

# Impact of People Access to Public Drugs on Substance Abuse and Delinquency Behavior in Thailand: Mediating Role of Life Satisfaction

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## ABSTRACT

This research is intended to see how the access to pharmacy and drug delineates the substance abuse and the delinquent behavior (DB) among consumers relating to middle age group in Thailand. There are mainly two objectives of this research. The first is to see the inverse effect of access to drug and pharmacy on substance abuse and (DB), the other objective is to see the mediating role of life satisfaction (LS) relating to the previous relationships of variables. The data is collected through the people of Thailand through structured questionnaires and purposive sampling to select only middle age people. The data analysis is run through SPSS and AMOS. The results considered the descriptive of the analysis, path analysis, and confirmatory factor analysis CFA to test the effects of variables through responses.

The results showed that there had been a significant negative effect of access to drugs & pharmacy on substance abuse and (DB), and there had been a significant mediating effect of LS through access to drugs on substance abuse and delinquent behavior (DB). This research gives the direction to people as how the access to their medication can help them be satisfied. This research also gives implications for pharmacists as their access to health sector can be protective for other people.

**Keywords:** Life satisfaction, drugs, pharmacy, abuse, delinquency, Thailand.

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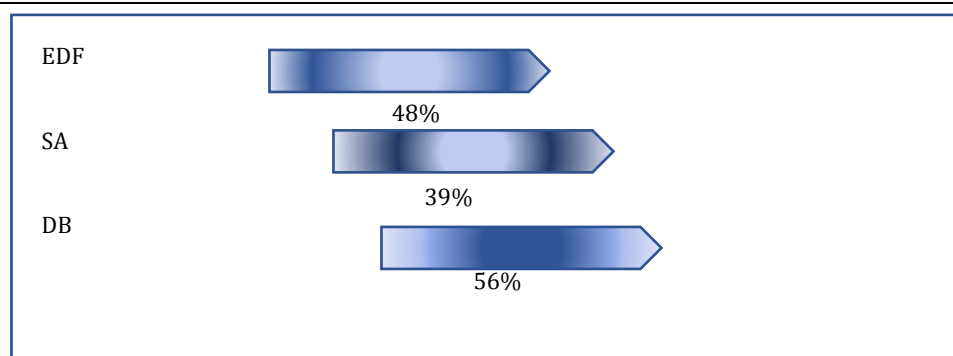
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## INTRODUCTION

People, when faced with mid-life crisis and responsibilities, tend to look for their life satisfaction LS and contentment as to fight with the life-related issues. The middle-aged people face a lot of depression as they enter the years of their life where they have to come up with societal, family, work related matters that can decrease their will to live happily (Caplan & Bateman-House, 2015). People from all the walks of life can face depression and become victim of abuse of substance or may become victims by just experimenting with the recreational painkillers or drugs just out of curiosity to check (Biehl, Socal, & Amon, 2016). A study in U.S by Organization (2017) disclosed that people are not becoming addicts to just illegal drugs, but the painkillers or the psychedelics are considered to be most abused drugs among middle age people and they get prone to major health issues because of it. Substance abuse is considered to be dependent variable in this research and is affected by the access to drugs and pharmacies. It is not just the issue of misuse but is considered as a disorder (Zullig, Valois, Huebner, Oeltmann, & Drane, 2001). In Thailand, there has been a major research by Hagen et al. (2017), that elaborated that when middle aged people face depression, they tend to misuse the drugs that are prescribed to them and that results in the substance abuse of that drug or medicine. The DB is more of a negative and a criminal behavior and is described as the immoral and unethical conduct as a result of unsatisfied life and discontentment (Tremblay, 2017). The most probable issue of DB is that it effects the society as a whole. According to Assink et al. (2015), when people get themselves into such criminal acts, they tend to be more suicidal on the inside. Andersen (2018) described that the

people in their 40s cannot live without their daily prescribed medications and somehow, this results in their addiction to those drugs. Instead of focusing on their satisfaction, people get more intended to misuse the drugs for their addiction. Bouso et al. (2015) studied the effects of psychedelics as the long-term usage of these drugs might fluctuate the axions and dandelions in the neuro systems, resulting in a negative signaling to brain which results in the DB.

