

Theory of Planned Behavior on The Psycho-Social Determinants of Drug Use Among Adolescents in Samarinda, East Kalimantan

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ABSTRACT

Background: Drug abuse is serious global health problem. Drug users aged 10-59 years in Indonesia has been increasing steadily. According to data from National Board for Drug Abuse (BadanNarkotikaNasional, BNN), the prevalence of drug users in East Kalimantan was 59,195 (3.07%) of population aged 10-59 years of 1,930,936 people. This research aimed to investigate the psycho-social determinants of drug use among adolescents in Samarinda, East Kalimantan, using Theory of Planned Behavior.

Subjects and Method: This was an analytical observational research with cross-sectional design. The research was carried out at BadanRehabilitasi Tanah Merah, Samarinda, East Kalimantan, from July to August, 2017. A sample of 150 adolescents were selected for this research by fixed disease sampling, including 50 adolescent drug users, and 100 adolescent non drug users. The dependent variable was drug use. The independent variables were intention, attitude, subjective norm, perceived behavior control, peer group, parenting style, and family harmony. The data were collected by pre-tested questionnaire and analyzed using path analysis.

Results: Drug use was directly determined by strong intention ($b= 2.18$; 95% CI= 1.22 to 3.14; $p<0.001$), negative attitude ($b= 1.79$; 95% CI= 0.76 to 2.82; $p=0.001$), low subjective norm ($b= 1.13$; 95% CI= 0.09 to 2.17; $p= 0.034$), and weak perceived behavior control ($b= 2.83$; 95% CI= 1.48 to 4.19; $p<0.001$). Intention was determined by weak perceived behavior control ($b= 1.18$; 95% CI = 0.14 to 2.22; $p<0.001$). Subjective norm was determined by family harmony ($b= 2.03$; 95% CI= 0.96 to 3.09; $p<0.001$), authoritarian parenting style ($b= 1.25$; 95% CI= 0.15 to 2.36; $p=0.026$), and peer group ($b= 1.46$; 95% CI= 0.37 to 2.54; $p=0.009$).

Conclusion: Drug use is directly determined by intention, attitude, subjective norm, and perceived behavior control. Family harmony, authoritarian parenting style, and peer group affect drug use indirectly.

Keywords: drug use, Theory of Planned Behavior, path analysis

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BACKGROUND

Drugs are still a serious global problem, as proved by the World Health Organization's (WHO) big agenda that ended in the Millennium Development Goals (MDGs) since 2000-2015, keeps them on the agenda of Sustainable Development Goals (SDGs)

from 2015-2030. "Ensure healthy lives and promote the well-being for all at all ages" which is one of the 17 goals of health targets by the WHO, contained the intent of strengthening the prevention and treatment of substances, including narcotics, drug

abuse and harmful use of alcohol (WHO, 2015).

It is estimated that 1 of 20 adults, or a quarter of a billion people worldwide aged 15-64 years used at least one type of drug in 2014. Although trends in drug use vary across the country, almost 12% of the total number of people taking drugs treatment, or more than 29 million people estimated to suffer from drug use disorders (UNODC, 2016).

According to Infodatin Ministry of Health RI (2014), drugs were a term for narcotics, psychotropic and other hazardous substances, while the term often used is NAPZA (narcotics, alcohol, psychotropic substances and other addictive substances). In the last five years, the number of drug cases is increasing, while as addictive substances the number of cases is increasingly reduced, in the year 2009 the number of psychotropic cases was 8,779 cases and in 2010 the number of psychotropic cases was 1,181 cases.

Only in 2015, every day 40-50 people died due to drugs. Meanwhile, the number of drug abuse increased rapidly from 2014 to 4,022, 228 people to 4,098,029 people or 2.2% of the total Indonesian population aged 10-59 years. Even the president has stated the status of Indonesia's Drug Emergency (Ministry of Health RI, 2016).

