



Exploring Protective And Risk Factors Among Youth In High-Risk Areas

Amin Al Haadi Shafie^{1,2*}, Dini Farhana Baharudin^{1,2}, Khatijah Othman^{1,4}, Ahmad Najaa Mokhtar^{1,2}, Abdul Rashid Abdul Aziz², Nur Fatini Kamal², Suzaily Wahab³, Anita Priantina^{1,5}, Nurhafizah Yassin^{1,2}, Mohd Azwan Fakhruddin Abd Halim^{1,2}

¹Asian Centre for Research on Drug Abuse (ACREDA), Faculty of Leadership and Management, Universiti Sains Islam Malaysia, 71800 Bandar Baru Nilai, Nilai, Negeri Sembilan, Malaysia,

²Faculty of Leadership and Management, Universiti Sains Islam Malaysia, 71800 Bandar Baru Nilai, Nilai, Negeri Sembilan, Malaysia

³Psychiatric Department, Hospital Canselor Tuanku Muhriz, 56000 Cheras, Kuala Lumpur, Malaysia

⁴Faculty of Islamic Development Management, Universiti Islam Sultan Sharif Ali, Brunei Darussalam

⁵Islamic Economics Department, Institut Agama Islam Tazkia, Jl Ir. H Djuanda no 78 Sentul City Bogor 16810

*Corresponding Author: Amin Al Haadi Shafie

Email: amin@usim.edu.my

Citation: Amin Al Haadi Shafie, et al (2024), Exploring Protective And Risk Factors Among Youth In High-Risk Areas, *Educational Administration: Theory and Practice*, 30(5), 11922-11938

Doi: [10.53555/kuey.v30i5.5052](https://doi.org/10.53555/kuey.v30i5.5052)

ARTICLE INFO

ABSTRACT

This study examines the complex dynamics of protective and risk factors that impact substance abuse among youth in high-risk neighborhoods. Using a qualitative methodology based on interviews with young people from these neighborhoods, it illuminates the nuanced subtleties that shape their experiences. Internally, the findings reveal significant vulnerabilities among young people, with a notable proportion experiencing a lack of spiritual knowledge and practice (43%) and succumbing to curiosity (38%). Stress pressure (14%) and initiation through smoking (5%) were also identified as factors contributing to their vulnerability. From an external perspective, the negative influence of peers (28) emerged as an important risk factor, followed by inadequate parental education (24%) and family involvement with drugs (19%). The negative effects of a negative neighborhood environment (17%), parental separation (9%) and type of occupation (4%) were also evident. However, amidst these risks, certain protective factors were also identified. Internal spiritual knowledge and practice (33%), awareness of the dangers of drugs (30%), positive peer influence (24%) and assertiveness (13%) demonstrated resilience to negative influences. Robust external protective factors included the ability to choose friends (42%), the positive influence of family (43%) and the ability to avoid drug hubs (14%), emphasizing the importance of social support structures and informed choices in risk reduction. This research emphasizes the complexity of protective and risk factors impacting young people in high-risk areas and provides valuable insights for policy makers, practitioners, and communities to develop targeted interventions aimed at promoting resilience and safeguarding the wellbeing of vulnerable young people.

Keywords: Protective Factors, Risk Factors, Youth, Drug Abuse, Risk Area

INTRODUCTION

Drug abuse among young people is a growing concern, with studies showing an increase in substance use disorders during adolescence (Merikangas & McClair, 2012). The use of prescription drugs among adolescents has risen, posing a significant challenge to their health (McCabe et al., 2007). Parents often experience distress due to their adolescent children's substance abuse, highlighting the impact on families (Usher et al., 2007; Groenewald, 2018). Factors such as social support and parenting styles have been linked to increased access to drugs and higher chances of drug abuse among adolescents (Liu et al., 2022). Peer pressure, depression, and drug availability in neighborhoods are associated with a higher likelihood of youth engaging in drug abuse (Ahmed et al., 2022). The risk of drug addiction typically begins during adolescence (Naeim & Rezaeisharif, 2021). Young individuals are the primary victims of drug abuse, with substances like nicotine, alcohol, and

marijuana commonly abused (Sarker et al., 2023). The consequences of drug addiction among young people extend to health, safety, and economic implications (Ahad et al., 2017; Shazzad et al., 2014).

Adolescents' vulnerability to drug abuse is attributed to the self-exploration and decision-making typical of this stage of development (Zain et al., 2021). The impact of drug addiction on the brain chemistry of young people, especially with substances like methamphetamine, underscores the need to address the neurological effects of drug abuse (Abood, & Almashhedy, 2020). Social support, family dynamics, and socioeconomic status play crucial roles in preventing or exacerbating drug abuse among youth (Hamdan-Mansour, 2016; Ramba et al., 2019). The social environment, including family motivation and peer attitudes towards drugs, significantly influences young individuals' behaviors and choices regarding substance use (Ramba et al., 2019).

Drug abuse remains a significant issue in Malaysia, with a substantial portion of the prison population being incarcerated for drug-related offenses (Chie et al., 2015). Malaysia has struggled to combat drug abuse effectively, with opioid use prevalence being notably high compared to other Southeast Asian countries (Mukherjee et al., 2016). Opioids, particularly heroin and morphine, are the primary drugs of abuse in Malaysia, while amphetamine-type stimulants like ecstasy and methamphetamine are emerging as a growing concern (Du et al., 2020). The country has faced drug abuse challenges since the 1970s, with drug abuse being a major driver of HIV transmission in Malaysia (Chawarski et al., 2012).

Despite efforts to address drug addiction, Malaysia has historically lagged in providing adequate treatment for drug addiction and related disorders (Mazlan & Schottenfeld, 2006). The prevalence of drug abuse in Malaysia has led to severe societal consequences, including unemployment, crime, family disruption, and the transmission of diseases such as HIV and Hepatitis C (Nurulhuda et al., 2018). The Malaysian government declared drug abuse as the nation's "number one" enemy in 1983 due to its detrimental effects on health, economy, and social well-being (Fauziah et al., 2012). Efforts to address drug addiction in Malaysia have included the establishment of the National Anti-Drugs Agency in 2004 to tackle drug-related issues (Mustapha et al., 2020). Additionally, there have been initiatives to validate measures for drug abuse prevention programs in schools and communities to reduce substance abuse among adolescents in Malaysia (Razali & Kliewer, 2015). The country faces ongoing challenges in managing substance abuse effectively, with drug abuse being a persistent crisis that requires comprehensive and sustained efforts to address (Ahmad et al., 2021).

Studying the factors that contribute to drug addiction and those that serve as protective measures against substance abuse is crucial. This research seeks to identify and examine these factors among youth in high-risk areas of Malaysia, with an emphasis on comprehensively understanding both internal and external influences.

Research Objective

Given the complexities surrounding substance abuse among youth in high-risk areas, this study aims to analyze both protective and risk factors contributing to substance abuse behaviors. Specifically, it seeks to identify and understand the interplay between internal and external influences on substance abuse tendencies among young individuals in these contexts.

The objectives of this study are delineated as follows:

1. To explore the internal and external protective factors present among youth residing in high-risk areas.
2. To examine the internal and external risk factors contributing to substance abuse behaviors among youth in high-risk areas.

Research Questions

Building upon the research objectives, the following research questions are formulated:

1. What protective factors are evident among youth residing in high-risk areas, and how do these factors mitigate the propensity for substance abuse?
2. What are the predominant risk factors influencing substance abuse behaviors among youth in high-risk areas, and how do these factors manifest in their environments?

LITERATURE REVIEWS

Risk Factors

Drug abuse represents a complex issue shaped by an array of risk and protective factors. These risk factors encompass early aggressive behaviour, peer pressure, drug availability, poverty, lack of parental supervision, attitude towards drug use, negative family atmosphere, school difficulties, psychopathology, depression, positive attitude towards drug abuse, anxiety, sensation seeking, sleep problems, aggression, ADHD, learning disabilities, family members' substance abuse, family dynamics like changing marital status and conflicts, family poverty, and easy access to drugs in the community (Rejani, 2015; Swangpun et al., 2019; Jadidi & Nakhaee, 2014; Gordon, 1994). Genetic predispositions also contribute significantly to susceptibility to drug abuse, as evidenced by studies highlighting a substantial genetic influence on the risk of developing drug use disorders (Lin et al., 2003; Kendler et al., 2014). Additionally, environmental determinants such as low family socioeconomic status and neighborhood-level social deprivation have been associated with an elevated risk of drug abuse (Hoffmann & Cerbone, 2002), with children of drug-dependent parents being particularly vulnerable.

However, protective factors serve as buffers against drug abuse, including strong family support, positive peer influences, access to education, stable socioeconomic conditions, and effective coping mechanisms (T.G, 2015; Jadidi & Nakhaee, 2014). It is vital to comprehend the intricate interplay between these risk and protective factors to devise effective prevention and intervention strategies for addressing drug abuse, particularly among adolescents. Furthermore, research indicates that risk factors for drug abuse can be categorized into psychological characteristics, genetic predisposition, environmental influences, and social factors (Griffin & Botvin, 2010; Merikangas et al., 1998; Kendler et al., 2014). Poor self-esteem, low assertiveness, and poor behavioral self-control are psychological characteristics linked to substance use (Griffin & Botvin, 2010), while genetic factors significantly influence vulnerability to drug abuse through individual differences in drug effects, metabolism, sensitivity, and cognitive states (Merikangas et al., 1998; Kendler et al., 2014). Moreover, environmental factors at the household and neighborhood levels, such as low socioeconomic status and social deprivation, elevate the risk of drug abuse (Kendler et al., 2014). Adolescents face specific risk factors such as family members' substance abuse, family poverty, and easy access to drugs in the community (Nawi et al., 2021; Swangpun et al., 2019). Additionally, depression, positive attitudes toward drug abuse, anxiety, and sensation-seeking behavior are associated with an increased risk of drug abuse (Dabaghi et al., 2018), with child maltreatment indicating long-term impacts on drug abuse in adulthood (Elwyn & Smith, 2013). In summary, comprehending the multifaceted nature of risk factors for drug abuse, encompassing psychological, genetic, environmental, and social elements, is essential for developing effective prevention and intervention strategies to address drug abuse across various populations.

