

The Antecedent and Consequence of Youth Drug Abusers' Life Satisfaction: Delinquency Behavior as the Mediator

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Abstract: The incidents of drug-abuse behavior has escalated especially among youths in Malaysia. The objectives of the study were to ascertain the effects of social support on drug abuse through life satisfaction. Delinquency was treated as the mediating factor on the relationship between life satisfaction and drug-abuse behavior. A survey was conducted among youth addicts getting treatment at rehabilitation centers. A total of 275 questionnaires were analyzed using Structural Equation Modelling. Findings revealed that social support had a significant influence on life satisfaction. Delinquency had a full mediating effect on the relationship between life satisfaction and drug abuse. An increase in life satisfaction would reduce delinquency and drug-abuse behavior among youth by enhancing social support assistance. Therefore, rehabilitation programs should be focused on matching the drug dependences' needs for social support to increase the chances of remaining sober and achieving success in ending the cycle of relapse.

Keywords: Social support, Life satisfaction, Delinquency, Drug dependence, Structural Equation Modelling.

INTRODUCTION

Worldwide, the incident of drug-abuse is on the rise with Malaysia experiencing similar circumstance. It was reported that youths were the majority group involved in drug abuse and had caused a lot of concerns among various quarters in Malaysia. Youth could be described as the transition from childhood to adulthood stage of the life cycle. Usually, this stage of the life cycle was indicated by a person's age, particularly the age between leaving compulsory education and first employment (UNESCO, 2017). During this stage, individuals were deemed to be dependent on family for emotional and economic support (Furlong, 2013). In Malaysia, youth was categorized as individuals aged between 15 and 40 years old (Mohamad, Mohammad, Ali & Awang, 2018). For some youth, this phase of life was the most challenging and stressful period, dealing with the pressure arising from their desire to be independent whereas, at the same time, they were still depending on families for support. Moreover, some youth experienced other stressful life event challenges including pressures from friends, violence, gangs and some experienced traumas caused by overwhelmingly negative events, like child abuse and bullying. These situations could lead to some youth becoming engaged in problem behavior such as delinquency and substance abuse.

Likewise, youth were also described as being at the stage of their life cycle where individuals were more inclined to experience new things out of curiosity. For example, some youths took drugs believing that the behavior was associated with a real means of becoming and experiencing adulthood (Mousavinasab, Shamsuddini Lori & Mansouri, 2015). Besides curiosity, youth took drugs because of different reasons termed as "moving towards" or "moving away" motive. Moving towards factors include to feel part of a group, for fun and to change their unpleasant state (the feeling of boredom to excitement). Moving away could be reasons relating to escaping from psychological or physiological pain. In 1993, the Malaysian government had a campaign declaring drugs as the country's number one enemy. The steps undertaken indicated the serious effort by the government to combat the rise in drug abuse within the country. Despite punitive penalties for those who were caught supplying drugs, drug-abuse continued to be a major problem in Malaysia as reflected in the increasing number of drug abusers from 2010 to 2016 (National Anti-Drug Agency, 2017), as depicted in Figure 1. In addition, it was observed that 76 percent of reported drug abuse cases in Malaysia involved youths (ages of 16 to 40 years) with a consistent increasing trend since 2012. Moreover, relapse cases reported to range between 24% - 30% of the total drug abusers for the period 2010 – 2016 as illustrated in Figure 2.

Drug-abuse was defined as the compulsive, excessive, and self-damaging use of drugs or substance in most cases leading to addiction and serious physiological injury or using drugs without

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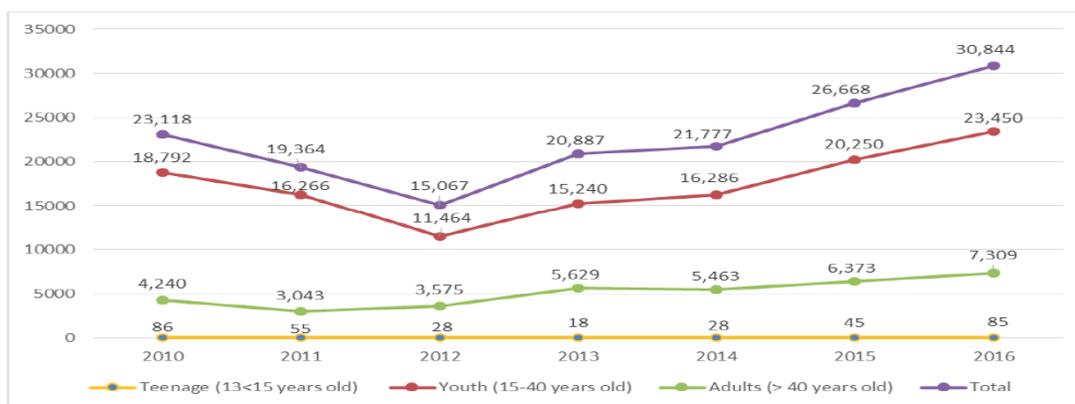


Figure 1: Drug Abuser by Age.

Source: National Anti-Drug Agency (2017).