These issues regarding the access to those doses and the abuse of these drugs had been very much prominent in Thailand in the last two decades (Moos, 2018). The drugs misuse and addiction has increased over these pervious years in Thailand and has also resulted in the increase of aberrant behavior (Carrera & IJzerman, 2016). This has been an alarming issue in all the developed and developing countries as the people are now emerged in using the drugs for negative purposes and posed to criminal activities (Carhart-Harris & Goodwin, 2017). This situation is very much distressing for the concerned authorities. If these issues are not looked upon, then these will result in the deterioration of the health care sector and subsequently other related problems will emerge resulting in the surge of criminal and unethical activities (Baker, 2016). The following diagram previews the effect of access to drugs in Thailand is 48% in Thailand, the people indulged in substance abuse are 39% and the delinquent behavior of adult consumers that is 56%.



**Figure 1. The access to Drugs, Substance Abuse, and Delinquent Behavior among Adults in Thailand**

There is a need to highlight these issues in all over the world as it is disturbing the social impacts of people that are being victims. Previously, there has not been much study as to see impact of satisfaction as a mediator on diminishing the misbehaviors. Therefore, this research provides a guidance as to see how the impact of medicines should lead to LS of consumers and diminish the substance abuse of these drugs and to avoid the DB of consumers. Furthermore, this study will be the first one to show the impact of LS as a mediator on the abuse and misbehavior of the middle-aged people of Thailand. This research has a main objective to study LS and drugs usage through pharmacy and analyze how LS can delineate the effect of substance abuse and DB among middle age people in Thailand. There is one independent variable in this research that is access to drugs and pharmacies. There are two dependent variables in this research that are substance abuse and DB. The major role is of the mediator in this framework which LS. The research has following objectives to achieve:

- I) To analyze the effect of access to drugs & pharmacy on substance abuse in Thailand.
- II) To determine the role of access to drugs & pharmacy on DB in Thailand.
- III) To analyze the mediating role of LS in the context of relationship between access to drugs & pharmacy and substance abuse in Thailand.
- IV) To analyze the mediating role of LS in the context of relationship between access to drugs & pharmacy and DB in Thailand.

The research by Plant, Donohue, and Holland (2016) discussed some of the practical significance on the use of medications to reduce substance abuse. Their research states that society needs to determine to ban the abuse of the drugs (illegal or not). This research will have sections accordingly that will put light on the literature review, relational literature review, methodology of the research, the sampling techniques and data analysis, the results obtained from the analysis, discussion and conclusion of the study.

## LITERATURE REVIEW

### Interactive model of medical drug use

Gorsuch (1976) proposed an interactive and multiple-model theory for the medical drug usage among people as an effort to preserve the abuse of non-medical drugs. Other recent studies (Jiang, Fang, & Lyons, 2019), regarding the relation of drug usage, the abuse of drugs and DB have been

conducted and empirically tested as well just like our research. The theories that are presented in this model explain the psychological impact of medicines as leading towards satisfaction among individuals and drug abuse as a dependent variable. The psychological aspect of this model. It also relates to the *theory of delinquency* and cognitive affective pharmacognosy *CAP theory of drug abuse*. The former theory states that people tend to violate laws and ethics led by some deficiencies in their upbringing and behavior, the latter puts emphasis on the interaction of drug abuse with depression and dissatisfaction among middle aged people as they use the pharmaceuticals for fighting with depression (Boukhechba et al., 2018). Hughes, Kinder, and Cooper (2019) have stated in their research that when people experience their mid-life crisis, they tend to find a way to get away from the depressed halo on their head. For that purpose, people majorly get addicted to alcohol or other drugs that is considered the substance abuse. According to the theory proposed by Sykes and Matza (2017), people adapt the delinquency behavior when they feel they are not satisfied with their lives. Therefore, this research states to use this interactive model to see how the medications can help people to be satisfied with their lives and avoid substance abuse and delinquent behavior.