Adolescence is an important stage of development, because in this stage the new activities are formed; including social, emotional, lifestyle and new formed habits (Park and Kim, 2016). At this stage it is also marked with the development of new social networks and peers are more important, because adolescents are beginning to build self-identity and get autonomy from their families (Pesola et al, 2015).

Theory of planned behavior (TPB) in construction, the theory related to individual motivation is as the possibility deter-

minantsof certain behaviors. In many researches, this theory has been used successfully to predict and explain various health-related behaviors such as drug abuse (Zinatmotlagh et al, 2013).

Ajzen (2006) stated that interventions designed to change behavior can be directed at one or more determinants such as attitudes, subjective norms and beliefs and perceived behavioral control. Based on the theory, the most important of a person's behavior is the intention to behave. It is a combination of attitudes to display behavior, an understanding of subjective norms, and perceived behavior control.

Based on the description above, researchers are interested to conduct research on the application of the theory of planned behavior about the determinants of psychosocial drug abusers in adolescents. The research renewal is by adding the variable of harmony level of family relation, parent parenting and peer role as well as by using path (path analysis).

SUBJECT AND METHOD

1. Research Design

The method used in this research was observational analytic research, with *cross sectional* design approach. The implementation started from June to July 2017 at Tanah Merah Samarinda Rehabilitation Agency.

2. Population and Sampling

The target population in this research were all teenagers in urban areas. While the source population was adolescents who used drugs undergoing rehabilitation at the Tanah Merah Samarinda Rehabilitation Agency. The number of samples were 150 people.

Sampling technique in this research used purposive sampling. Researchers used this technique to obtain samples that had certain characteristics with *non-*

randomsampling schemes (Patton, 1990 in Murti, 2013).

3. Research Variables

The independent variables in this research were intention, perception of behavior control, subjective norm, attitude, peer role, parent's parenting and family relationship harmony level. Dependent variable was the history of drug use.

4. Variable Operational Definition

- a. Drug use is a history of drug use. Measuring tools used questionnaires and categorical data scales: 0 = not using drugs; 1 = using drugs.
- b. Perceptions of behavioral control were the adolescent's assumption about the ease or difficulty in using drugs. Measuring tool used questionnaire and categorical data scale: 0 = weak (total score ≥ 28); 1 = strong (total score <28).
- c. The subjective norm was the belief in the perceived support of teenagers from the social environment, family members and peers who have an influence on their decisions in drug abuse. Measuring tool used questionnaire and categorical data scale: 0 = weak (total score ≥ 29); 1 = strong (total score <29).
- d. Attitude was the response of adolescents in positive or negative judgments related to the ease or obstacles to influence adolescents in using drugs. Measuring tool used questionnaire, categorical measurement scale: 0 = negative (total score ≥ 34); 1 = positive (total score <34).
- e. Intention was the desire of teenagers to choose to participate or not in using drugs. Measuring tool used questionnaire, categorical measurement scale: 0 = weak (score total <20); 1 = strong (total score ≥ 20).
- f. The harmony level of family relationships was a teenager's response to the behavior of parents and family members that made it easier or difficult for teenagers

to use drugs. Measuring tool used questionnaire, categorical measurement scale: 0 = weak (score total <20); 1 = strong (total score ≥ 20)

- g. Peers were the desire of teenagers to choose to participate or not in using drugs. Measuring tool used questionnaire, categorical measurement scale: 0 = weak (score total <20); 1 = strong (total score ≥ 20).
- h. Parent's parenting was a parenting style to the development of adolescents. Measuring tool used questionnaire, categorical measurement scale: 0 = *authoritarian parenting* (total score <20); 1 = *authoritative parenting* (total score ≥ 20)

5. Variable Instruments

The data were collected by questionnaire according to *theory of planned behavior* that had been tested the validity and reliability to 15 study subjects, obtained the results of measurement variable perceptual control behavior, subjective norms, attitude, intention, the level of harmony family relationship, the role of peers and parenting style with the total item correlation value >0.20 and alpha Cronbach ≥ 0.60 , so that all questions were reliable. The results of the reliability of the questionnaire were shown in Table 1.