Protective Factors

Protective factors serve as vital shields against the scourge of drug abuse, nurturing resilience and fortitude amidst societal challenges. Extensive research has unveiled a rich tapestry of protective elements that stand as bulwarks against the tide of substance misuse. Employment, for instance, emerges as a beacon of stability, with studies showcasing its role in curbing drug abuse relapse (Doostian et al., 2019). Additionally, the bedrock of social support, manifest through strengthened teacher and peer relationships, ample caregiving resources, and nurturing school environments, has been shown to fortify individuals against the allure of drug abuse (T.G, 2015). This network of support not only fosters emotional resilience but also provides tangible resources and guidance crucial for navigating the tumultuous waters of adolescence. Furthermore, the sanctum of the family plays a pivotal role in safeguarding against the snares of drug abuse. Parental warmth, understanding, and a solid moral compass form the cornerstone of this defense, serving as powerful deterrents against adolescent drug experimentation (Liu et al., 2022; Belcher & Shinitzky, 1998). Similarly, the scaffolding of school bonding bolsters youth against a myriad of behavioral and health challenges, with robust connections within educational settings acting as a bulwark against drug abuse and its associated pitfalls (Hawkins et al., 2001). Moreover, the community at large contributes significantly to the protective matrix, with engaged neighborhoods fostering norms that eschew drug use while championing prosocial activities and constructive engagement (Wongtongkam et al., 2014). In tandem with familial and community support, individual attributes and societal frameworks further bolster the fortress against drug abuse. Strong bonds with parents, a firm commitment to religious values, and adherence to legal norms serve as linchpins in adolescent drug abuse prevention, instilling a sense of purpose and direction amidst potential pitfalls (Jessor et al., 1995). Concurrently, policy interventions, legal frameworks, and access to accurate drug-related information erect additional barriers against substance misuse, empowering individuals to make informed choices and resist the lures of addiction (Maring et al., 2012). Moreover, social interaction, genetic predispositions, and mental health factors intricately interweave with the fabric of protection, underscoring the multifaceted nature of resilience against drug abuse (Rawas & Saria, 2015; Comings, 1996; Nasirzadeh et al., 2013). In conclusion, the orchestration of multifaceted protective factors spanning individual, familial, community, and societal realms forms a formidable defense against the insidious encroachment of drug abuse. By fostering robust support networks, nurturing positive relationships, and bolstering individual and collective resilience, interventions can effectively stymie the tide of substance misuse, empowering individuals to lead healthier, more fulfilling lives.

Method

Qualitative Research Approach

The qualitative research approach allows for an in-depth examination of individuals' experiences, perceptions, and behaviors and provides nuanced insights that quantitative methods may overlook (Pope et al., 2002). Merriam and Tisdell (2015) emphasize the importance of qualitative methods in research, particularly for understanding and representing experiences. They argue for a basic qualitative design that allows researchers to engage with participants' experiences without focusing exclusively on the essence of a phenomenon. It is crucial to align the researcher's belief system, the research question and the qualitative approach chosen to ensure the rigor and validity of the research findings (Teherani et al., 2015). Furthermore, qualitative methods play an important role in providing detailed contextual information and enhancing the understanding of complicated processes and phenomena (Wilkinson et al., 2013; Tarin, 2017). By using qualitative data analysis techniques, researchers can shed light on the data and provide meaningful

explanations and interpretations that illuminate the intricacies of human behavior and decision making (Tarin, 2017). The use of qualitative research methods can also facilitate the effective involvement of participants by providing a methodological framework that encourages engagement and active participation in the research process (Tulle & Palmer, 2020).

Data Collection

The primary aim of this research is to explore the perceptions and practices related to spiritual concepts among young residents of high-risk areas. The study employs data collected through focus group discussions (FGDs) with participants. Qualitative research, as highlighted by Bloor (2016), offers a means to address social issues impacting practitioners through detailed descriptions that allow for inferences about life experiences. FGDs, rooted in participants' experiences and observations, facilitate exploration of thoughts or feelings on various issues, ideas, products, or services (Krueger & Casey, 2014). Participants engage in discussions akin to informal settings, uncovering a broad range of factors and perspectives within the discussed topic (Lauri, 2019).

Conducted in Malay language with the aid of an interview guide, the FGD interviews aim to elicit diverse insights. Focus group discussions, as defined by Bloor et al. (2000), serve as a qualitative research method to delve into participants' perspectives and experiences, particularly beneficial in social research for accessing participants' language and encouraging detailed accounts (Wilkinson, 1998). In the realm of medical education, focus groups have been utilized to assess undergraduate education and professional development (Barbour, 2005). Despite their utility, methodological considerations such as group size and composition require careful attention in focus group interviews (McLafferty, 2004). Nonetheless, despite these challenges, focus group discussions remain valuable for collecting diverse and rich data across various research contexts.

A preliminary pilot was conducted prior to formal interviews to refine the interview guide. In qualitative research, pilot interviews are significant for refining the main study and enhancing the interview guide, as emphasized by Majid et al. (2017). They play a crucial role in ethnographic studies by anticipating research problems, identifying gaps in data collection, and addressing broader issues such as research validity and ethics (Sampson, 2004). Furthermore, pilot studies contribute to testing research instruments, gaining insights into the research environment, and informing reflection for the main study (Brooks et al., 2016). The study comprises ten Focus Group Discussions (FGDs) representing relevant districts, each moderated by a single moderator dedicating approximately two hours to each session. Following a one-off interview protocol, this qualitative research avoids experimental or intervention aspects to ensure no direct impact on participants. Additionally, ethical approval for this study was obtained from two ethics boards: Universiti Kebangsaan Malaysia (UKM PPI/111/8/JEP-2020-174) and Universiti Sains Islam Malaysia (USIM/JKEP/2022/-202).

Sampling Method

The sampling method employed in this study centers on youth residing in identified hot spot areas, selected through purposive sampling. Consequently, the findings cannot be generalized to the entire community due to the specific nature of this sampling approach. Purposive sampling is utilized in this research to represent the specific scope of the sample size, while snowball sampling is subsequently employed to ensure the selection of genuine participants. Purposive sampling allows researchers to select individuals for a deeper understanding of the central phenomenon, while snowball sampling involves participants recommending others to be sampled during the study (Creswell, 2015). Purposive sampling, widely used in qualitative research, is favored for its ability to align the sample with research objectives, thereby enhancing the rigor and trustworthiness of the study (Campbell et al., 2020). Particularly valuable in implementation research, this method can be combined with other sampling strategies to better align with research goals (Palinkas et al., 2013). However, ethical considerations and potential biases should be carefully considered when employing purposive sampling (Denieffe, 2020). Participation in this study involved five participants in each of the ten groups, representing five states in Malaysia. The study focused on youth residing in hot spot areas with no history of substance abuse. Participants were selected based on criteria such as age (19 to 39 years), aligning with the National Anti-Drug Agency (NADA) definition in 2019. NADA identified five states with high substance abuse cases in Malaysia, from which two districts were selected in each state. Community leaders were then approached for referrals to suitable participants. Selection criteria included youth aged 19 to 39, residing in NADA-designated high-risk areas, and not involved in substance abuse. Exclusion criteria consisted of youth engaged in substance abuse and those diagnosed with mental illness. The sampling process involved defining the age range, receiving referrals from NADA for high substance abuse cases, identifying the top five states with drug addiction statistics, obtaining district lists from NADA, obtaining contact information for village leaders in hot spot districts, receiving respondent lists from village leaders, and utilizing the snowball method to acquire additional respondents from the initial referrals.

Interview Protocol

The interview protocol was adapted due to the Covid-19 pandemic, necessitating the use of Google Meet for conducting the Focus Group Discussion (FGD). Participants were informed of the FGD sessions' schedule, including the date and time, via telephone communication initiated by the moderator. Online Google Meet sessions were organized, grouping together ten respondents from the same district area, with moderation provided by enumerators trained previously by member researchers. To ensure smooth operation, participants

were reminded by the moderator to check their internet stability and join the discussion room fifteen minutes prior to the scheduled time. Upon confirmation of internet stability, the interview sessions commenced, each lasting two hours. As a token of appreciation, participants were later provided with tokens and certificates.