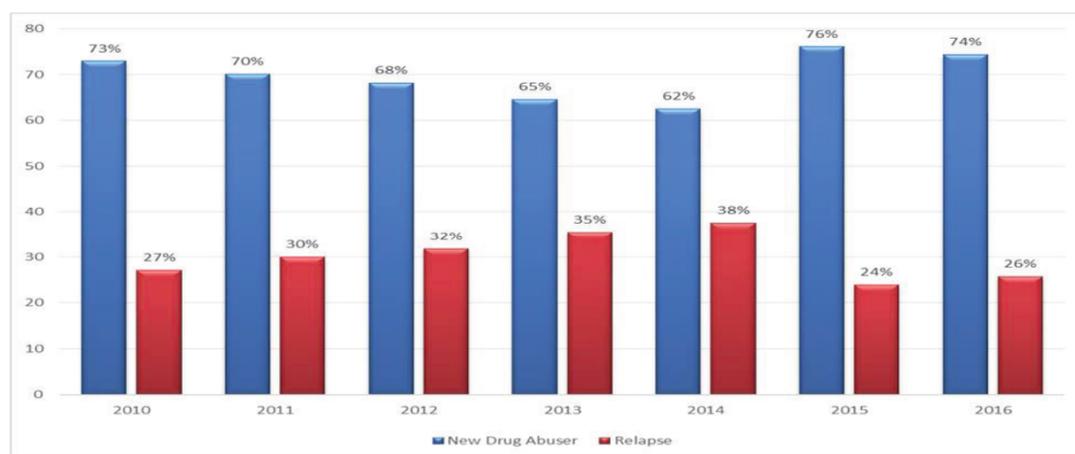


Figure 2: Percentage of New Drug Abuser and Relapse (2010-2016).

Source: National Anti-Drug Agency (2017).

medical justification. Generally, consuming drugs would cause huge release of dopamine, a chemical in the brain which was associated with the feelings of well-being, pleasure or excitement that prompts people to depend on drugs to intensify their feelings of pleasure. Most of the time drug dependence would end up developing into addictions. Moreover, drug abuse refers to the consumption of drug in amounts or with methods that were harmful and hazardous to themselves and others (Chan, Sidhu, Lim & Wee, 2016). Consequently, drug abuse could impede youth's growth development on aspects related to their learning and brain development, as well as critical developmental tasks such as educational attainment and career development (Boden & Fergusson, 2011; Gotham, Sher & Wood, 2003). Moreover, it could expose long-term drug abusers to other health, social (Zeigler *et al.*, 2005) and economic problems. There are short-term and long-term health problems related to drug abuse. Short-term effects are changes in appetite,

wakefulness, heart rate, blood pressure, and/or mood to heart attack, stroke, psychosis, overdose, and even death. The long-term effects include heart or lung disease, cancer, mental illness, HIV/AIDS, hepatitis, and others. On a more serious note, the effect of long-term drug abuse would lead to addiction, which is a kind of brain disorder that interferes with individuals' life experience including their ability to control stress, make decisions and learn.

Drug-abuse among youth has not only become the major social predicament but also creates a financial burden to the nation. Certain amount of funds is allocated to treat drug addictions and provide health services to cure health problems/diseases related to drug addictions such as heart or lung disease, cancer, mental illness, HIV/AIDS, and hepatitis. The social tensions resulting from drug abuse or addiction include reduced family and community cohesiveness, increased unemployment and underemployment,

economic and social marginalization, and increased crime (National Institute on Drug Abuse, 2017). Drug abusers may experience distress resulting from difficulties in finding and maintaining a job, family and relationship issues and financial difficulties.

Drug-abuse and delinquent behavior were strongly correlated, where drug abuse could lead to delinquency or vice versa (Wilson & Howell, 1993). It was discovered that delinquency was a leading factor that contributed to youth substance abuse (Mohamad *et al.*, 2018). On the other hand, in some cases those who were involved in drug abuse would in turn become involved in criminal acts. This leads to a great loss to the country because these youths became less productive resources and contribute less to the development of a nation as they were expected to do so. It is well accepted by many that youths are supposedly the potential resources that would sustain a nation's development and growth. Once youths are involved in drug abuse and became addicted, not only are they less productive but also become a liability to the nation as a result of the increased financial burdens resulting from providing support to those who were incapable of self-support, and meeting the increasing demand for medical and other health treatment services. Not to mention, the costs associated with drug-addiction recovery process. They do not contribute positively to the community and civil society well-being as they were expected to do. In addition, most of them were found to be associated with lower life satisfaction. Many life satisfaction studies appear to be negatively associated with drug-abuse behavior (Shek & Leung, 2013; Sun & Shek, 2010). Those with low life satisfaction were discovered to have greater tendency to take drugs in order to move away from the suffering of emotional pain and/or to move towards getting comfort in coping with their emotions (Mousavinasab *et al.*, 2015; Mohamad *et al.*, 2014). Studies by Tamannaefar & Behzadmoghaddam (2016) and Proctor, Linley & Maltby (2009) suggested that social support has a positive significant relationship on life satisfaction. Improving youth life satisfaction would increase the likelihood of positive change in drug-abuse behavior and improve the recovery process.

Most drug-dependent youth tend to become socially isolated, having lack of contact with society probably because of their common traits: they lie, manipulate, most likely become involved in criminal acts and become abusive. However, there is a ray of hope for recovery through providing social support. Others' involvement in term of providing positive support and

assistance would help addicts in the recovery process and produce desirable outcomes. Osmany, Ali, Rizvi, Khan & Gupta (2014) stressed that drug abusers required positive social support to enhance the chances of successfully recovering permanently from addiction. The recovering process is the toughest procedure and most challenging phase for the drug abusers and some would experience relapse. However, the process could be facilitated by embedding positive social support provided by family, friends or significant others to make the necessary life changes easier. Osmany *et al.* (2014) argued that when an individual perceived they received the required social support, they were more capable to cope with life stressors.

