–8. Available from: <https://pubmed.ncbi.nlm.nih.gov/40546098/>
31. Perpres. Peraturan Presiden (Perpres) Nomor 124 Tahun 2016 tentang Perubahan Atas Peraturan Presiden Nomor 75 Tahun 2006 Tentang Komisi Penanggulangan Aids Nasional [Internet]. Indonesia. Database Peraturan JDIH BPK; 2016 [cited 2026 Feb 18]. Available from: <https://peraturan.bpk.go.id/Details/41028/perpres-no-124-tahun-2016>
32. Permenkes. Peraturan Menteri Kesehatan Nomor 23 Tahun 2022 tentang Penanggulangan Human Immunodeficiency Virus, Acquired Immuno-Deficiency Syndrome, dan Inkubasi Menular Seksual [Internet]. Indonesia. Database Peraturan JDIH-BPK; 2022 [cited 2026 Feb 18]. Available from: <https://peraturan.bpk.go.id/Details/245543/permenkes-no-23-tahun-2022>