The recorded interviews underwent transcription and were subjected to thematic analysis, a widely utilized method for qualitatively analyzing interview data. Thematic analysis entails coding the data and constructing themes accordingly, with various approaches and applications. Jugder (2016) and Evans & Lewis (2018) illustrate the application of thematic analysis in exploring specific research questions. Braun et al. (2014) and Lawless and Chen (2019) elaborate on the method, with Braun highlighting the fluid nature of research questions and the necessity for open and exploratory approaches, while Lawless introduces a critical thematic analysis method considering power relations and ideologies. Thematic analysis offers both flexibility and depth for interpreting interview data. To evaluate the reliability of the interview guide, two raters with qualitative research experience were enlisted for assessment. According to Rau and Shih (2021), involving two raters is sufficient for calculating the coefficient value. Researchers determined the agreement coefficient value using Cohen's (1960, 1968) formula. After computation, the coefficient value for Rater 1 was found to be 0.7, and for Rater 2, it was 0.8. In accordance with Rau and Shih's (2021) interpretation using the Landis and Koch (1977) scale, a coefficient value between 0.61-0.8 is considered substantial, thus indicating the acceptability of the interview guide's coefficient value.

Finding and Discussion

Internal and External Risk Factor

Table 1 Internal and External Risk Factor

	Risk Factor	%
Internal Factor	Lack of spiritual knowledge and practice	43%
	Curiosity	38%
	Stress pressure	14%
	Started from smoking	5%
External Factor	Negative peer influence	28%
	Insufficient parental education	24%
	Family involvement with drugs	19%
	Negative neighbourhood environment	17%
	Parental separation	9%
	Type of occupation	4%

The table illustrates various internal risk factors contributing to drug abuse among youth. These factors include a lack of spiritual knowledge and practice, accounting for 43% of the instances observed. Curiosity represents another significant internal factor, contributing to 38% of cases. Stress pressure emerges as a notable risk factor, contributing to 14% of instances, while initiation through smoking constitutes 5% of the observed cases. These internal factors collectively highlight the diverse pathways through which youth may become susceptible to drug abuse within high-risk environments.

Lack of spiritual knowledge and practice

One of the interviewees states,

"So, for these underage teenagers, they are unaware of the effects and impacts of taking these prohibited drugs, and most of them do it just for fun." (Y-KL-7)

Exploring deeper, one perspective highlights the crucial role of individuals' relationship with Allah in influencing their choices and behaviors. According to this view, our connection with the divine serves as a guiding force, steering us away from harmful practices. RL-S-2 emphasizes,

"Firstly, in my opinion, the main issue why humans fall into such things is their relationship with Allah. Because we are created by Allah, we have the responsibility as His servants to draw closer to Him. If we do not have a close relationship with Allah, then bad things will arise. That's why, in my opinion, people fall into bad things."

Moreover, the discussion shifts towards the impact of family upbringing on religious adherence. Reflecting on this, a perspective highlights the significance of familial influence in shaping individuals' religious inclinations from a young age. SL-J-1 notes,

"Actually, it all comes back to family upbringing. When we grow up, we live by our own standards. But if we look at the situation now, most of the time, when people were young, if you go and do research with former addicts, ask them when they were young, did they pray, did they maintain their religion, did they read the Quran, what did their family do, was there prayer involved?"

Furthermore, the discourse expands to address the deficiency in spiritual practice as a contributing factor to drug involvement. This perspective underscores the importance of internalizing religious values for personal transformation. As YL-S-4 expressed,

"Then, the third factor is the lack of spiritual practice. Yes, for someone, their spiritual practice is lacking for internal application. Perhaps the values of religion are not being practiced."

Finally, the conversation underscores the reciprocal relationship between drug use and religious observance. It suggests that individuals may abandon religious practices as they delve deeper into substance abuse, seeking liberation from perceived constraints. NG-K-1 reflects,

"The reason why many people say, when someone is involved in drugs, they no longer pray or perform other religious practices, is because they don't like being bound by anything. For example, they want to be free from the obligations of prayer and everything else, maybe that's their perspective. But for us, that is the main point or cause for us to change."

Curiosity

There were some participants who shared the curiosity about the cause of drug and substance intake:

"Further, perhaps he feels the desire to try because if he doesn't try, it won't be enjoyable, meaning. He wants to try, maybe that's also one of the factors and that's it. Because if, if we were to say he doesn't know about drugs, it's impossible because it's impossible for someone not to know anything about drugs. That's why the feeling of wanting to try is overwhelming, that's why he tries and takes drugs." (Y-J-5)

"The factors that they are trapped in usually they want to test it themselves, they want to try, friends, they want to experience what people say, they want to feel something different." (RL-J-1)

"So, as I mentioned earlier, sometimes these teenagers want to try, right?" (SL-S-7)

"The second one, from the internal aspect as well, earlier if you mentioned about, what's it called, self-identity. When a person, a human being, wants to try something new. That's why he takes drugs." (YL-J-2)

"Among the factors, usually among ordinary teenagers, the feeling of wanting to try pushes teenagers to take those items." (NG-J-2)

The narratives stated by the participants above shows that, one of the reasons for a teenager being trapped in drug use is because of a sense of curiosity.

Stress Pressure

The narratives shared by participants shed light on various pathways leading to drug abuse. Y-J-5 pointed out that unresolved problems and a tendency to bottle up emotions often drive individuals to seek solace in substance abuse, highlighting the role of stress relief as a motivator,

"In my opinion, how a person can become ensnared in drug abuse, well, the first thing is, as usual, when there's a problem that they can't solve and they're the type who perhaps keeps things bottled up. A person who keeps things bottled up like that doesn't express themselves to others, so they seek a solution by turning to drugs to relieve stress."

Similarly, RL-S-2 highlighted the role of desperation and a perceived disconnect from religious beliefs as factors contributing to the search for solace through alcohol and drugs,

"When someone becomes desperate and feels distant from Allah, they will think about how to soothe their hearts. Among the ways to calm themselves is by drinking alcohol, taking drugs, and engaging in all sorts of activities prohibited by religion."

Furthermore, tensions and stressors in life were identified as triggers for drug abuse, with participants emphasizing the availability of alternative coping mechanisms to alleviate tension without resorting to substance use,

"Sometimes it's because of tension problems. I don't agree with that, because we have other activities to release tension. Those who say they want to release tension, feeling frazzled, resorting to drugs is an easy way to solve problems." (SL-K-9)

Lastly, the pressure of life itself was cited as a significant influence, with individuals perceiving drugs as a solution to all their problems, underscoring the complexity of factors driving drug abuse behaviors,

"In my opinion, the factor that influences drug abuse symptoms is the pressure of life. The life pressure makes a person feel that taking drugs will solve all their problems." (YL-S-4)

Started from smoking.

The shared experiences and observations underscore a common pattern of progression from smoking to experimenting with various substances among adolescents. Y-KL-10 noted that the journey often begins with cigarettes during secondary school years, serving as a gateway to further substance exploration,

"It typically starts with cigarettes, and then when they enter secondary school, they begin experimenting with various substances."

Another participant echoed this sentiment, highlighting the prevalence of smoking among schoolchildren and its role as an initial step towards substance involvement,

"Nowadays, I see even school kids smoking. It's not that by smoking they're necessarily doing drugs, but it's one of the easy paths for them to be approached. (RL-J-2) Initially, it's indeed with smoking. Then, they gradually upgrade to trying other substances, thinking that it's better to try these." (SL-J-3)

"They start with smoking, and then slowly they start with that stuff." (YL-S-3)

Furthermore, a participant with extensive experience in drug-related work emphasized the pivotal role of preventing smoking as a means to safeguard adolescents from drug involvement, suggesting a direct link between smoking initiation and subsequent substance abuse,

“But nowadays, in my observation, after more than 20 years of doing this drug-related work, if we want to prevent a teenager from getting involved with drugs, it's quite simple. We can stop them from smoking, and God willing, they'll be safe. Because there's no one who does drugs without smoking first, not yet.” (NG-J-1)

As for the external factors, negative peer influence emerges as a prominent external factor, contributing to 28% of observed instances. Insufficient parental education follows closely behind, accounting for 24% of cases. Family involvement with drugs represents another significant risk factor, contributing to 19% of instances. Moreover, negative neighbourhood environments contribute to 17% of cases, while parental separation and the type of occupation each contribute to 9% and 4% of observed instances, respectively. These external factors collectively underscore the diverse social and environmental influences that contribute to the susceptibility of youth to drug abuse within high-risk areas.

Negative peer influence

The narratives provided by participants underscore the pervasive influence of peer pressure in initiating and perpetuating substance use behaviors. Y-KL-9 highlighted how friends often serve as catalysts for experimentation, starting with smoking and progressing to more potent substances, with peer circles exerting a profound impact on individuals' choices,

“The influence of peer pressure plays a significant role in initiating substance use. Friends often encourage each other to try smoking, and once one indulges in smoking, they are then persuaded to experiment with other substances such as marijuana, ecstasy, or even harder drugs like syabu or heroin. As individuals mature, they may continue to explore other illicit substances, influenced by their social circle. This peer influence is cited as a key factor in individuals' involvement with drugs.”

Similarly, another participant emphasized the insidious nature of prolonged exposure to substance-using peers, which can gradually erode one's resolve to abstain and lead to adverse consequences,

“Even if we associate with individuals who engage in substance use, despite our own intentions to abstain, prolonged exposure can gradually lead us to partake, even if initially it's just for experimentation. However, continued association with such individuals can inevitably lead to adverse consequences due to our association with them.” (RL-S-2).

Furthermore, SL-S-6 noted the intricate interplay between social interactions and drug involvement, with social circles often facilitating and perpetuating substance use behaviors while complicating parental intervention efforts,

“Indeed, involvement in drugs often stems from social interactions. Social circles and peer groups, when mixed with drug use, create an environment where it becomes challenging for parents to intervene effectively. Sometimes, individuals become adept at concealing their activities, leading to further entrapment in harmful behaviors.”