6. Data Analysis

Univariate analysis was to show data of research subject characteristic and descriptive of research variable. Bivariate analysis was to analyze independent variable to dependent. Path analysis was to analyze the influence of independent variables to the dependent variable through the variable between and know the direct and indirect influence between independent variables to the dependent variable. Steps in performing path analysis were model specification, model identification,

model conformity, parameter estimation, and model respesification.

Table 1. Reliability test results

Variabel	Item Total Correlation (r)	Alpha Cronbach
Intention	≥0.40	0.91
Subjective Norm	≥0.25	0.81
Attitude	≥0.22	0.82
Parenting style	≥0.21	0.84
Perceived control behavior	≥0.37	0.75
Peer	≥0.83	0.94
Family Relationship Harmony Level	≥0.23	0.86

RESULTS

1. Univariate Analysis

Univariate analysis consists of the characteristics of research subjects and descriptive research variables. Table 2 showed that the

highest proportion of adolescents aged between 14-17 years old was 32 (45.7%) and the highest proportion of adolescents aged 18-25 years was 48 (85.7%).

Table 2. Characteristics of study subjects of youth in Samarinda in 2017

Subject Characteristic	Drug Status				Total	
	Consuming Drug		Not Consuming Drug		n=200	%
	n=50	%	n=100	%		
Age						
11 – 13 years old	10	41.7	14	58.3	24	100
14 – 17 years old	32	45.7	38	54.3	70	100
18 – 25 years old	8	14.3	48	85.7	56	100
Address						
Sungai Kunjang District	7	15.6	38	84.4	45	100
Sungai Pinang District	20	44.4	25	55.6	45	100
City of Samarinda	23	38.3	37	61.7	60	100
Education Level						
Unemployment	10	29.4	24	70.6	34	100
Elementary	1	50.0	1	50.0	2	100
Junior	32	59.3	22	40.7	54	100
Senior	7	15.6	38	84.4	45	100
College (S1)	0	0	15	100	15	100
Father's Education						
Undetected	12	37.5	20	62.5	32	100
Elementary	19	46.3	22	53.7	41	100
Junior and Senior	15	24.2	47	75.8	62	100
College (S1)	4	26.7	11	73.3	15	100
Mother's Education						
Undetected	15	39.5	23	60.5	38	100
Uneducated	0	0	1	100	1	100
Elementary	17	35.4	31	64.6	48	100
Junior and Senior	12	24.0	38	76.0	50	100
College (S1)	6	46.2	7	53.8	13	100
Parental working status						
Unemployment	2	40.0	3	60.0	5	100
Employment	48	33.1	97	66.9	145	100
Maternal working status						
Housewife	31	39.7	47	60.3	78	100
Employment	19	26.4	53	73.6	72	100

Characteristic of adolescent residence was divided into three districts of Samarinda City that was District of Sungai Kunjang, Sungai Pinang Subdistrict, District of Samarinda City with the number of each sub-district was 60 people and 45 people in two districts.

The level of adolescent education in Samarinda City was divided into five categories consisting of no school, elementary, junior high school, high school and college (S1). Most teenagers using drugs had a junior secondary education level of 32 people (59.3%) while teenagers not using drugs mostly had high school education level of 38 people (84.4%).

The highest proportion of adolescent parental education rate at elementary school level was 19 persons (46.3%) in fathers and 17 persons (35.4%) in mothers,

as well as the education level of adolescent parents not using drugs mostly had junior and senior high school education of 47 people (75.8%) in fathers and 38 people (76.0%) in mothers.

The work level of parent's adolescent was divided into two categories consisting of unemployment and employment. The work types of parent's adolescent using drugs mostly had 48 employed fathers (33.1%) and mothers who are unemployed were 31 people (39.7%) whereas the work type of adolescent parents not using drugs mostly had fathers who work were 97 people (66.9%) and working mothers were 53 people (73.6%).