### Access to drugs & pharmacy and substance abuse

The substance abuse refers to either to the usage of that medication in a way when people are using as not prescribed. Levitt (2015) in his research about psychology of anxiety explored that when people get prone to more anxiety and life issues, they tend to get indulged in the abuse of drugs. The despair among middle-aged people is hidden by their general appearance and lifestyles, but in isolation these people tend to become victims of drug abuse to get rid of the desperation among them (Mohamad, Mohammad, Mat Ali, & Awang, 2018). Nichols (2016) stated that the usage of drug either legal or described in prescription, does not suddenly leads to the substance abuse. When people get access to their medications and drugs that can lighten their depression and give them ease, then people will not get subjected to much of the abuse of drugs. Leach et al. (2017) did a cross-sectional analysis to see the effect of medications especially herbal in adults and found out that the use of these medicines led to the inner satisfaction among adults and they were less prone to substance abuse. Exposure to stress and anxiety may lead to unhappiness and misuse of psychedelics and pharmaceuticals, however, if the people get satisfied when they get access to their public medicines, dosages and

drugs, they do not get attracted to use the non-medical drugs (Hagemeyer et al., 2018). Similarly, this research is conducted to see the inverse relation between access to drugs and pharmacy on the substance abuse in the context of Thailand. Therefore, for this research we state the following hypothesis:

H1: Access to drugs & pharmacy have a significant impact on substance abuse.

#### **Access to drugs & pharmacy and delinquency behavior**

The delinquent behavior is a criminal behavior that is seen among the juveniles and some adults in their 30s to 40s (Shoemaker, 2018). People with depression get indulged in this kind of behavior when they feel they cannot cope up with their depression and eventually start being negative about life resulting to follow a DB (Hawkins & Weis, 2017). There had been much research on how to prevent the delinquent behavior among people. The adults striving to grasp happiness and satisfaction on the inside and still might practice some criminal activities. Therefore, there is a need to understand that when people get access to their medicines and cure to their depression, they tend to be more positive towards life and hence this is how they tend to avoid the DB (Miller, Baum, & McNeil, 2017). A similar research has been conducted by Farrington and Hawkins (2019), they did an experimental study for the benefits of crime prevention programs and concluded that when these people get proper medication and treatments, then they tend to stop their daily acts. Delinquency not only effects the individual but it impacts society as a whole as victims and culprits both form the society (Matza, 2018). There has been a research in Europe Farrington and Hawkins (2019) who concluded that delinquent behavior results in drifts, crimes, violating laws, and disturbing the peace of the overall society. This needs to be looked upon as it deteriorates the societal norms. Another recent study by Sykes and Matza (2017) explained that if these juveniles and adults who act deviant from the societal norms and values are given easy access to their drugs and dosages to help up with their psychological issues, then they tend to be less proactive towards crimes and delinquent behavior. This research will study the impact of drugs and pharmacy access on the decrease of DB. Consequently, the second hypothesis of this research is as follows:

H2: Access to drugs & pharmacy have a significant impact on delinquency behavior.

#### **Mediating role of life satisfaction on access to drugs & pharmacy and substance abuse**

The concept of LS varies from individual to individual (Arli, Bakan, Varol, & Aslan, 2018). Somehow, still, when mid-age people face depression or anxiety, they relieve it through medicines, painkiller, psychedelics, or worse, through drugs (Schinke, Whittaker, & Briar, 2017). This research uses LS as a mediator. Following is the relational literature review if the mediator with dependent and independent variables. Pharmacists are considered to be most accessible when it comes to health care sector. They are in a position in which they can prevent as well as treat the substance misuse by their consumers (Coplan et al., 2016). Recent researchers