YL-S-1 underscore the enduring nature of substance abuse, with individuals continuing their habits even after periods of incarceration, fueled by entrenched peer dynamics and social influences,

“Personal anecdotes further underscore the enduring nature of substance abuse. Even after experiencing incarceration, individuals may continue their substance use habits, maintaining their addiction despite the intervening period. This persistence, often fueled by peer influence and social dynamics, highlights the powerful hold that drug culture can have on individuals.”

Collectively, these perspectives highlight the profound impact of peer influence on individuals' involvement with drugs and underscore the challenges in mitigating its effects.

Insufficient parental education

Participants underscore the pivotal role of parental influence in shaping children's behaviors and choices, particularly regarding their susceptibility to drug addiction. One participant highlighted the significance of parental supervision and guidance in contrast to material generosity, emphasizing the critical role parents play in steering their children away from substance abuse,

“One of the most significant factors I've observed is parental influence. When parents are overly generous with money towards their children, these children become more comfortable associating with anyone they meet. Parental supervision is crucial (voice breaks) compared to anyone else and failing to provide it can lead children to fall into drug addiction.” (Y-K-4)

Similarly, another participant lamented the neglect of religious education by parents, suggesting that a lack of spiritual grounding contributes to children's vulnerability to external influences,

“This means that many contributing factors include the neglect of religious education for children, as parents are more focused on worldly pursuits.” (RL-KT-2)

Furthermore, SL-K-9 emphasized the fundamental importance of parental care and religious teachings in shaping children's values and decision-making processes, suggesting that a strong foundation in these areas can help children navigate peer influences more effectively,

“I believe it's the parents who fail to properly care for the family from the beginning, with very little emphasis on religious teachings. Children are left with too much freedom and are easily given money. External influences exist, but the influence of parents is the most significant; if parents educate their children well, God willing, they will choose their friends wisely.”

Moreover, in impoverished families, YL-S-1 observed a lack of parental attention and guidance, leaving children vulnerable to negative influences due to the absence of discipline and supervision,

“In impoverished families, the situation is different. The parents don't pay much attention to their children, neglecting them and leaving them to their own devices. Essentially, they're left unattended, meaning they're not disciplined or monitored closely by their parents. When children lack parental supervision and guidance, no one corrects their behavior.”

These perspectives collectively underscore the profound impact of parental involvement and guidance in mitigating the risk of substance abuse among children.

Family involvement with drugs

Participants also shared views on the significant impact of family dynamics on individuals' susceptibility to drug involvement. One participant highlighted the influence of family members' behaviors, such as selling drugs or smoking cigarettes, on individuals' decisions to turn to drugs, particularly when faced with the unavailability of cigarettes,

“Among the factors that can lead them into this situation is also the family. If there are family members selling drugs or if the father smokes cigarettes, it means many people turn to drugs because they run out of cigarettes.” (Y-K-7)

Similarly, RL-KT-1 emphasized the role of family dynamics, noting instances where siblings distribute drugs among themselves, perpetuating a cycle of substance abuse within the family unit,

“The type of family dynamic also plays a role, such as families where siblings distribute drugs among themselves.”

Furthermore, SL-K-4 drew from their experiences with NGOs and community committees to highlight the pervasive influence of family involvement in drug-related issues, with parental drug involvement often leading to their children's automatic involvement as well,

“Based on my experience with NGOs and community committees, the drug problem is largely caused by families; when parents are involved in drugs, their children automatically become involved as well.”

Additionally, YL-J-2 noted instances where family environments contribute significantly to drug use, citing examples of households with alcohol and other substances readily accessible to children,

“But what we see is not just the community, not just peers, or the environment that contributes to drug use. It happens within the family itself. If we look back to 2005, for instance, a teacher advised that 70% of students from religious schools in his area had certain items in their home refrigerators, such as alcohol and other impurities.”

Moreover, NG-K-1 observed patterns of intergenerational addiction within specific districts, indicating that children often inherit drug addiction from their parents, particularly in areas with high prevalence rates,

“Regarding drug addiction, based on my experience and what I observe now, I speak from my heart, that addiction occurs mainly in Kota Setar district, with most addicts in the Kuala Kedah area inheriting the addiction. Meaning, if the father is an addict, there will be children who will also be involved in drug addiction.”

These perspectives collectively underscore the complex interplay between family dynamics and drug involvement, emphasizing the need for targeted interventions at the family level to address substance abuse issues effectively.

Negative neighbourhood environment

The narratives provided by participants shed light on the detrimental influence of negative neighborhood environments on individuals' susceptibility to drug involvement. One participant highlighted the role of peer encouragement in initiating substance use, noting how friends influence each other to experiment with cigarettes and progress to more potent substances, ultimately leading to drug involvement,

“Encouragement from friends. Friends encourage each other to smoke cigarettes, so they do. After trying cigarettes, they encourage trying other things like marijuana, ecstasy, etc. And then when they grow up, they'll try other things like drugs, for example, methamphetamine, ecstasy, etc. All of these things are influenced by their friends, one of the factors why someone gets involved in drugs.” (Y-KL-9)

Similarly, another participant emphasized the insidious nature of social circles, where association with individuals engaging in substance use gradually draws others into similar behaviors, even if initially only for experimentation,

“If we associate with people who indulge in such things, even if we are good ourselves, gradually we will also get involved, even if it's just to try. But we will get affected because we associate with them.” (RL-S-2)

Furthermore, SL-S-6 underscored the challenges posed by social environments, noting instances where individuals become adept at concealing their activities and ultimately succumb to harmful behaviors due to peer pressure and social dynamics,

“Say if what they mean by being involved in these things is drugs, it's about the social circle. Socializing, mingling, that. Sometimes when things mix up, it can't be controlled by parents anymore. Sometimes they are clever at hiding things. Sometimes they get trapped in bad things.”

Moreover, YL-S-1 recounted personal anecdotes of friends who, despite experiencing incarceration, continued their substance use habits upon release, highlighting the enduring influence of negative social circles on individuals' behaviors,

“So my friends on both sides end up in jail, and whatnot. They come out and still smoke, they continue to smoke. Even if they've been inside for 2 or 3 years, praying and everything, when they come out of jail, they meet up with friends and hang out again, hmm, it's confirmed.”

These perspectives collectively underscore the profound impact of negative neighborhood environments on individuals' susceptibility to drug involvement, emphasizing the need for targeted interventions to address social influences effectively.

Parental separation

The testimonies provided by participants highlight the significant impact of family dynamics on individuals' vulnerability to substance abuse. One participant recounted how family problems, such as parental divorces or disputes among siblings, often leave individuals feeling emotionally vulnerable, increasing their susceptibility to negative influences,

“Most of the time, based on what my friends have shared, during their internships, many of them face family problems, possibly due to parents' divorces or disputes among siblings, which makes them more susceptible to being trapped. It's said that children who receive less attention from family members are even more prone to getting involved in such situations.” (Y-J-7)

Similarly, another participant emphasized the detrimental consequences of parental divorce on children's behavior, noting that parental unawareness of their children's activities can pave the way for drug addiction,

“When parents divorce, children may engage in negative behaviors. When parents are unaware of their children's activities and whereabouts, it often leads to the onset of drug addiction.” (SL-K-5)

Furthermore, YL-S-1 echoed these sentiments, acknowledging the prevalence of family issues, including parental divorce, among their acquaintances, and underscoring their potential role in facilitating individuals' involvement in risky behaviors,

“Perhaps one of the factors is also the family. Family issues, such as parental divorce, are prevalent among our acquaintances.”

Moreover, NG-J-2 highlighted the crucial role of parental stability and concern in mitigating the risk of substance abuse, noting that unstable family environments or parental neglect significantly heighten the likelihood of children engaging in such activities,

“Furthermore, another family factor is the role of parents. If the family is unstable, with parents showing little concern or being divorced, the likelihood of their children getting involved in such activities is significantly higher.”

These accounts collectively underscore the intricate interplay between family dynamics and individuals' susceptibility to substance abuse, underscoring the importance of familial support and stability in mitigating such risks.

Type of occupation

The narratives provided shed light on the various factors contributing to substance abuse among individuals engaged in physically demanding occupations. One participant highlighted the challenges faced by rural individuals in accessing formal education and employment opportunities, rendering them vulnerable to environmental influences due to their lack of exposure,

“Non-formal education cannot be denied, as rural individuals without identification cards, passports, or sufficient identification find it challenging to access education. Additionally, lack of exposure results in individuals having no employment prospects, leading to their susceptibility to environmental influences.” (Y-S-1)

Similarly, another participant noted the historical association of drug use with night shift workers, including military personnel and frontline workers, suggesting a correlation between occupational demands and substance abuse,

“It's commonly believed that initially, drugs were used by night shift workers, such as military personnel, the frontline workers.” (RL-S-1)

Furthermore, another participants emphasized the prevalence of drug use among individuals in specific occupational settings, such as fishing villages and labor-intensive industries, attributing it to the perceived need for enhanced performance and stamina

“In Kuala Kedah, the primary factor is the fishing village area. Many individuals resort to drugs to obtain extra energy for work, although it's merely a myth.” (SL-K-2)

“They take drugs to alleviate fatigue from strenuous work, such as heavy lifting or carrying heavy items, especially for those working in lorries who need to lift heavy loads and climb stairs, which can be physically taxing. They feel the need to replenish their energy as they find their tasks physically exhausting.” (YL-S-3)

Moreover, participants highlighted the potential advantages of drug use in sustaining prolonged physical exertion, particularly in occupations requiring continuous labor, such as farming or land clearing, underscoring the economic incentives driving substance abuse in certain work environments,

“Furthermore, individuals who use syabu are typically involved in laborious work like farming or clearing land, and they can endure up to 8 hours of continuous work compared to ordinary individuals who don't use drugs. Therefore, as employers, we may prefer individuals who can work continuously for 8 hours over those who work intermittently.” (NG-K-3)

These accounts collectively underscore the complex interplay between occupational demands, socioeconomic factors, and substance abuse, highlighting the need for targeted interventions to address the root causes of drug misuse in various occupational settings.