2. Bivariate Analysis

The results of bivariate analysis were showed in Table 3.

Table 3. Bivariate analysis of independent variable influence with drug use in adolescent in Samarinda

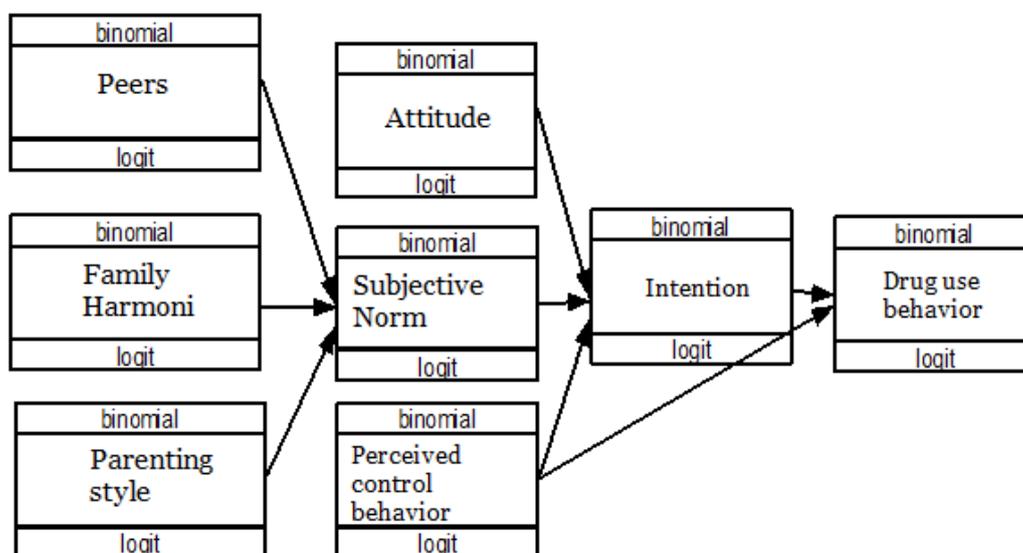
Variable	Drug Status				Total		OR	95% CI	p
	Consuming Drug		Not Consuming Drug						
	n	%	n	%	n	%			
Peer									
Yes	28	87.5	4	12.5	32	100	30.5	9.7 to 96.0	<0.001
No	22	18.6	96	81.4	118	100			
Family Harmony Level									
Strong	24	20.5	93	79.5	117	100	14.4	5.6 to 37.1	<0.001
Weak	26	78.8	7	21.2	33	100			
Attitude									
Negative	17	81.0	4	19.0	21	100	12.4	3.9 to 39.4	<0.001
Positive	33	25.6	96	74.4	129	100			
Subjective Norm									
Weak	23	79.3	6	20.7	29	100	13.3	4.3 to 36.1	<0.001
Strong	27	22.3	94	77.7	121	100			
Perceived control behavior									
Weak	21	75.0	7	25.0	28	100	9.6	3.7 to 24.9	<0.001
Strong	29	23.8	93	76.2	122	100			
Parenting style									
Authoritarian	28	52.8	25	47.2	53	100	3.8	1.9 – 7.8	<0.001
Democratic	22	22.7	75	77.3	97	100			
Intention									
Strong	25	75.8	8	24.2	33	100	11.5	4.6 – 28.6	<0.001
Weak	25	21.4	92	78.6	117	100			

Table 3 showed that the bivariate analysis looking at the relationship of independent variables (intention, behavioral control perspective, attitude, subjective norm, peers, family harmony level, and parenting pattern) with dependent variable (drug use) analyzed by using chi-square test and calculation of odds ratio (OR) with a confidence level (CI) was 95%.

3. Path Analysis (Path Analysis)

Path analysis was used to find out what variables influenced the drug use behavior in adolescents was shown in Picture 1.

The *degree of freedom* (df) was 8 which meant *over identified* or path analysis could be performed. Picture 1 showed the structural model after estimation.