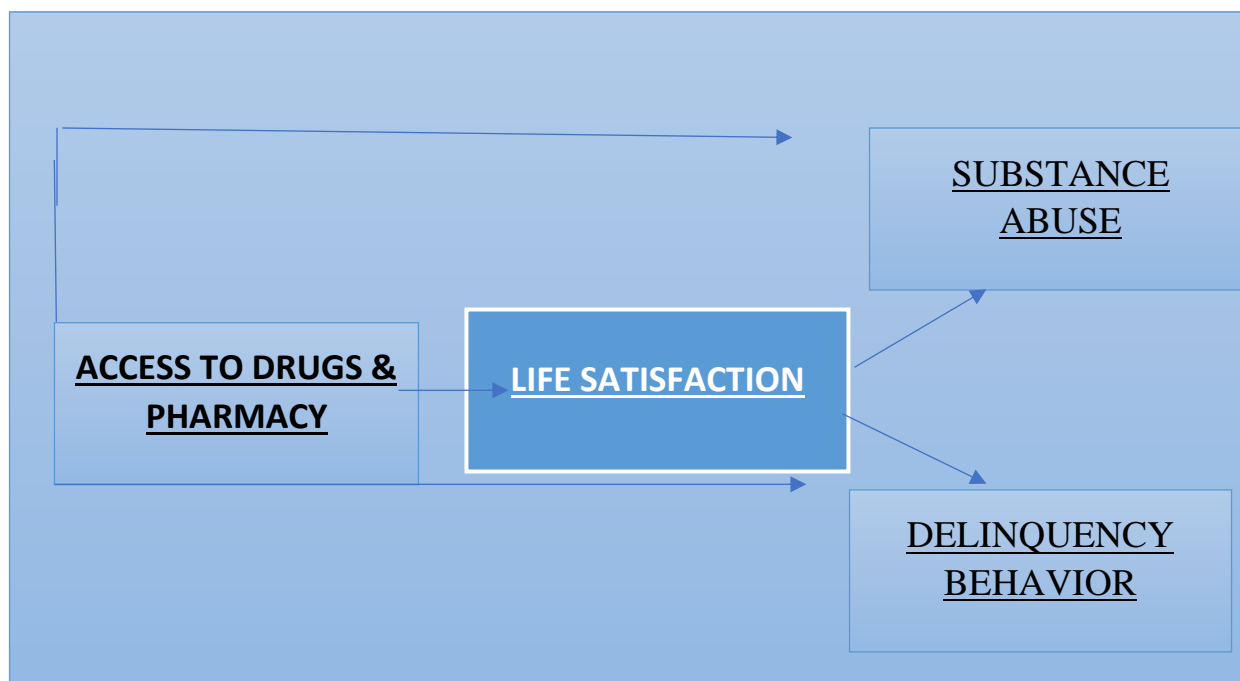
regarding the pharmacy access and drug usage have proved their significance in providing society with the knowledge of the behavioral risks and pharmacological treatments of drug abuse (Hagemeyer et al., 2018). The research by Barger and Hormes (2017) explains that when people tend to be satisfied with their medications and have easy access to their doses, they tend to get satisfied with their lives, hence they do not involve in the terms of substance abuse. In a longitudinal study by Cao and Zhou (2019), where they experience difference between the abuse of drugs among individuals in five years while they got access to their local treatments, the authors concluded that, if these people are taken good care of and are given public access to their dosages and treatments, they tend to be contented and eventually will stop their unlawful behavior of abuse of drugs etc., A study in the neurology department by Carhart-Harris and Goodwin (2017) explained that when people become satisfied with their lives, a positive signal always run through their neurons and help the medulla oblongata in their brain that stops them from violating the basic norms of any society. Therefore, we state our third hypothesis as follows:

H3: Life satisfaction has a significant mediating role on access to drugs & pharmacy and substance abuse.

#### **Mediating role of life satisfaction on the access to drugs & pharmacy and delinquency Behavior**

A research by Jung and Choi (2017) in Korea among adolescents showed that the LS among these people is a protective factor to save people from DB. These researchers used a longitudinal study to show the impact of LS on DB and later DB to analyze that adolescents first decreased their delinquent behavior and after a period of time, this behavior increased in them. They used LS as a moderator to see how it impacts the DB. Tang and Chan (2017) also proposed that due to therapeutics and medicines lead to stress relivers and increase life satisfaction in people. When people get the access to their required drug usages and become satisfied with their needs, the DB among them decreases (Yang & Cha, 2018). The research by Jørgensen, Iwarsson, and Lexell (2017) elaborated that when adults feel that satisfaction is going through their lifestyles and they have access to all the basic things they need that specifically includes their drug usage and pharmaceuticals, then they refrain themselves from misbehaving and from breaking the societal customs and traditions. This is how life satisfaction acts as a mediator while explaining the relationship between access o drugs and pharmacy and delinquent behavior among adults. When the adults get prone to their life crisis and responsibilities of families, they need to seek medications to help them be satisfied with and avoid the behaviors that can harm them and as well as the society (Caplan & Bateman-House, 2015). Therefore, the fourth hypothesis of this research regarding the mediating role is as follows:

H4: Life satisfaction has a significant mediating role on access to drugs & pharmacy and delinquency behavior. The theoretical framework for the literature is given below:



## RESEARCH METHODOLOGY

### Population and Sampling

This proposed study has been accompanied for observing the influence of access to public drugs on substance abuse and delinquency behavior, in mediating role of life satisfaction. Researcher considered the Thailand as the population of study as drug usage in Thailand getting increased day by day and it became the most dangerous problem for Thailand government. As the government takes many preventive measures for reducing the usage of drugs such as death penalty, huge amount charges to drug user but still the rate of drugs usage has not been controlled. It is mandatory to find out the root cause behind substance usage of drugs that's why researcher proposed this study in which few parameters have been presented as reason behind substance usage. For observing the effect of proposed study, researcher collect the data from managers and employees of the government agencies, which are working for reducing the substance abuse of drugs by establishing the rehabilitation centers. Researcher takes into account purposive sampling technique for selecting the sample as it enables to select only those who have been encountered with drug abuser and they have the entire history of drug abuse. Researcher considered the survey strategy for data collection and distributes the 330 questionnaires among respondents but researcher only considered 293 valid responses after performing the data cleaning process.

### Data collection Procedure

As the researcher decided to proceed the data collection procedure through survey strategy that's why researcher chooses the questionnaire as the survey instrument for collecting the data. Questionnaire helps to collect primary data and quantitative data, which can easily be analyzed through statistical analysis techniques. Researcher

categorized the questionnaire into two types of closed ended questions such as demographic and variables scale questions, in order to collect objective opinion rather than subjective detail. Questionnaire has been written in English language but for data collection researcher convert it into Thai language. After data collection, researcher used back-translation method for again converted it into English language. Moreover, researcher checked the content validity of measures through industrial professionals and verified the understandability of items through pilot study. Before finalizing the questionnaire, researcher rectify the mistakes and errors in questionnaire wording, language, structure. Afterwards, researcher administered it through self-administering technique for solving the queries of respondents related to specific terms in questionnaire and regarding the understandability of items.

### Instruments for Data Collection (Measurements of Variables)

Different authors have already been performed the research work on the proposed variables of this research study, but in relation to other variables or in totally different context. Researcher accompanied these specific research studies for the adaption of survey items because researcher considered them more reliable and authentic. For the measurement of access to drug and pharmacy, researcher accompanied the research work of (Rushworth, Cunningham, Pflieger, Hall, & Stewart, 2018) and adapts the 10 survey items. Researcher measured the substance abuse through 2 survey items, which have been adapted from study of (Shek, 2004). Further, researcher adapts the 3 survey items from research work of (Shek, Ma, & Tang, 2012), for the measurement of delinquency behavior and for life satisfaction measurement, researcher takes into account research work of (Diener, Emmons, Larsen, &

Griffin, 1985) and adapts 3 measurement items. 5-point Likert scale has been accompanied by researcher for the measurement of all these survey items, in which responses categorized in range 1= strongly disagree to 5= strongly agree.

### Data Analysis

Researcher accompanied the two software such as AMOS and SPSS for statistical analysis of the collected data and performed various tests under them such as researcher performed reliability test, regression test, correlation test and descriptive statistics test under SPSS. In reliability test, researcher checked the reliability of data through two criteria such as (1) Cronbach's alpha and (2) Composite reliability, both must have the values in threshold range greater than 0.70, for ensuring items reliability and internal consistency. Further, researcher performed confirmatory

factor analysis and structure equation modeling under AMOS, CFA has been accompanied for evaluating discriminant validity, convergent validity and model fitness. Moreover, SEM has been accompanied for checking the acceptance or rejection status of hypotheses of this research study.