Internal and External Protecting Factor

Table 2 Internal and External Protecting Factor

Internal Factor	Spiritual knowledge and practice	33%
	Knowledge of drug dangers	30%
	Positive peer influence	24%
	Self-assertion	13%
External Factor	Friend selection skills	42%
	Positive family influence	43%
	Avoiding drug hubs	14%

The table outlines various internal protective factors that mitigate the risk of drug abuse among youth. Spiritual knowledge and practice emerge as a significant internal protective factor, contributing to 33% of observed instances. Knowledge of drug dangers follows closely behind, accounting for 30% of cases. Positive peer influence represents another crucial protective factor, contributing to 24% of instances. Additionally, self-assertion is identified as a protective factor, contributing to 13% of observed instances. These internal protective factors collectively highlight the importance of individual beliefs, awareness, and social connections in safeguarding youth against the risk of drug abuse within high-risk environments.

Spiritual knowledge and practice

Protective factors, particularly those rooted in spiritual knowledge and practice, emerge as crucial shields against the temptations of substance abuse. One interviewee underscored the transformative power of religious practices, equating protective factors to shields that prevent individuals from engaging in prohibited activities. Y-J-6 highlighted the role of prayers, religious studies, and the cultivation of virtuous conduct as essential protective measures against substance misuse,

“In my opinion, protective factors can be likened to shields that prevent individuals from engaging in prohibited activities. When one performs prayers, studies religious teachings, and becomes aware of virtuous conduct, these acts serve as protective measures.”

Building upon this perspective, RL-K-2 emphasizes the significance of religious adherence in preventing drug abuse, advocating for active engagement in religious activities as a means of avoiding entrapment in substance misuse. He suggested that involvement in mosque activities, in particular, can significantly reduce the likelihood of individuals, especially teenagers, engaging in drug abuse,

“Regarding strategies to prevent drug abuse from a religious perspective, individuals need to adhere to religious laws that can help them avoid falling into such traps. This implies that if teenagers become actively involved in activities organized by the mosque, they are less likely to engage in drug abuse.” (RL-K-2)

Expanding on these insights, SL-S-2 shared his observation on the effectiveness of nurturing individuals' spiritual well-being as a preventive measure against drug-related issues. He emphasized the importance of instilling positive values through spiritual cultivation, suggesting that a strong spiritual foundation acts as a powerful deterrent against substance abuse,

“What I have observed to be more effective in preventing someone from getting involved in drug-related issues is the cultivation of their spiritual well-being. It leans more towards instilling positive values.”

Furthermore, from a religious standpoint, it is asserted that the faithful performance of prayers holds the potential to safeguard individuals from immoral acts, as affirmed in religious scriptures. This underscores the belief that religious devotion serves as a protective barrier against the pitfalls of substance abuse,

“Furthermore, from a religious standpoint, as the Quran itself asserts, the faithful performance of prayers with conviction will, God willing, safeguard individuals from immoral acts.” (YL-K-1)

Collectively, these perspectives underscore the integral role of spiritual knowledge and practice in mitigating the risk of substance abuse, advocating for a holistic approach that integrates religious values and practices into prevention efforts.

Knowledge of drug dangers

Participants in the study highlighted the importance of understanding the dangers associated with drug abuse as a key protective factor. Y-J-2 reflected on ability to avoid drug involvement despite residing in a high-risk area, attributing it to their awareness of the severe consequences of drug consumption,

“I contemplate why I could avoid involvement in drugs even though the area is among drug hotspots. One reason is my awareness of the consequences behind drug consumption. Essentially, the aftermath of drug intake.”

This awareness extends beyond personal implications to encompass the impact on family and society, as emphasized by SL-J-2,

“Initially, we need to comprehend the effects of drugs, their impact on ourselves, family, and society, acknowledging the perilous nature of drugs. They can lead to our demise, ... drugs have the potential to strip us of our sanity. This means that when we consume drugs, we lose our rationality.”

Moreover, YL-S-3 pointed to the role of government campaigns and enforcement measures in fostering awareness and deterrence. By highlighting the potential consequences, such as rehabilitation and imprisonment, these initiatives instill fear and apprehension, dissuading individuals from engaging in drug-related activities,

“Another factor is the absence of involvement. In my opinion, one significant factor is the government's campaigns against drugs and enforcement. With these campaigns and enforcement measures in place, people tend to feel apprehensive. Right? They fear addiction and can see the implications for themselves, including rehabilitation centers and the possibility of imprisonment. That's one aspect.”

This acknowledgment underscores the significance of societal efforts in educating and informing the populace about the perils of drug abuse, ultimately contributing to prevention efforts and promoting healthier communities.

Positive peer influence

Participants in the study underscored the critical role of environmental factors and peer influence as protective measures against drug abuse. One participant, Y-K-1, emphasized the significance of their neighborhood environment, noting that residing in an area predominantly inhabited by Malay Muslims, many of whom were educators, contributed to a low prevalence of drug use among acquaintances,

“In my perspective, the neighborhood area and friends therein could be considered significant. My neighborhood area predominantly comprises Malay Muslims, with a majority of individuals engaged in teaching professions residing in the vicinity. Fortunately, none of my acquaintances are involved in drug use, and encountering instances of smoking is also rare.”

SL-S-3 further echoed this sentiment, emphasizing the importance of an environment where residents possess awareness of the hazards associated with drug abuse, thereby reducing the likelihood of addiction and promoting societal well-being,

“Moreover, beyond this, the environmental factor holds utmost importance. Hence, if the environment is inhabited by individuals who possess awareness regarding its dangers, the likelihood of drug addiction decreases, thereby contributing to the societal well-being.” (SL-S-3).

Furthermore, YL-S-1 emphasized the influential role of peer groups in preventing drug abuse, *“The primary factor concerning drug abuse revolves around peer influence. Indeed, the influence of peers plays a pivotal role. It is also fortunate that the companions around us during that period were indeed commendable. The commendable ones are largely individuals with proper upbringing. Indeed, we are grateful for having grown up with good friends.” (YL-S-1)*

Reflecting on their own experiences, they noted that the commendable upbringing and positive influence of their friends during their formative years acted as a protective barrier against drug involvement. This acknowledgment underscores the value of surrounding oneself with individuals who uphold positive values and steer clear of harmful behaviors. Overall, these insights highlight the multifaceted nature of protective factors against drug abuse, ranging from environmental influences to the quality of peer relationships.

Self-assertion

Self-assertion emerged as a key element stressed by participants in safeguarding against drug abuse. One participant highlighted the significance of personal convictions and individual determination in resisting the allure of drugs,

“The primary factor that becomes the most significant deterrent from falling into such traps is indeed one's own self, meaning our own convictions.” (Y-KL-4).

Another participant underscored the role of self-awareness and personal understanding of religious prohibitions against drug use as essential factors in maintaining one's integrity and avoiding harmful behaviors,

“Self is undeniably crucial. We determine our own direction.” (RL-KL-2).

“Essentially, it stems from the core of our hearts. I have associated with drug addicts since the 1970s, but thus far, it cannot be said that I am directly involved, as others would attest.” (SL-KL-4)

Similarly, another participant emphasized the intrinsic nature of self-control and personal resolve in steering clear of drug-related temptations, citing their own longstanding association with drug addicts without succumbing to their influence,

“The third aspect, of course, stems from one's own understanding. Self-awareness regarding the prohibition of such matters by religion is paramount. Hence, these actions cannot be undertaken.” (YL-S-3).

These insights highlight the pivotal role of self-assertion in empowering individuals to make informed choices and resist external pressures, emphasizing the importance of personal values and beliefs in shaping behavior and decision-making processes.

The table presents various external protective factors that serve to mitigate the risk of drug abuse among youth. Friend selection skills emerge as a significant external protective factor, contributing to 42% of observed instances. Positive family influence closely follows, accounting for 43% of cases, highlighting the crucial role of familial support in shielding youth from the risk of drug abuse. Additionally, the ability to avoid drug hubs is identified as an external protective factor, contributing to 14% of observed instances. These external protective factors collectively underscore the importance of social networks and environmental awareness in safeguarding youth against the risk of drug abuse within high-risk contexts.

Friend selection skills

Selecting friends wisely is also considered as a protective measure against drug abuse. One participant highlighted the significance of peer influence during adolescence, stressing the need to choose friends carefully during this formative period to avoid negative influences,

“So, the meaning of choosing friends, for me, is selecting friends from school. Because at the university level, there are indeed individuals who are problematic, but if we observe, it's rare to encounter such groups. Maybe people will make mistakes in their teens, during the peak of their youth, because they feel like they own the world. So, that's when the role of building or choosing friends becomes crucial during adolescence because at that time, we are still exploring what we want in life.” (Y-KT-6).