Picture 1. Structural model with estimate

Table 4. Results of path analysis

Dependent Variables		Independent Variables	b	95%CI		p
				Lower	Upper	
Direct Effect						
Attitude	←	Intention	2.18	1.23	3.14	<0.001
Attitude	←	Perceived control behavior	2.83	1.48	4.19	<0.001
Indirect Effect						
Intention	←	Attitude	1.79	0.76	2.82	0.001
Intention	←	Subjective Norm	1.13	0.08	2.17	0.034
Intention	←	Perceived control behavior	1.18	0.14	2.22	0.026
Subjective Norm	←	Peer	1.46	0.37	2.54	0.009
Subjective Norm	←	Family Harmony	2.03	0.96	3.09	<0.001
Subjective Norm	←	Parenting style	1.26	0.15	2.34	0.026
Model fit						
p = 0.399 (> 0.050)						

Table 4 showed that drug use was influenced by intentions, perceptions of behavioral control, attitudes, subjective norms, peers, family harmony, and parenting. There was an intention influence

on the use of drugs and the results were significant. Adolescents with strong intentions had a log odd to use 2.18 more drugs than adolescents who had weak intentions (b= 2.18; 95% CI= 1.23 to 3.14; p<0.001).

There was an influence perception of behavioral control over drug use and the results were significant. Adolescents with poor behavioral control perceptions hadlogodd to use drugs 2.83 times greater than adolescents with strong behavioral control perceptions (b= 2.83; 95% CI= 1.48 to 4.19; p<0.001).

There was a significant effect on attitudes toward the intention and outcome. Adolescents with negative attitudes had a logodd to use 1.79 more drugs than teenagers who had a positive attitude (b= 1.79; 95% CI= 0.76 to 2.82; p = 0.001).

There was a subjective effect on the intention and the outcome whichwas significant. Adolescents with subjective norms hadlogodd to use 1.13 more drugs than teenagers who had strong subjective norms (b= 1.13; 95% CI= 0.08 to 2.17; p = 0.034).

There was influence perception of behavior control on intention and result which was significant. Adolescents with a perception of weak behavioral control hadlogodd to use 1.18 more drugs than adolescents with strong behavioral control perceptions (b= 1.18; 95% CI= 0.14 to 2.22; p = 0.026).

There was a peer influence on subjective norms and the results which was significant. Adolescents with peers hadlogodd users to use 1.46 more drugs than teenagers who did not have a user friend (b= 1.46; 95% CI = 0.37 to 2.54; p = 0.009).

There was an influence of family harmony on subjective norms and the results which was significant. Adolescents with a weak family harmony rate hadlogodd to use 2.03 more drugs than teenagers who had strong family harmony rates (b=2.03; 95% CI= 0.96 to 3.09; p<0.001).

There was a parenting effect on subjective norms and the results which was significant. Teenagers with authoritarian

parenting hadlogodd to use 1.26 drugs greater than teenagers who had strong family harmony rates (b= 1.26; 95% CI= 0.15 to 2.34; p = 0.026).

DISCUSSION

1. Intention effect on drug use in adolescents in Samarinda.

The results of this research indicated that there was influence intention on drug use. According to TPB, behavior is most thought to be proximal by intention or motivation to engage in that behavior. Intention, in turn, is predicted by the attitudes and norms associated with that behavior, as well as the behavioral control or perceived efficacy of the behavior. This may indicate that intention will be very high. However, not everyone intends to use substances, despite being in a very supportive environment. Thus, the extent to which norms predict intention and subsequent use in the propaganda environment were unclear (Ito, 2015).