Against the above background, it was therefore crucial to conduct a study that addressed the issue of escalating drug abuse among youth. In particular, ascertaining the predicting factors that were capable of explaining the reduction in drug-abuse behavior. The justifications for embarking on the study were based on i) there was an increasing pattern of drug abuse among youths, ii) in order to help youth drug abusers to recover from the addiction, a study needs to identify factors that could influence the reduction of drug-abuse behavior. In this particular case, social support and life satisfaction were hypothesized to have impacts on drug-abuse behavior with delinquency as the mediator. Thus, the main objectives of this study were to ascertain the effect of social support on drug-abuse behavior through life satisfaction and to identify the mediating role of delinquency on the relationship between life satisfaction and drug-abuse behavior.

LITERATURE REVIEW

Previous research on substance abuse stipulated that the underlying cause for most social problems, such as drug abuse among youths, usually started whilst they were at schools (Hong *et al.*, 2011). Their curiosity was heightened and they often were involved in experimenting with drugs as they transcended into adolescence lives (Igwe *et al.*, 2009). High rates of drug use were discovered to be among youths who were involved in delinquent behaviors (Young, Dembo & Henderson, 2007). It was well documented that most chronic drug abusers started to get involved in delinquent behavior at an earlier age compared to the non-chronic abusers (Mohd, 2007). It was stated by Doherty, Green & Ensminger (2008) that delinquent behavior was highest in late adolescence (age 17-18) and it declined in adulthood. It was also observed that

delinquent youths tend to be more drug involved than non-delinquent youths (Brunelle *et al.*, 2014); Mohamad *et al.*, 2018). Delinquency, behaving in a way that was illegal or not acceptable by the general society, was an anti-social behavior. The outcomes of such behavior varies depending on the types of the delinquent behavior, for example stealing, cheating, truancy, running away from home, vandalism and gang fighting. Some may end up with delinquents being arrested and charged for criminal offences if he/she got caught by the authority (Wan, 2012). Various studies (Brook *et al.*, 1998, DeWit & Silverman, 1995; Newcomb, 1992; Oetting & Beauvais, 1986; Petraitis, Flay & Miller, 1995) revealed that there was a positive relationship between delinquency and drug abuse. Those who were involved in delinquencies had higher chance of getting involved in drug-abuse behavior compared to those who did not.

Life satisfaction was noted to have a significant influence on individual behavioral outcomes. It is ones' overall assessment of feeling and attitude about their life, ranging from negative to positive, at a particular period of time. Authors such as Lewis, Huebner, Malone & Valois (2011) and Pavot & Diener (1993) described life satisfaction as a conscious evaluation process that allows individuals to assess their own life satisfaction based on a believed standard set of criteria meeting the individuals' expectation. Individuals' judgements of life satisfaction were based on the persons' comparisons between self-imposed criteria and their perceived life circumstances (Pavot & Diener, 1993; Mousavinasab *et al.*, 2015) encompassing different live domains such as daily life, community living, safety and security, healthy living, social and spirituality, and citizenship and advocacy. In other words, life satisfaction could be referred to as individuals' assessment of their overall conditions derived from comparing individuals' aspiration to individuals' actual achievement based on their cognitive belief and social indicators, for example job and income level.

Different individuals reacted differently to the different life domains depending on their cognitive beliefs and objective social indicators (Bradley & Corwyn, 2004; Gilman & Huebner, 2003; Vera *et al.*, 2008; Huang & Yang, 2018). Thus, individuals with positive assessment of their overall life condition achieved high life satisfaction. In contrast, individuals with low satisfaction with their overall life experienced undesirable emotions such as fear, anxiety, depression and aggression. Individuals with low life satisfaction

were discovered to have higher tendency to take drugs in order to move away from the suffering of pain and/or to move towards getting comfort in dealing with their emotions (Mousavinasab *et al.*, 2015). Previous research consistently documented the negative associations between life satisfaction and negative behavior. For example, Jung & Choi (2017) suggested there was some negative relationships between life satisfaction and delinquent behavior. The study by Mohamad *et al.* (2016) supported the above findings that uncovered delinquent behavior had a full mediation effect on the relationship between life satisfaction and substance-abuse behavior. In addition, Sun & Shek (2010) proposed that life satisfaction was an important mitigating factor that addressed drug abuser relapse.

Cohen and Wills (1985) suggested that positive social support was related to well-being because it offers positive emotions, a sense of self-worth, and predictability in life and also as a stress buffer by reinforcing self-esteem, self-efficacy, and problem-solving behaviors. Social support could be explained as the providing of both psychological and material resources with the intention of helping the recipients to cope with stress (Cohen, 2004). Moreover, social support also played the role of providing the recipients with the experience of being valued, respected, cared for, and loved (Gurung, 2006). Osmany *et al.* (2014) suggested that social support has a significant impact on drug addiction. There are four types of social support, namely emotional, instrumental, informational and appraisal support. Emotional support refers to offering care, empathy and trust to those who need it (Sippel, Pietrzak, Charney, Mayes, & Southwick, 2015). Instrumental support refers to providing material resources, financial aid and needed services (House, 1981). Informational support means could be helping a person solve a problem and provide feedback (Schaefer, Coyne & Lazarus, 1981) and appraisal supports involve information that helps one in evaluating personal performance (Ingersoll-Dayton & Antonucci, 1988). There are two approaches of measuring social support, namely perceived and received social support. Perceived social support is the support that a person believes they are receiving. Received social support is the support that a person was actually acquiring from others (Thoits, 1995).