Another participant underscored the value of befriending individuals with strong religious convictions and positive habits, such as regular prayer attendance, as a means of safeguarding against harmful behaviors like drug use

“Therefore, to safeguard ourselves from unfavorable circumstances, it is advisable to befriend pious individuals, befriend those who observe the five daily prayers, befriend those who frequently visit the mosque. That's it. Those are some of the ways to avoid such things. Don't befriend people who are known drug users.” (RL-S-2).

Similarly, another participant emphasized the importance of observing people's behavior and socializing cautiously, advocating for distancing oneself from individuals involved in drug-related activities to mitigate risks,

“It means socializing must involve observing people. If we see someone engaging in those activities, we shouldn't get involved. I always emphasize this to the people in my village. It means distancing ourselves from individuals involved in such activities ends the problem, mitigates the danger. So, that's how we protect ourselves from it. If we distance ourselves from people who consume such substances.” (SL-S-6).

These insights highlight the role of friend selection skills in navigating social environments and avoiding potential influences that may lead to drug abuse, emphasizing the importance of surrounding oneself with positive influences and like-minded individuals.

Positive family influence

Participants highlighted the pivotal role of positive family influence in protecting against substance abuse. One participant emphasized the impact of parental teachings and familial relationships in shaping attitudes towards drugs, citing the influence of family members who are not involved in drug-related activities as a deterrent to substance use,

“In my opinion, perhaps it is indeed true what everyone is saying and the teachings of parents, and we befriend individuals who are not involved in any way with drugs. Even our family members are not involved in drugs, and we know what drugs are because of that, we don't want to take them. And we know their effects. That's why we don't want to try.” (Y-J-5)

Another participant underscored the importance of family upbringing, advocating for early and proactive education within the family unit to instill values and awareness regarding drug abuse from a young age,

“The most important thing is family, from the beginning. As the saying goes, this is necessary to do so in this day and age, families here must tighten how they educate children. It's like bending a bamboo, it's better to do it from the shoot. And from the beginning. And first from the family as well.” (SL-S-5).

Moreover, YL-KT-2 emphasized the complementary role of family and educational institutions in fostering a supportive environment and providing essential guidance to steer individuals away from drugs, highlighting the collaborative effort required to promote positive influences and prevent substance abuse,

“Education from a young age is crucial, and this role is not only played by educators but also by the role of family institutions.” (YL-KT-2).

These insights underscore the critical role of family dynamics and early education in shaping attitudes and behaviors towards drug use, emphasizing the importance of familial support systems in safeguarding against substance abuse.

Avoiding drug hubs

Participants in the interviews emphasized the importance of proactive measures to avoid environments and situations conducive to drug abuse. One participant stressed the need for greater awareness and information gathering regarding drug hotspots, highlighting the significance of identifying high-risk areas with prevalent drug-related activities,

“We need to make more efforts to obtain information about drugs, which areas are the most dangerous hotspots and have a lot of activities related to them.” (Y-K-5)

Similarly, SL-J-3 highlighted the role of supply accessibility in facilitating drug abuse, noting that dealers often target specific locations, underscoring the importance of vigilance in avoiding such areas

“And another thing is, in terms of easily obtaining supply or their drug products. Sometimes when we call these dealers, they usually target places like these.”

Moreover, YL-J-3 emphasized the importance of distancing oneself from environments associated with drug activity, including places where drug-related activities are prevalent, such as certain food establishments, advocating for proactive avoidance strategies to mitigate the risk of exposure to drugs,

“Then, the third thing is to distance ourselves. If there are places where we can know that it's associated with drugs, for example, certain foods, we try to avoid them as much as possible.”

These insights underscore the significance of proactive measures and environmental awareness in safeguarding against drug abuse.

Discussion

This study delves into the intricate web of risk factors contributing to substance abuse among youth in high-risk neighborhoods. It identifies both internal and external vulnerabilities that heighten the susceptibility of individuals to substance misuse. Notably, the findings reveal that a lack of spiritual knowledge and succumbing to curiosity represent prevalent internal vulnerabilities. These internal factors underscore the importance of addressing individual beliefs and motivations in the context of substance abuse prevention. Additionally, external influences such as negative peer pressure and familial drug involvement further exacerbate the risk, highlighting the pervasive nature of environmental factors in shaping substance abuse behaviors among youth. These findings align with previous research emphasizing the significance of both individual and environmental factors in influencing substance abuse trajectories. Studies by T.G (2015) and Jadidi & Nakhaee (2014) have similarly identified internal vulnerabilities, such as attitudes towards drug use, and external influences, such as peer dynamics and familial substance abuse, as significant predictors of substance abuse among youth. Furthermore, the identification of stress pressure and initiation through smoking as notable risk factors resonates with the broader literature highlighting the role of stressors and early substance experimentation in shaping substance abuse behaviors (Dabaghi et al., 2018). By aligning with previous findings, this study reinforces the understanding that substance abuse is a multifaceted issue influenced by a complex interplay of individual, social, and environmental factors.

This study also unveils a rich tapestry of protective elements that serve as bulwarks against the allure of drugs, echoing previous research findings. Employment emerges as a beacon of stability, curbing drug abuse relapse (Doostian et al., 2019). Similarly, robust social support networks, including strengthened teacher and peer relationships and nurturing school environments, fortify individuals against the temptations of drug abuse (T.G, 2015). These findings align with prior research emphasizing the significance of social support in mitigating substance abuse risks among youth. Furthermore, the sanctuary of the family plays a pivotal role in safeguarding against the snares of drug abuse, aligning with previous studies highlighting the influence of parental warmth and guidance (Liu et al., 2022; Belcher & Shinitzky, 1998). Similarly, strong connections within educational settings have been shown to act as a bulwark against drug abuse, resonating with previous research on the protective role of school bonding (Hawkins et al., 2001). Additionally, engaged neighborhoods contribute significantly to the protective matrix by fostering norms that discourage drug use while championing prosocial activities, consistent with prior findings (Wongtongkam et al., 2014). Individual attributes such as strong bonds with parents, commitment to religious values, and adherence to legal norms, as well as societal frameworks including policy interventions and access to accurate drug-related information, further bolster the fortress against drug abuse (Jessor et al., 1995; Maring et al., 2012). Overall, these findings underscore the importance of a multifaceted approach to substance abuse prevention, drawing upon individual, familial, community, and societal resources to empower individuals to lead healthier lives.

The comparison between risk and protective factors highlights the multifaceted nature of influences on substance abuse among youth in high-risk neighborhoods. Internally, vulnerabilities such as a lack of spiritual knowledge and succumbing to curiosity contribute to the risk of substance abuse, alongside stress pressure and initiation through smoking. These internal risk factors are intertwined with external influences such as negative peer pressure, inadequate parental education, and family involvement with drugs, which further heighten the susceptibility of young individuals to substance misuse. On the other hand, protective factors both internal and external serve as buffers against substance abuse, offering avenues for resilience and mitigation. Internal protective factors like spiritual knowledge, awareness of drug dangers, and assertiveness counteract the negative influences of risk factors, fostering resilience among vulnerable youth. Externally, positive peer influence, familial support, and the ability to make informed choices in social circles provide additional layers

of protection, reinforcing the importance of supportive environments and informed decision-making in risk reduction. Thus, while risk factors increase the likelihood of substance abuse, protective factors mitigate these risks, emphasizing the complexity of influences and the need for targeted interventions to promote resilience and safeguard the well-being of young people in high-risk areas.

Conclusion and Recommendation

In conclusion, this study has illuminated the myriad of risk factors that contribute to substance abuse among youth in high-risk neighborhoods. Internally, factors such as a lack of spiritual knowledge and succumbing to curiosity were prevalent vulnerabilities, while external influences like negative peer pressure and familial drug involvement further heightened the risk. These findings underscore the pervasive nature of substance abuse risks, indicating the urgent need for targeted interventions that address both individual and environmental factors contributing to vulnerability. Additionally, the identification of stress pressure and initiation through smoking as notable risk factors highlights the importance of early intervention strategies to mitigate the onset of substance abuse behaviors among at-risk youth.

Conversely, amidst the myriad of risk factors, this study also identifies several protective factors that can serve as buffers against substance abuse. Internal factors such as spiritual knowledge and awareness of drug dangers demonstrate resilience to negative influences, while positive external factors like supportive family relationships and the ability to choose positive peer groups play a crucial role in safeguarding youth wellbeing. These findings emphasize the significance of fostering supportive environments and empowering youth with the necessary skills and resources to make informed decisions regarding substance use.

Based on these insights, a key recommendation is the implementation of comprehensive community-based interventions that address both risk and protective factors. These interventions should prioritize early intervention strategies aimed at bolstering internal resilience factors such as spiritual education and stress management skills, while also fostering positive peer relationships and strengthening family bonds. Additionally, collaborative efforts between policymakers, practitioners, and community stakeholders are essential to create supportive environments that promote healthy decision-making and provide accessible resources for at-risk youth. By adopting a holistic approach that addresses the complex interplay of risk and protective factors, stakeholders can effectively mitigate substance abuse rates and promote the overall wellbeing of youth in high-risk neighborhoods.