### Analysis and interpretation

In the conducted study, there were total 293 respondents, out of these 122 were males and 171 were female in total. Education wise 23 of the respondents had done their graduation, 141 of the respondents had done their post-graduation, 119 of the people were masters while other fall in other degrees. From the participants, 39 of the people were of 21-30 years old. 184 of the people were 31 to 40 years of age. 52 of the people were 41 to 50 years old in age and 18 were 50 plus in age.

**Table 1. Descriptive Statistics**

	N	Minimum	Maximum	Mean	SD	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	SE
AccDrugPh	293	1.00	4.90	3.6000	1.05833	-.886	.142
LifeSatisf	293	1.00	5.00	3.5984	1.12832	-.805	.142
SubAbuse	293	1.00	5.00	2.2730	1.43543	.913	.142
DelBehav	293	1.00	5.00	2.3788	1.36500	.991	.142
Valid N (listwise)	293						

The above table 1. is showing the descriptive statistics of the study. The descriptive statistics are a detailed description about the variables and they show descriptive coefficients that give a summary. This set of given data represents the entire sample of the population. The data is

showing that there is no outlier in given data because maximum values are in the threshold range of 5-point Likert scale and skewness value is between -1 to +1, which is the threshold range of normality so, the data is normal and valid. The data is valid to go for further testing.

**Table 2. Rotated Component Matrix**

	Component			
	1	2	3	4
ADP1	.689			
ADP2	.803			
ADP3	.842			
ADP4	.848			
ADP5	.840			
ADP6	.829			
ADP7	.835			
ADP8	.848			
ADP9	.873			
ADP10	.846			
LS1			.804	
LS2			.861	
LS3			.834	
SA1				.859
SA2				.853
DB1		.912		
DB2		.917		
DB3		.908		



Above table 2. of rotated components matrix is showing that almost all of the indicators are having factor loading more than 0.7, it means that all the indicators are eligible to be exposed to further hypothesis testing techniques, because all the factors are in suitable threshold level and all

are in suitable and valid sequence and range, this data is good to go for further testing techniques, there is no cross loading in the data shown in the RCM. So, the data is reliable.

**Table 3. Convergent and Discriminant Validity**

	CR	AVE	MSV	MaxR(H)	LS	ADP	DP	SA
<b>LS</b>	0.923	0.801	0.362	0.929	<b>0.895</b>			
<b>ADP</b>	0.906	0.742	0.362	0.977	0.602	<b>0.861</b>		
<b>DP</b>	0.932	0.895	0.252	0.986	-0.502	-0.443	<b>0.946</b>	
<b>SA</b>	0.876	0.780	0.333	0.987	-0.577	-0.527	0.486	<b>0.883</b>

Validity master sheet was used to confirm the convergent and discriminant validity of the research model variables. Discriminate validity provided the discrimination between variables while the convergent validity was measured with the help of composite reliability and average variance extracted. The results of the validities are shown in the table 3. The results and convergent and discriminant