A study by Young (2006) shows that different sources (family, friends and significant others) of social support have different effects on an individual's life satisfaction. The importance of social support in influencing behavior has been shown in a large number

of different contexts. Social relationships were hypothesized to be helpful in two ways: indirectly by buffering stress in difficult times, and directly, by providing assistance, emotional support and a sense of belonging that could alleviate or buffer stress as well as improve satisfaction with life, whether or not stress was present (Caplan & Caplan, 2000; Dalgard & Tambs, 1997). A study by Vaux (1988) found that social support may have important implications for a variety of complex human behaviors, such as the manner in which individuals enact their social roles. The perception of social support from family and friends results to be a significant dimension of well-being among adolescents (Sarriera, Bedin, Abs, Calza & Casas, 2015) and healthy development individual (Oswald & Suss, 1994). Fatoba & Bzdikot (2015) and Pugliese & Okun (2014) found that friends and significant others play a more influential role during young adulthood. Therefore, drug abusers require positive social support to increase their life satisfaction and chances of success during their program of rehabilitation.

METHOD

Cross-sectional research design was adopted as the survey method in this study. Data were collected using personal interview at six drug rehabilitation centers in Kelantan and Pahang. The permission to conduct this study at the selected center was obtained from the National Anti-drugs Agency. The inclusion criteria used for respondents' selection were: i) they could read and write ii) the age is between 15 to 40 years. The respondents were informed about the purpose of the study and the confidentiality of the data collected during the data collection. Instructions and adequate time pertaining to responding to the questionnaires were provided to the respondents. In addition, researchers and well-trained research assistants were available to assist respondents when necessary. This study used a self-administered questionnaire in Malay language, containing items that measure perceived social support, life satisfaction, delinquency behavior, substance abuse and respondent profile. Questionnaires were distributed to the respondents' selected using systematic sampling method from the sampling list provided by the center. A total of 275 usable questionnaires were subjected for further analysis after performing data cleaning.

The measurement of perceived social support was adapted from the work of Zimet, Dahlem, Zimet & Farley (1988) who proposed the Multidimensional

Scale of Perceived Social Support (MSPSS) instrument containing twelve items. The instrument assessed the respondents' perception of the social support provided by their family, friends and others in general using a ten-point rating scale with scores ranging from very strongly disagree (1) to very strongly agree (10). Life satisfaction was measured using Satisfaction with Life Scale (SWLS) developed by Diener, Emmons, Larsen & Griffin (1985) using five items on a ten-point rating scale. The scale was designed to assess one's own overall judgement of one's quality of life assessing the positive side of the individual experience rather than focusing on unpleasant emotions which was capable of measuring change in subjective well-being and intervention outcomes (Pavot and Diener, 1993). Respondent was asked to indicate their agreement or disagreement for each life satisfaction item on a scale of 1 as strongly disagree and 10 as strongly agree. Adapting the work of Sun and Shek (2010), delinquency behavior was measured by using 12 items using a 10-point rating scale (1 is very low and 10 is very high) on the respondent's frequency of engaging in antisocial behavior such as stealing, cheating, truancy, running away from home, damaging property, assault, having sexual relationship with others, gang fighting, speaking foul languages, staying away from home without parental consent, strong-arming others, and breaking into residences. While drug-abuse behavior was examined using a ten-point rating scale capturing respondent's frequency of drug use such as ketamine, cannabis, marijuana, opium, cocaine, morphine, pills and heroin using the same rating scale as delinquency behavior.

Structural Equation Modelling (SEM) was used as the main technique of analyzing data. Confirmatory Factor Analysis (CFA) was applied on the data in this study for the purpose of validating the measurement model (Hair, Black, Babin & Anderson, 2010). Validity of the instrument was ascertained through the commonly used three types of validity tests: convergent validity, construct validity and discriminant validity. Convergent validity, measuring the extent to which a set of measured items reflect the theoretical latent construct those items are design to measure (Hair *et al.*, 2010; Mohamad *et al.*, 2018) using Average Variance Extracted (AVE). An AVE of 0.5 or higher is the rule of thumb suggesting there is adequate convergence (Hair *et al.*, 2010). Construct validity was assessed using several acceptable fitness indexes measuring absolute fit, incremental fit and parsimonious fit (Hair *et al.*, 2010). Absolute fit indices were accessed based on Root Mean Square Error of

Approximation (RMSEA) and Goodness-of-Fit index (GFI). The acceptable cut-off point value for RMSEA and GFI is 0.08 or less and more than 0.90 respectively. Incremental fit indices were accessed based on Comparative Fit Index (CFI) and Tucker Lewis Index (TLI). The acceptable cut-off point value of CFI and TLI is 0.90. Parsimonious fit index was determined based on normed chi-square (Chisq/df) with the cut-off point value being less than 3.0.

Discriminant validity can be achieved when the value of square root of AVE is higher than the values of correlation between constructs. The values of correlation between constructs should not exceed 0.85 (Hair *et al.*, 2010; Mohamad *et al.*, 2012). Meanwhile, the reliability of the measurement model was achieved when the model met the requirements of AVE values exceeding 0.50 and the value of the Composite Reliability (CR) was higher than 0.6 (Hair *et al.*, 2010; Mohamad, Afthanorhan, Awang & Mohammad, 2019). Once the measurement model achieved validation and reliability requirements, Structural Equation Modelling (SEM) was developed to examine the relationship between the constructs and hypothesis. Maximum Likelihood Bootstrapping procedure with bootstrap sample of 1000 and bias correlation confidence interval of 95% was applied to the data set to test the mediation effect of delinquency.