ACKNOWLEDGMENTS

This study is financially supported by the Ministry of Higher Education Malaysia under the Long-Term Research Grant Scheme (LRGS) – Project Group 6 titled ‘Development of Psychospiritual Based Prevention Module for Drug-Free Community’ Universiti Sains Islam Malaysia (USIM) grant code number: USIM/LRGS/ FKP/50119. The research is part of the LRGS project titled ‘Fostering Long-term Change to Create Drug-Free community in Malaysian Youth: Understanding the Trajectories and Genetics in the Development of Effective Prevention and Intervention Model with Smart Geo-Spatial Apps monitoring’ (JPT grant code number: LRGS/1/2019/UKM-USIM/02/2/6). This collaboration involves researchers from the Asian Centre for Research on Drug Abuse, Universiti Sains Islam Malaysia, and a team of researchers from Universiti Kebangsaan Malaysia, Universiti Malaya, Universiti Pendidikan Sultan Idris and Universiti Malaysia Terengganu.

References

1. Abood, M. T., & Almashhedy, L. A. (2020). Effect of Methamphetamine Addiction on Brain Chemistry Through the Adoption of Fractalkine as an Indicator. *Indian Journal of Forensic Medicine & Toxicology*, 14(3).
2. Ahad, M., Chowdhury, M., Islam, M., & Alam, M. (2017). Socioeconomic status of young drug addicts in sylhet city, bangladesh. *IOSR Journal of Humanities and Social Science*, 22(06), 84-91. <https://doi.org/10.9790/0837-2206028491>
3. Ahmad, J., Taib, F., & Jan, A. (2021). Employment of ex-drug addicts as a corporate social responsibility initiative: the Malaysian employer’s perspective. *Journal of Entrepreneurship and Business Innovation*, 8(2), 1. <https://doi.org/10.5296/jebi.v8i2.18956>
4. Ahmed, T., Wassan, R., Qadri, D., & Ahmed, S. (2022). Prevalence and determinants of drugs abuse among youth in Hyderabad, Sindh, Pakistan. *Journal of Management Practices Humanities and Social Sciences*, 6(5). <https://doi.org/10.33152/jmphss-6.5.1>
5. Barbour, R. S. (2005). Making sense of focus groups. *Medical Education*, 39(7), 742–750. <https://doi.org/10.1111/j.1365-2929.2005.02200.x>
6. Belcher, H. and Shinitzky, H. (1998). Substance abuse in children. *Archives of Pediatrics and Adolescent Medicine*, 152(10). <https://doi.org/10.1001/archpedi.152.10.952>
7. Bloor, M. (2016). Addressing social problems through qualitative research. In D. Silverman (Ed.), *Qualitative research* (pp. 15-30). Sage

8. Braun, V., Clarke, V., & Rance, N. (2014). How to use thematic analysis with interview data. In *SAGE Publications Ltd eBooks* (pp. 183–197). <https://doi.org/10.4135/9781473909847.n13>
9. Brooks, J., Reed, D. M., & Savage, B. (2016, June). Taking off with a pilot: The importance of testing research instruments. In *ECRM2016-Proceedings of the 15th European Conference on Research Methodology for Business Management": ECRM2016. Academic Conferences and publishing limited* (pp. 51-59)
10. Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing*, 25(8), 652–661. <https://doi.org/10.1177/1744987120927206>
11. Chawarski, M., Vicknasingam, B., & Mazlan, M. (2012). Lifetime at use and increased hiv risk among not-in-treatment opiate injectors in Malaysia. *Drug and Alcohol Dependence*, 124(1-2), 177-180. <https://doi.org/10.1016/j.drugalcdep.2011.12.024>
12. Chie, Q. T., Tam, C. L., Bonn, G., Wong, C. P., Dang, H. M., & Khairuddin, R. (2015). Drug abuse, relapse, and prevention education in Malaysia: perspective of university students through a mixed methods approach. *Frontiers in psychiatry*, 6, 134940
13. Chua, Y. P. (2020). *Mastering research statistics* (2nd ed.). McGraw Hill
14. Clarke, V., & Braun, V. (2015). Thematic analysis. in J. A. Smith (Ed.), *Encyclopedia of Critical Psychology* (pp. 222-284). Springer
15. Comings, D. E. (1996). Genetic factors in drug abuse and dependence. *NIDA Res Monogr*, 159(8), 16-38
16. Creswell, J. W. (2015). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (5th ed.). Pearson
17. Dabaghi, P., Hosseini-Shokouh, S., & Shahrabadi, R. (2018). Studying the effectiveness of prevention training program of drug abuse on reducing risk factors in soldiers and staffs. *Revista Romaneasca Pentru Educatie Multidimensionala*, 10(1.SP), 20. <https://doi.org/10.18662/rrem/34>
18. Denieffe, S. (2020). Commentary: Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing*, 25(8), 662–663. <https://doi.org/10.1177/1744987120928156>
19. Doostian, Y., Bahmani, B., Farhoudian, A., Azkhash, M., & Khanjani, M. (2019). Vocational rehabilitation for individuals with substance-related disorders. *Iranian Rehabilitation Journal*, 105-112. <https://doi.org/10.32598/irj.17.2.105>
20. Du, P., Liu, X., Zhong, G., Zhou, Z., Thomes, M., Lee, C., & Thai, P. (2020). Monitoring consumption of common illicit drugs in kuala lumpur, malaysia, by wastewater-based epidemiology. *International Journal of Environmental Research and Public Health*, 17(3), 889. <https://doi.org/10.3390/ijerph17030889>
21. Elwyn, L. and Smith, C. (2013). Child maltreatment and adult substance abuse: the role of memory. *Journal of Social Work Practice in the Addictions*, 13(3), 269-294. <https://doi.org/10.1080/1533256x.2013.814483>
22. Evans, C. L., & Lewis, J. (2018). Analysing Semi-Structured Interviews using thematic Analysis: Exploring voluntary civic participation among Adults. In *SAGE Publications Ltd eBooks*. <https://doi.org/10.4135/9781526439284>
23. Fauziah, I., Nen, S., Saadah, M., & Sarnon, N. (2012). A profile of male adolescents background and experiences in substance abuse. *Asian Social Science*, 8(12). <https://doi.org/10.5539/ass.v8n12p109>
24. Gordon, H. (1994). Human neuroscience at national institute on drug abuse: implications for genetics research. *American Journal of Medical Genetics*, 54(4), 300-303. <https://doi.org/10.1002/ajmg.1320540404>
25. Griffin, K. and Botvin, G. (2010). Evidence-based interventions for preventing substance use disorders in adolescents. *Child and Adolescent Psychiatric Clinics of North America*, 19(3), 505-526. <https://doi.org/10.1016/j.chc.2010.03.005>
26. Groenewald, C. (2018). 'it was riotous behaviour!': mothers' experiences of adolescents' conduct while abusing drugs. *International Journal of Mental Health Nursing*, 27(5), 1564-1573. <https://doi.org/10.1111/inm.12460>
27. Hamdan-Mansour, A. (2016). Social support and adolescents' alcohol use: an integrative literature review. *Health*, 08(12), 1166-1177. <https://doi.org/10.4236/health.2016.812120>
28. Hawkins, J., Guo, J., Hill, K., Battin-Pearson, S., & Abbott, R. (2001). Long-term effects of the Seattle social development intervention on school bonding trajectories. *Applied Developmental Science*, 5(4), 225-236. https://doi.org/10.1207/s1532480xads0504_04
29. Hoffmann, J. and Cerbone, F. (2002). Parental substance use disorder and the risk of adolescent drug abuse: an event history analysis. *Drug and Alcohol Dependence*, 66(3), 255-264. [https://doi.org/10.1016/s0376-8716\(02\)00005-4](https://doi.org/10.1016/s0376-8716(02)00005-4)
30. Hoover, R. S., & Koerber, A. L. (2011). Using NVivo to answer the challenges of qualitative research in professional communication: Benefits and best practices tutorial. *IEEE Transactions on Professional Communication*, 4(1), 68-82. <https://doi.org/10.1109/TPC.2009.2036896>
31. Jackson, K., & Bazeley, P. (2019). *Qualitative data analysis with NVivo*. Sage
32. Jadidi, N. and Nakhaee, N. (2014). Etiology of drug abuse: a narrative analysis. *Journal of Addiction*, 2014, 1-6. <https://doi.org/10.1155/2014/352835>