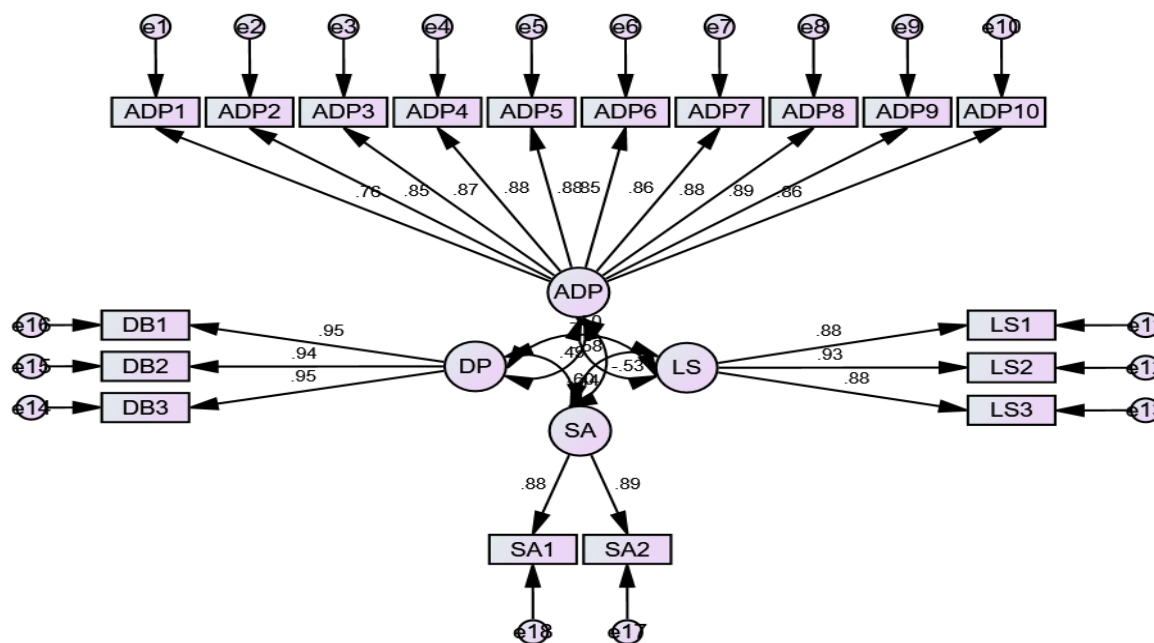
validity show that the overall model is a good fit because the composite reliability of each variable is more than 70% and average variances extracted is more than 50% while the discriminant validity showed that loading of each variable discriminates from others. Every variable has maximum loading with itself as compared with others so, these validities prove the authenticity of the collected data.

**Table 4. Confirmatory Factors Analysis**

Indicators	Threshold range	Current values
CMIN/DF	Less or equal 3	1.913
GFI	Equal or greater .80	.912
CFI	Equal or greater .90	.978
IFI	Equal or greater .90	.978
RMSEA	Less or equal .08	.056

CMIN is less than 3, GFI is more than 0.80, CFI is greater than 0.90, IFI is greater than 0.90, and RMSEA is less than 0.08. so, the data is in a valid range and is good to go for

further testing. Following is the screenshot of CFA in Figure. 1.

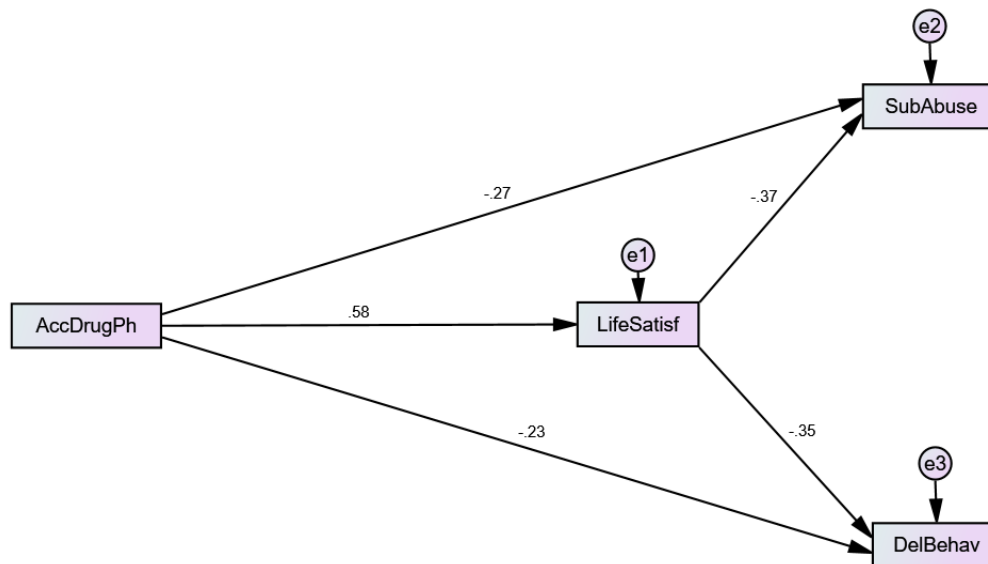


**Figure 3. CFA**

**Table 6. Structural Equation Modeling**

Total Effect	AccDrugPh	LifeSatisf
LifeSatisf	.581***	.000
DelBehav	-.429***	-.347***
SubAbuse	-.487***	-.373***
<b>Direct Effect</b>	AccDrugPh	LifeSatisf
LifeSatisf	.581***	.000
DelBehav	-.227**	-.347***
SubAbuse	-.270**	-.373***
<b>Indirect Effect</b>	AccDrugPh	LifeSatisf
LifeSatisf	.000	.000
DelBehav	-.202**	.000
SubAbuse	-.217**	.000