2. Effect of behavioral control perception on drug use, through intention in adolescents in Samarinda.

The results of this research indicated that there was an influence perception of behavior control on intention of drug use. TPB describes relationships related to attitudes toward intentions and behavior. It shows that the intention (the tendency for action to engage in behavior) is the best predictor in action. It is a function of the attitude (an evaluative belief about a person or an object), subjective norm (approximation of another important consent or disapproval of an action), and perceived behavioral control perspective (belief about one's ability to overcome obstacles in enacting behaviors targeted). TPB illustrates that the more positive a person's attitude toward behavior, the bigger someone's possibility is to act on that attitude. Behavior can be

affected by the perception of behavior control through intention. Theoretically, it can affect behavior either directly or indirectly. Intention becomes the attitude intermediary variable, the perception of behavioral control, subjective norms, and behavior (Hohman, 2014).

3. The influence of subjective norms on drug use, through intention in adolescents in Samarinda.

The results of this research indicated that there was an influence of subjective norms on intention. This research was supported by research conducted by Bashirian et al (2012) using Theory of Planned Behavior which showed that there was a significant relationship between subjective norms with intention to drug use in adolescents in Iran. Drug abuse as a serious problem in the world needs to be considered as an emerging threat to teenagers and society. Theoretical-based research can explain the behavior of adolescents and how the antecedents factor in the intention to use drugs or not.

4. Attitude effect on the use of drugs, through intention in adolescents in Samarinda.

The research results indicated that there was an influence attitude toward intention. TPB argues that strong attitudes are more likely to guide good behavior than weak attitudes, but intentions really mediate the relationship between attitudes and behavior. The more The attitude of adolescents who support drug use, the bigger their possibility to use drugs in the future. The results of Hohman's (2014) research replicate typical findings in the TPB that attitudes should predict behavioral intentions. This influence may reflect teenagers' temporal dependence on drug use attitudes early in adolescence, most have a negative attitude towards drugs, but over time, the

valence of attitudes becomes more positive (Johnston et al., 2010).

5. Parent's parenting effect on the use of drugs, through subjective norms in adolescents in Samarinda.

The research results indicated that there was an influence of parent's parenting toward subjective norm. This research was supported by research conducted by Berge et al (2016) showed that there was influence parent's parenting to the use of drugs. A recent review shows that most studies find authoritative parenting associated with best results with teenage drug use, and neglect in adolescent care has the worst impact. In particular, many studies have shown that authoritative parenting is associated with reduced use of alcohol, cigarettes, and illegal drugs in children and adolescents. Authoritarian parental children generally report more drug use than children with authoritative parents, but some studies find no difference or even inverse relationship (Becona et al., 2015). Findings related to permissive parenting patterns; some studies have shown that permissive parenting is associated with higher levels of drug use, while others show the opposite relationship. Poor parenting patterns are almost consistently found associated with higher levels of drug abuse.

6. Family harmony effect on drug use, through subjective norms in adolescents in Samarinda.

The results of this research indicated that there was an influence of family harmony to subjective norm. This research was supported by research conducted Bills (2016) indicated that there was influence of family harmony on the use of drugs in Hawaii.

Extensively, maintaining harmony in a family has approved to influence drug abuse in adolescents. Defined as the ability to avoid conflict, Schafer (2011) found that

families with impaired harmonies showed a much higher level of drug abuse in adolescents. Schafer's research suggests to maintaining harmony in a family, adolescents are forced to accept offers of drug use from their family members. Research showed further that the offer of drug use is very problematic for teenagers and their families (Bills, 2016).

Based on the above description, the authors concluded that the level of family harmony through subjective norms could affect the use of juvenile drugs.

7. Peerinfluence on the use of drugs, through subjective norms in adolescents in Samarinda.

The results showed that there was an influence of peers on subjective norms. This research supported by research conducted Rice et al., (2005) showed that there was a relationship between peers with drug use in adolescents in America. Peer influence consists of two different steps. First, for young people in making decisions about drug use, they have to deal with the behavior first. The second, it is more complex. Several factors may affect, including the status, strength, and prestige of certain peers in the group who have new behaviors; ease of trying new behavior; cost to try and / or stop new behavior; social acceptance of new behavior; or the legitimacy of such behavior in groups and the wider community.

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