33. Jessor, R., Bos, J. V. D., Vanderryn, J., & Costa, F. M. (1995). Protective factors in adolescent problem behavior: moderator effects and developmental change. *Developmental Psychology*, 31(6), 923-933. <https://doi.org/10.1037/0012-1649.31.6.923>
34. Jugder, N. (2016). The thematic analysis of interview data: An approach used to examine the influence of the market on curricular provision in Mongolian higher education institutions. *Hillary place papers*, (3)
35. Kendler, K., Maes, H., Sundquist, K., Ohlsson, H., & Sundquist, J. (2014). Genetic and family and community environmental effects on drug abuse in adolescence: a Swedish national twin and sibling study. *American Journal of Psychiatry*, 171(2), 209-217. <https://doi.org/10.1176/appi.ajp.2013.12101300>
36. Krueger, R. A., & Casey, M. A. (2014). Focus groups: A practical guide for applied research. Sage Publications
37. Lawless, B., & Chen, Y. (2018). Developing a method of critical thematic analysis for qualitative communication inquiry. *Howard Journal of Communications*, 30(1), 92-106. <https://doi.org/10.1080/10646175.2018.1439423>
38. Leech, N. L., & Onwuegbuzie, A. J., (2011). Beyond constant comparison qualitative data analysis: Using NVivo. *School Psychology Quarterly*, 26(1), 70-84. <https://doi.org/10.1037/a0022711>
39. Lin, S., Chen, C., Ball, D., Liu, H., & Loh, E. (2003). Gender-specific contribution of the gabaa subunit genes on 5q33 in methamphetamine use disorder. *The Pharmacogenomics Journal*, 3(6), 349-355. <https://doi.org/10.1038/sj.tpj.6500203>
40. Liu, L., Meng, W., & Liu, B. (2022). The mediating role of social support in the relationship between parenting styles and adolescent drug abuse identification. *Frontiers in Psychology*, 12, 802408.
41. Majid, M. a. A., Othman, M., Mohamad, S. F., Lim, S. a. H., & Yusof, A. (2017). Piloting for Interviews in Qualitative Research: Operationalization and Lessons learnt. *International Journal of Academic Research in Business & Social Sciences*, 7(4). <https://doi.org/10.6007/ijarbss/v7-i4/2916>
42. Maring, E., Malik, B., & Wallen, J. (2012). Drug abuse in India: grounding research in ecological risk and resilience theory. *Family and Consumer Sciences Research Journal*, 41(2), 172-182. <https://doi.org/10.1111/fcsr.12006>
43. Mazlan, M. and Schottenfeld, R. (2006). Asia pacific column: new challenges and opportunities in managing substance abuse in Malaysia. *Drug and Alcohol Review*, 25(5), 473-478. <https://doi.org/10.1080/09595230600883354>
44. McCabe, S., Boyd, C., & Young, A. (2007). Medical and nonmedical use of prescription drugs among secondary school students. *Journal of Adolescent Health*, 40(1), 76-83. <https://doi.org/10.1016/j.jadohealth.2006.07.016>
45. McLafferty, I. (2004). Focus group interviews as a data collecting strategy. *Journal of Advanced Nursing*, 48(2), 187-194. <https://doi.org/10.1111/j.1365-2648.2004.03186.x>
46. Merikangas, K. and McClair, V. (2012). Epidemiology of substance use disorders. *Human Genetics*, 131(6), 779-789. <https://doi.org/10.1007/s00439-012-1168-0>
47. Merikangas, K. R., Stolar, M., Stevens, D. E., Goulet, J., Preisig, M. A., Fenton, B., & Rounsaville, B. J. (1998). Familial transmission of substance use disorders. *Archives of general psychiatry*, 55(11), 973-979.
48. Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.
49. Nurulhuda MH, Najwa Haneem M, Khairi CM, Norwati D , Aniza AA (2018). Spiritual influence towards relapse in opioid addicts in therapy. *IIUM Medical Journal Malaysia*, 17(1). <https://doi.org/10.31436/imjm.v17i1.1032>
50. Mukherjee, T. I., Wickersham, J. A., Desai, M. M., Pillai, V., Kamarulzaman, A., & Altice, F. L. (2016). Factors associated with interest in receiving prison-based methadone maintenance therapy in Malaysia. *Drug and alcohol dependence*, 164, 120-127.
51. Mustapha, S., Harith, N., & Ismail, T. (2020). Sustainable drug treatment and rehabilitation programme in malaysia --empowering the client through "555 note book". *International Journal of Academic Research in Business and Social Sciences*, 10(14). <https://doi.org/10.6007/ijarbss/v10-i14/7364>
52. Naeim, M. and Rezaeisharif, A. (2021). The role of the family in preventing addiction. *Addictive Disorders & Their Treatment*, 20(4), 479-485. <https://doi.org/10.1097/adt.0000000000000277>
53. Nasirzadeh, M., Sharifirad, G., & Hasanzadeh, A. (2013). The mental health and substance abuse among youths aged 18 to 29: a comparative study. *Journal of Education and Health Promotion*, 2(1), 34. <https://doi.org/10.4103/2277-9531.115822>
54. Nawi, A., Ismail, R., Ibrahim, F., Hassan, M., Manaf, M., Amit, N., & Shafurdin, N. (2021). Risk and protective factors of drug abuse among adolescents: a systematic review. *BMC Public Health*, 21(1). <https://doi.org/10.1186/s12889-021-11906-2>
55. Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2013). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533-544. <https://doi.org/10.1007/s10488-013-0528-y>
56. Pope, C., Royen, P. V., & Baker, R. (2002). Qualitative methods in research on healthcare quality. *Quality and Safety in Health Care*, 11(2), 148-152. <https://doi.org/10.1136/qhc.11.2.148>

57. Ramba, Y., Qomaruddin, M., & Suminar, D. (2019). The role of family motivation on increasing family services with cerebral palsy children at ypac makassar. *Indian Journal of Forensic Medicine & Toxicology*, 13(4), 1650. <https://doi.org/10.5958/0973-9130.2019.00543.7>
58. Rau, G., & Shih, Y. S. (2021). Evaluation of Cohen's kappa and other measures of interrater agreement for genre analysis and other nominal data. *Journal of English for Academic Purposes*, 53, Article 101026. <https://doi.org/10.1016/j.jeap.2021.101026>
59. Razali, M. and Kliewer, W. (2015). Validation of the communities that care measure adapted for use in malaysia. *International Perspectives in Psychology*, 4(4), 267-280. <https://doi.org/10.1037/ipp0000039>
60. Rawas, R. E. and Saria, A. (2015). The two faces of social interaction reward in animal models of drug dependence. *Neurochemical Research*, 41(3), 492-499. <https://doi.org/10.1007/s11064-015-1637-7>
61. Sampson, H. (2004). Navigating the waves: the usefulness of a pilot in qualitative research. *Qualitative Research*, 4(3), 383-402. <https://doi.org/10.1177/1468794104047236>
62. Sarker, A., Raju, F., Sultana, M., Milon, M., & Akter, S. (2023). Exploration of drug addiction prevalence among young generation of Pabna district, Bangladesh. *Journal of Drug Delivery and Therapeutics*, 13(3), 78-84. <https://doi.org/10.22270/jddt.v13i3.5764>
63. Shazzad, N., Abdal, S., Majumder, M., Sohel, J., Ali, S., & Ahmed, S. (2014). Drug addiction in Bangladesh and its effect. *Medicine Today*, 25(2), 84-89. <https://doi.org/10.3329/medtoday.v25i2.17927>
64. Swangpun, K., Kanato, M., & Leyatikul, P. (2019). The risk of drug abuse among preschool students in Phuket, Thailand. *Iranian journal of public health*, 48(3), 451
65. Tarin, E. (2017). Qualitative research and clinical methods. *Annals of King Edward Medical University*, 23(1). <https://doi.org/10.21649/akemu.v23i1.1514>
66. Teherani, A., Martimianakis, M., Stenfors, T., Wadhwa, A., & Varpio, L. (2015). Choosing a qualitative research approach. *Journal of Graduate Medical Education*, 7(4), 669-670. <https://doi.org/10.4300/jgme-d-15-00414.1>
67. Tulle, E. and Palmer, C. (2020). Engaging participants in qualitative research: methodological reflections on studying active older lives in Scotland and Australia. *Qualitative Research in Sport Exercise and Health*, 13(5), 832-846. <https://doi.org/10.1080/2159676x.2020.1812700>
68. Rejani T. (2015). A Review on Teen Drug Use: Risks and Protective Factors. *International Journal of Indian Psychology*, 2 (2), <https://doi.org/10.25215/0202.027>.
69. Usher, K., Jackson, D., & O'Brien, L. (2007). Shattered dreams: parental experiences of adolescent substance abuse. *International Journal of Mental Health Nursing*, 16(6), 422-430. <https://doi.org/10.1111/j.1447-0349.2007.00497.x>
70. Walsh, M. (2003). Teaching qualitative analysis using QSR NVivo. *Qualitative Report*, 8(2), 251-256. <https://doi.org/10.46743/2160-3715/2003.1890>
71. Welsh, E., (2002). Dealing with data: Using NVivo in the qualitative data analysis process. *Forum: Qualitative Social Research*, 3(2), 1-9. <https://doi.org/10.17169/fqs-3.2.865>
72. Wilkinson, S. (1998). Focus group methodology: a review. *International Journal of Social Research Methodology*, 1(3), 181-203. <https://doi.org/10.1080/13645579.1998.10846874>.
73. Wilkinson, D., Caulfield, L., & Jones, T. (2013). Investigating schizotypy and crime-based reasoning with qualitative methods. *The Howard Journal of Criminal Justice*, 53(2), 158-172. <https://doi.org/10.1111/hojo.12059>
74. Wolf, N. H., & Silver, C. (2017). *Qualitative analysis using NVivo: The five-level QDAR method*. Routledge
75. Wongtongkam, N., Ward, P., Day, A., & Winefield, A. (2014). Exploring family and community involvement to protect Thai youths from alcohol and illegal drug abuse. *Journal of Addictive Diseases*, 34(1), 112-121. <https://doi.org/10.1080/10550887.2014.975616>
76. Zain, I., Fithiasari, K., Permatasari, E. O., Nastiti, T. A., Mardiyono, N. N. S., Pujihasvuty, R., & Nasution, S. L. (2021, August). Imbalanced data analysis of adolescent risk behavior of drug abuse using random forest. In *AECon 2020: Proceedings of The 6th Asia-Pacific Education And Science Conference, AECon 2020*, 19-20 December 2020, Purwokerto, Indonesia (p. 136). European Alliance for Innovation