RESULTS

Profile of Respondents

Majority of the respondents were Malay male, aged between 21-35 years old (74%), corresponding to the statistic reported in *Buku Maklumat Dadah 2015* (National Anti-Drug Agency, 2016) which illustrates that 80% of drug dependents were Malay. Although the majority (97 %) of them attended high school, only a small number (32%) of them finished schooling and obtained high school certificate (*Sijil Pelajaran Malaysia*). Most of the respondents (69%) were doing odd jobs earning an average income of RM 1,000 to RM 2,000 per month (68%) and they were categorized in the bottom 40% population (B40) group (household income of less than RM3,860.00 per month). Most of the respondents were single and stayed with their parents, as they were still depending on families for support. They also indicated that the first time they got involved in drug-abuse episodes were when they were between the ages of 16 to 20 years old (59%) and most of them (68%) stated that curiosity was the main factor why they got involved with drug abuse.

Validity and Reliability of the Constructs

There are two parts of SEM: the measurement model that relates measured (observed) variables to latent (unobserved) variables, and the structural model that relates latent variables to one another. Both models have to achieve the acceptable levels of goodness-of-fit using the well-accepted goodness of fit indices (RMSEA, GFI, CFI, TLI and Chisq/df). In addition, SEM models also display factor loading and squared multiple correlations (R^2) for each measured variable. As a rule of thumb, standardised loading estimates should be 0.5 or higher, and ideally 0.7 or higher (Hair *et al.*, 2010). Hair *et al.* (2010) suggested that lower value of R^2 indicated that the variance in the measure is explained more by the error variance compared to the variation in the item. In a measurement (confirmatory factory analysis) model, the value represents the extent to which a measured variable's variance is explained by a latent factor.

Figure 3 illustrated the pooled confirmatory factory analysis illustrating latent constructs of perceived social support (SS), life satisfaction (LS), delinquency behaviour (DEL), and drug abuse (DA) with their respective observed variables. Table 1 illustrated the values of factor loading for each sub construct and their respective manifested items exceeded the cut off point level of 0.6) meeting the requirement of the unidimensionality (Hair *et al.*, 2010; Isa & Kamaruddin, 2017). Figure 3 suggested that the measurement model achieved an acceptable level goodness-of-fit (RMSEA = 0.037, GFI= 0.925, CFI=0.974, TLI=0.969 and Chisq/df=1.378). Thus, all the items in the latent constructs are retained for further analysis. The value of Average Variance Extracted (AVE) and Composite Reliability (CR) met the requirement of acceptable recommended value where the value exceeds 0.5 and 0.6 respectively (Hair *et al.*, 2010; Kashif *et al.*, 2016).

Table 2 depicted the discriminant validity index among constructs. The discriminant validity requirement is achieved when the values of square root of Average Variance Extracted (AVE) are greater than the values of correlations between constructs. Thus, results in Table 2 demonstrated that the constructs in this study differentiate from each other. Results conclude that the measurement model in this study achieved the validity and reliability of the latent construct and one could proceed to perform structural model analysis to test the proposed hypothesis of this study.

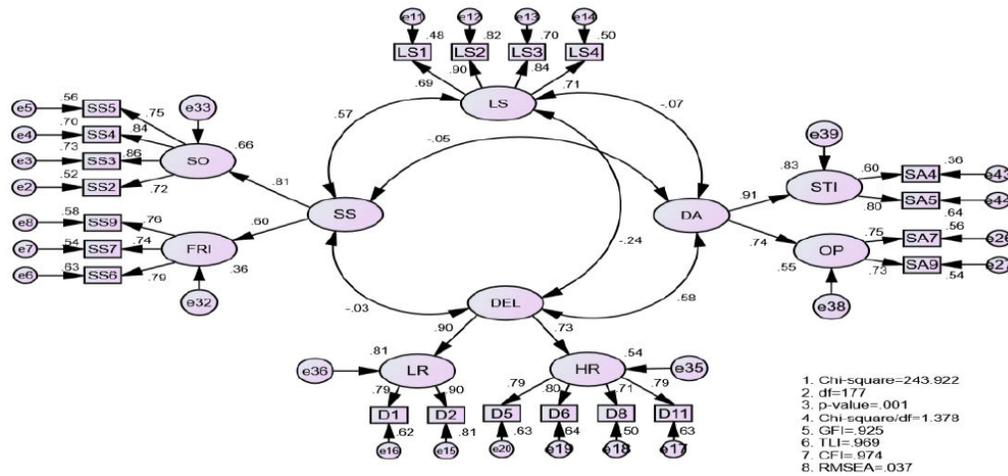


Figure 3: Pooled Model Confirmatory Factor Analysis (CFA).

Table 1: The Validity and Reliability of the Pooled Measurement Model

Construct	Item	Loading	AVE	CR
Social Support (SS)	Significant other (SO)	0.81	0.51	0.67
	Friends (FRI)	0.60		
Significant other (SO)	There is a special person with whom I can share my joys. (SS2)	0.72	0.63	0.87
	There is a special person with whom I can share my sorrows (SS3)	0.86		
	I have a special person who is a real source of comfort to me. (SS4)	0.84		
	There is a special person in my life who cares about my feelings. (SS5)	0.75		
Friend (FRI)	My friends really try to help me. (SS6)	0.79	0.58	0.81
	I can count on my friends when things go wrong. (SS7)	0.74		
	I have friends with whom I can share my sorrows (SS9)	0.76		
Life satisfaction (LS)	In the most ways my life is close to my ideal. (LS1)	0.69	0.62	0.87
	The conditions of my life are excellent. (LS2)	0.90		
	I am satisfied with my life. (LS3)	0.84		
	So far I have gotten the important things I want in life. (LS4)	0.71		
Delinquency (DEL)	Low-risk (LR)	0.90	0.68	0.81
	High-risk (HR)	0.73		
Low-Risk (LR)	Stealing (D1)	0.79	0.72	0.84
	Cheating (D2)	0.90		
High-Risk (HR)	Damaging property (D5)	0.79	0.60	0.86
	Assault (D6)	0.80		
	Gang fighting (D8)	0.71		
	Strong-arming others (D11)	0.79		
Drug-Abuse (DA)	Stimulate Opiate (STI)	0.91	0.69	0.81
	Opiate (OP)	0.74		
Stimulate Opiate (STI)	Cannabis (SA4)	0.60	0.50	0.66
	Cocaine (SA5)	0.80		
Opiate (OP)	Morphine (SA7)	0.75	0.55	0.71
	Heroin (SA9)	0.73		