The above table is showing the results of SEM which show the relationship between different variables and their impacts on each other. According to the results, the impact of ADP on SAS and DB is seen to be significant and negative. The impact of LS on SA and DB is seen to be significant and negative. The mediating role of LS is significant and negatively triggering.



**Figure 4. Structural Equation Modelling**

## DISCUSSION AND CONCLUSION

### Discussion

The aim of the study is to know the impact of Access to Drugs and Pharmacy (EDF) on Substance Abuse (SA) and the impact of Access to Drugs and Pharmacy (EDF) on Delinquency Behavior (DB) with the mediating role of Life Satisfaction (LS). The first hypothesis introduced was the 'the impact of Access to Drugs and Pharmacy on Substance Abuse is negative and significant' this hypothesis was accepted. According to the writer (Löfgren, 2017), the availability of drugs can make a negative usage of the drugs. The drugs which are easily available make a bad effect of

the people consuming it and to the people who are providing these drugs which are hazardous. The second hypothesis proposed was 'the impact of Access to Drugs and Pharmacy (EDF) is negative and significant on Delinquency Behavior' this hypothesis is accepted. According to the writer (Ngorsuraches & Chaayakan, 2015), the underage smoking has only been increasing due to the availability of cigarettes and other drugs, easily available drugs are the main reason of enhancement of Delinquency Behavior. Third hypothesis proposed was the 'the mediating role of Life satisfaction between of Access to Drugs and Pharmacy (EDF) and Substance Abuse (SA) is negative and significant' this hypothesis was accepted.

According to the writer (Phueanpinit, Pongwecharak, Krska, & Jarernsripornkul, 2016) the life satisfaction is badly effected when drugs are so easily specially those which are illegal, specially effecting the youth and young aged children. The fourth hypothesis proposed was the 'the mediating role of Life Satisfaction between Access to Drugs and Pharmacy (EDF) and Delinquency Behavior (DB)' this hypothesis was accepted, According to the writer (Ploylearmsang et al., 2019), excess of everything is worse and when the availability becomes at such ease of the drugs the crime rate is automatically increased and it leaves a bad and harmful effect on the society (Sruamsiri, Ross-Degnan, Lu, Chaiyakunapruk, & Wagner, 2015).

### Conclusion

The aim of the study is to know the (EDF) on (SA) and the impact of (EDF) on (DB) with the mediating role of (LS). This study was conducted in Thailand with 300 respondents and the area that was targeted for third study was pharmaceutical area of Thailand. This study concludes that the easy access of any types of drugs can break or make the society. The availability of illegal drugs is spoiling the youth and also the adult age groups which is then increasing the crime rate of the country day by day. The ease of availability is also making the people who are not into such activities also get involved and give it a try according to the surveys that were conducted in Thailand.

### IMPLICATIONS OF THE STUDY

This study has given a hint to the country and not only to Thailand but other countries that they should make policies which will make sure that drugs are not easily accessible. This policy has decreased the crime rate in California and Thailand is also suggested to do so. The pharmaceutical companies and the government have signed a treaty which ensures that drugs are only provided to the authentic and registered dealers.

### LIMITATIONS AND FUTURE RESEARCH RECOMMENDATIONS OF THE STUDY

The study conducted was the merging of data collection from the pharmaceutical companies the data should have been collected from the general public who consume these drugs. The police should also have been involved in this study to know the exact information about the crime rates. The future writer is suggested to focus on the police and general public next time. The sample taken for the study is not sufficient for the investigation of such a large-scale problem on the table, the future researchers are also recommended to expand the sample size for justifications and validity.

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