Table 2: The Discriminant Validity Index Summary

Construct	Social support	Life satisfaction	Delinquency	Drug-Abuse
Social support	0.71			
Life satisfaction	0.57	0.79		
Delinquency	-0.03	-0.24	0.82	
Drug-Abuse	0.05	-0.07	0.58	0.83

Hypothesis Testing

Once the measurement model achieved the required level of validity and reliability of the constructs, the structural model was established to test the proposed hypotheses of the study. Figure 4 shows the results from the analysis showing the path coefficient from the independent construct to its corresponding depending construct. Table 3 showed the results of coefficient path for the model in the study. The findings supported the hypothesis that perceived social support had significant effect on life satisfaction ($\beta=0.63$, $p=0.0001$). In addition, the result supported the second hypothesis that life satisfaction had an inverse relationship on delinquency behaviour ($\beta=-0.26$, $p=0.002$). The hypothesis postulating that delinquency

behaviours had a positive significant impact on drug abuse among drug dependents was also supported ($\beta=0.62$, $p=0.0001$). Finally, the results in Table 3 revealed that there was not enough evidence to support the hypothesis postulating life satisfaction had a significant effect on drug-abuse behaviour ($\beta=0.78$, $p=0.39$). Finally, the findings in Table 4 supported the hypothesis proposing delinquency behaviour fully mediated the relationship between life satisfaction and drug-abuse behaviour.

Mediation Effect Using Bootstrap Approach

This study applied Preacher & Hayes (2008) method of bootstrapping the indirect effect to determine the presence of mediation effect. Preacher & Hayes

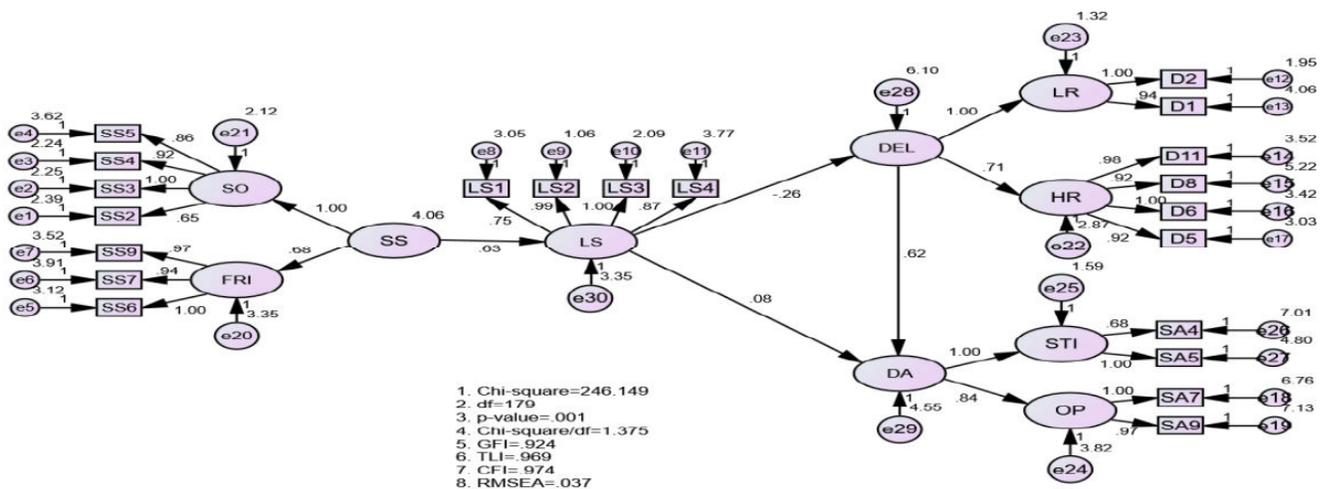


Figure 4: The path coefficient for all hypothesis in this study.

Table 3: Hypothesis Testing

Construct	Path	Construct	Estimate	S.E.	C.R.	P	Result
Life satisfaction (LS)	<---	Social support (SS)	0.63	.129	4.859	***	Significant
Delinquency (DEL)	<---	Life satisfaction (LS)	-0.26	.083	-3.150	0.002	Significant
Drug-Abuse (DA)	<---	Delinquency (DEL)	0.62	.116	5.296	***	Significant
Drug-Abuse (DA)	<---	Life satisfaction (LS)	0.78	.089	0.860		Not significant

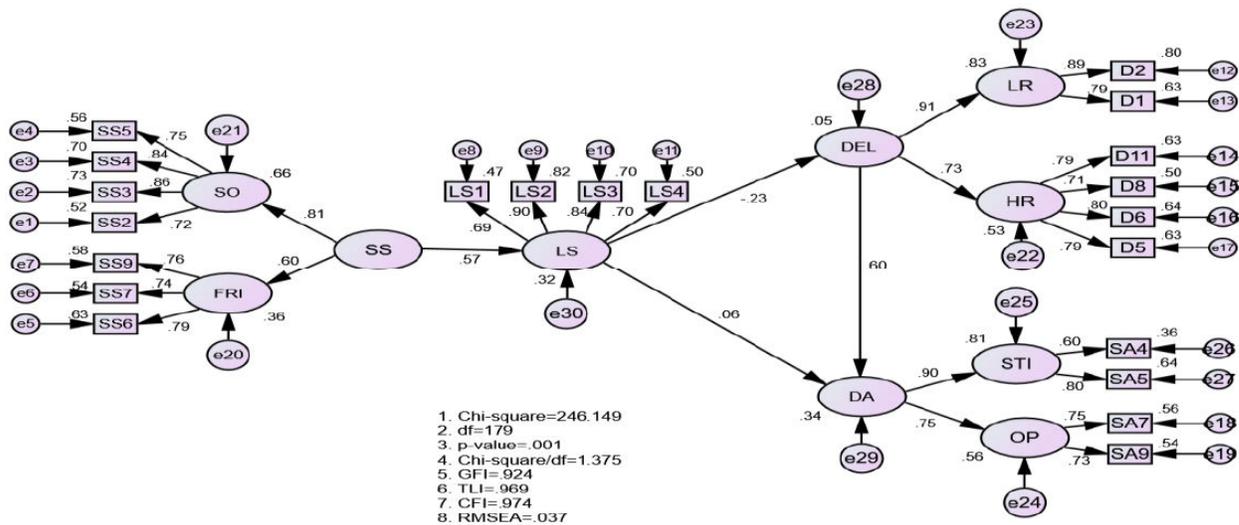


Figure 5: The standardised regression weights for path in the model.

Table 4: The results of bootstrapping procedure in testing delinquency as a mediator on the relationship between life satisfaction and drug-abuse.

	Indirect Effect LS-DA	Direct Effect LS-DA
Bootstrapping Results	0.138	0.06
Bootstrapping P-value	0.001	0.39
Result	Significant	Not Significant
Lower Bound (LB)	-0.269	-0.090
Upper Bound (UB)	-0.059	0.232
Type of Mediation	Full Mediation since direct relationship is not significant	

(2008) suggested that mediation occurred when the Lower Bound (LB) and Upper Bound (UB) values of indirect effect do not straddle a 0 in between. The results of the analysis showed that the indirect effect $\beta = 0.138$ (-0.23×0.60) was significant with a p-value of 0.001, 95% Boot Confidence Interval (CI): [LB = -0.269, UB = -0.059] does not straddle a 0 in between indicating there is a mediation effect. Thus, it can be concluded that the mediation effect is statistically significant, indicating that hypothesis in this study was supported as depicted in Table 4. The type of mediation is a full mediation since direct effect of life satisfaction on substance abuse is not significant (Afthanorhan *et al.*, 2018; Mohamad *et al.*, 2018).

DICUSSION

The purpose of this study was to examine the influence of (i) perceived social support on life satisfaction (ii) life satisfaction on delinquency (iii) life satisfaction on drug-abuse behavior and (iv) delinquency on drug-abuse behavior. Moreover, the

study was conducted with the aim to identify the mediating role of delinquency on the relationship between life satisfaction and drug-abuse behavior. The results indicated that there was a significant effect of social support from significant others and friends on life satisfaction. Significant others were persons whom one not only shares their joys but also sorrows, became the source of comfort and concern about their feelings who would provide emotional, informational and appraisal supports. Similarly, friends were described as individuals who one could count on and would help them when things went wrong besides sharing their feelings of sadness. Youths that received social supports from significant others and friends attained higher life satisfaction, perceived their life to be in an excellent condition, leading an ideal life and having things that they perceived to be important in their life. The finding was consistent with the work carried out by Young (2006) suggesting that different sources of social support have different effects on an individual's life satisfaction. In this case, the findings uncovered that social support provided by significant others

(individuals who were close with drug abuser such as spouse, and staff at the rehabilitation center) had more influence than friends in improving drug-abuser's life satisfaction. In this particular case, family were found to have no influence in improving the respondents' life satisfaction. This finding was supported perhaps due to the fact that, in most cases, family members tend to be disassociated with addicted family members as they felt ashamed or the addicted family member had caused them stress. This finding was also supported by Fatoba & Bzdzikot (2015) and Pugliese & Okun (2014) who postulated that significant others and friends play a more influential role during young adulthood than during adolescence.

It was noted that life satisfaction influenced individuals' behaviour. The finding in this study empirically proved that life satisfaction had a significant inverse influence on delinquency. Increase in life satisfaction would lead to low delinquency involvement. The result of this study denoted that individuals with higher level of life satisfaction has lower level of involvement in delinquency behaviour. This finding supported studies conducted by Mohamad *et al.* (2018); Savi Cakar, Tagay & Karatas (2015) and Cenkseven Önder & Yilmaz (2012). Moreover, the findings of the study empirically proved that delinquency had a significant impact on drug-abuse behaviour. This result supported studies by Mohamad *et al.* (2018); Brunelle *et al.* (2014). Findings of this study suggested that individuals who involved in drug-abuse behaviour involved in both low-risk (like stealing and cheating) and high-risk delinquency behaviour (damaging property, assault, gang fighting and strong-arming others). Low-risk behaviour are those acts that lead to less serious injuries and/or property destruction whereas high-risk are those that caused more serious injuries and/or property destruction.

However, this study suggested that there was no significant relationship between life satisfaction and drug abuse and confirmed that delinquency as a full mediator in the relationship between life satisfaction and drug abuse behaviour. Although life satisfaction had no significant impact on drug abuse behaviour however, it influenced delinquency which in turn affected drug abuse behaviour. Against this setting, it was postulated that in order to tackle the increased incidents of drug abuse behaviour among youth, it had to begin with curbing the delinquent behaviour which could be achieved through improving life satisfaction by

providing social support. The underlying principle was to improve life satisfaction which could be achieved by providing social support assistance to the drug abusers. In this case, social support could improve life satisfaction among drug addicts that would reduce their negative behaviour (delinquency and drug abuse) and improve their chances of recovery or prevent them from episodes of relapse.

CONCLUSION

The underlying urge to conduct this study among drug addicts getting treatment at rehabilitation centres was based on the premise that drug abuse was prevalent and in the increasing trend among youths in Malaysia. Henceforth, this study was conducted embracing the fact that it could impede youth learning and brain development, as well as educational attainment and career development. Recognizing that youths were perceived to be the important resource to sustain the nation's continuous development and growth, the escalating drug-abuse issue should be addressed to ensure the country's continuing growth development. In addition, drug abuse had negative impacts on individuals, families, and communities in the sense of affecting their safety and quality of life.

Thus, measures were undertaken to address the issue of the escalating drug addictions among youth. Specifically, this study provided some insightful inputs in tackling drug-abuse behaviour amongst addicts getting treatment at rehabilitation centres in Malaysia. Drug abuse and delinquent behaviour were postulated to be strongly correlated: where drug abuse could lead to delinquency or vice versa. The study discovered that individuals who involved in drug addictions were those involved in delinquent behaviour experiencing a low level of life satisfaction. The study postulated that addressing delinquency would reduce the incidents of drug abuse or addiction. The incidents of delinquency could be reduced by improving youths' life satisfaction. The study postulated that improved youths' life satisfaction could be achieved through providing positive social support to drug abusers. The sources of social support were individuals identified as significant others and friends who would provide emotional support (offering care, empathy and trust to those who needed it) and informational support (could help a person solve a problem and provide feedback) and appraisal supports (involve information that helps one in evaluating personal performance). The findings of

this study empirically proved that positive social support from significant others and friends could be a powerful force to improve drug addicts' life satisfaction. Individuals with high level of life satisfaction indicated low level of involvement in delinquent behaviours leading to reducing drug-abuse behaviour.

This study found that both positive social support and improved life satisfaction were the major factors that would reduce delinquency and drug-abuse behavior among youth besides facilitating the addiction-recovery process. It is important to note that drug addicts at the drug rehabilitation centers were social beings that require interactions with other individuals perceived to be able to provide them positive social support to facilitate improving their life satisfaction. Positive social support and life satisfaction could also be regarded as beneficial elements in controlling drug-abuse behaviour and accelerating the recovery process of addictions. Keeping sober during the treatment period, in addition to experiencing low life satisfaction, which perhaps resulted from social isolation, could be a great challenge to many drug addicts. The study proposed that positive social support should be extended and maintained even after their release from the rehabilitation centre to avoid triggering relapse. Post-release social support was argued to be crucial to enable strengthening individuals' place in the community as a productive worker, family member and community member, which would improve their life satisfaction. Positive social support provides assistance that would strengthen ending serious episodes of relapse when significant other and friends were involved in the treatment. Thus, findings of this study assumed that an improvement in drug-abusers' life satisfaction whilst getting treatment at the rehabilitation center and upon release, involving significant other and friends, increased the chances of success in overcoming the challenges recovering from drug addictions and prevent them from relapsing. Out-patients of rehabilitation centers with high life satisfaction during and after getting treatment would have less likelihood of involving in delinquent behavior which subsequently lead to less chance of them getting involved in drug-abuse behavior again or vice-versa.

The study reckoned that, in the case of youth drug addicts getting treatment at the rehabilitation centers in Malaysia, the availability of positive social support was particularly crucial to improve their life satisfaction that enable them avoid from getting involved in delinquency

involvement, recovering from drug-abuse behavior or addictions and experiencing less serious episodes of relapse. Social support was postulated to provide drug addicts with the experience of being valued, respected, cared for, and loved which help to improve their life satisfaction because it enhanced their positive emotions, sense of self-worth, and acted as a stress buffer by reinforcing self-esteem and self-efficacy. Therefore, drug rehabilitation programs should focus on designing activities meeting the drug addicts' need for positive support from significant person or friends to make the necessary life changes required for lasting sobriety and increase the chances of an individual making a permanent recovery from addiction.

It is important to caution the readers that the study was conducted not without limitations and the interpretation of the findings should take into account these limitations. Firstly, the study was conducted among drug addicts at the several selected drug rehabilitation centers in the east coast of peninsular Malaysia excluding other drug addicts not getting treatment at the rehabilitation centers. There were other groups of drug addicts getting treatment from other service providers, such as hospital and prisons, in the other regions of Malaysia. Secondly, the study involved male drug addicts and the findings of the study were confined to the perspective of male youth drug addicts only. In that sense, the result of the study may be true to Malay youth drugs addicts getting treatment at drug rehabilitation centers but may not represent the whole population of youth drug addicts in Malaysia. In this respect, it was suggested that the same study should be replicated to other groups of drug addicts, not matter whether they are getting treatment or otherwise incorporating not only Malay youths to enrich the understanding of drug-abuse behavior. Finally, the current study was conducted on a cross-sectional research design which has the limitation of causality. Thus, future research should adopt a longitudinal research design to overcome the problem of causality.

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