

## Smoking Behaviors of Street Children in Makassar 2013

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### Abstract

Street children are vulnerable groups of risky behavior like smoking behavior. This study aims to describe smoking and relation with education, living with parents, family, peer influence, and religiosity. Study design was cross sectional study. The population was 990 street children with the sample of 277 street children. Sample selection in accidental sampling with criteria of respondents aged 10-19 years and Muslims. Data were analyzed with chi square test with confidence interval of 95% ( $\alpha=0.05$ ). Results show that 48% of street children have ever smoked and 37.2% of street children were still smoking in the last 30 days. Then, there is a relationship between living with parents ( $p=0.002$ ) and levels of religiosity ( $p=0.023$ ). However, there was no relationship with school status ( $p=0.613$ ), family history ( $p=0.874$ ), and peer influence ( $p=0.157$ ) with the smoking behavior of street children. This research suggests to give education about the dangers of smoking, provide religious values for them and involve them in religious social activities, family empowerment approach to parents to guide their children not to smoke, and optimize function of NGOs or shelters for street children.

### Abstrak

**Perilaku Merokok Anak Jalanan di Kota Makassar 2013.** Anak jalanan merupakan kelompok yang rentan akan berbagai perilaku berisiko, salah satunya adalah perilaku merokok. Penelitian ini bertujuan untuk mengetahui gambaran perilaku merokok anak jalanan di Kota Makassar serta hubungannya dengan status sekolah, tinggal bersama orang tua, riwayat keluarga yang merokok, pengaruh teman sebaya, dan tingkat religiusitas. Penelitian ini menggunakan desain studi *cross sectional*. Dari populasi sebanyak 990 anak jalanan di Makassar, jumlah sampel studi ini adalah 277 anak jalanan. Teknik penarikan sampel menggunakan accidental sampling dengan kriteria inklusi responden berusia 10-19 tahun dan beragama Islam. Analisis data menggunakan uji *chi square* dengan tingkat kepercayaan 95% ( $\alpha=0,05$ ). Hasil penelitian memperlihatkan bahwa 48% anak jalanan pernah merokok dan 37,2% dari anak jalanan masih merokok. Hasil uji statistik dengan uji *chi square* menunjukkan adanya hubungan antara variabel tinggal bersama orang tua ( $p=0,002$ ) dan tingkat religiusitas ( $p=0,023$ ). Namun, status sekolah ( $p=0,613$ ), riwayat keluarga ( $p=0,874$ ), dan pengaruh teman sebaya ( $p=0,157$ ) tidak berhubungan dengan perilaku merokok anak jalanan. Penelitian ini menyarankan adanya edukasi mengenai bahaya rokok untuk anak jalanan dan membekali nilai-nilai keagamaan di dalamnya serta melibatkan anak jalanan dalam kegiatan sosial keagamaan. Selain itu perlu dilakukan juga pemberdayaan keluarga melalui pendekatan kepada orangtua agar dapat membimbing anak mereka untuk tidak merokok dan perlunya mengoptimalkan fungsi LSM atau rumah singgah untuk anak jalanan.

*Keywords: behavior, family empowerment approach, smoking, street children*

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### Introduction

Street children are vulnerable to some risky health behaviors. Adolescence is the biggest group of street children that has health problems i.e., smoking, drug use, risky sexual behaviors, and reproductive health problems such as sexually transmitted infections and HIV-AIDS.<sup>1</sup>

The majority of risky actions that occur among street children in several countries, especially in developing countries, is the increase of smoking behavior. A research conducted on street children in Nepal showed that majority of the children smoked (87.5%).<sup>2</sup> Another study revealed that the majority of street children in Beni Suef, Egypt, were smokers (83.2%).<sup>3</sup>

Smoking behavior of street children in Indonesia, as a developing country, remains a problem. A study by Tobacco Control Support Center and Public Health Association of Indonesia in Jakarta shows that 61% of street children are smokers.<sup>4</sup> Prevalence of smoking in young street boys aged 13 to 15 years is 41.3%, while the national prevalence of smoking in young school boys at the same age is only 24.5%. In addition, according to the WHO Global Youth Tobacco Survey 2006 smoking behavior was also more prevalent in street children in Makassar.<sup>5</sup> A 2009 survey in Makassar showed that 55.2% of the children had never smoked and 26.1% were smokers.<sup>6</sup>

A study in Makassar indicated that smoking behavior of street children could be influenced by several factors. The level of education and parental controls are the main variables which are considered significantly associated with several risky behaviors including smoking behavior.<sup>7</sup> Family factor plays a major role in the form and appearance of the street children's behaviors, both positive and negative behaviors.<sup>8</sup>

Furthermore, peer group is known to influence considerations and decisions of the adolescent. It was indicated by a study on adolescents in New York that showed the role and approval from peers in relation to intention of smoking and alcohol consumption.

Religiosity is another internal factor that can affect the adolescent's decision to undertake risky behaviors, including smoking. A study in Utah showed that adolescent who were religious were less likely to smoke, drink alcohol, and used marijuana than teens who were not religious.<sup>10</sup>

Based on the above emerging descriptions, it is important to conduct a research focusing on the factors related with smoking behavior of street children. Makassar is one of the cities with the largest number of street children which kept increasing in the last five years (2008 to 2012),<sup>11</sup> therefore Makassar was selected as the study site. This study provides necessary information on the relationship between school, living with parents, family history, peer influence, and level of religiosity with smoking behavior of street children.

## Methods

This study used an observational analytic cross sectional study design. It was conducted at several locations in Makassar from January to February 2013 because Makassar is one of the major cities in Indonesia with a lot of street children and the number kept increasing in the last five years (from 2008 to 2012).

**Population and sample.** The population of the study were all street children in Makassar 2012 (990 street

children).<sup>11</sup> The sampling method used the Lemeshow equation sample with a 95% confidence level and 5% level of significance, so the number of samples obtained 277 street children with the inclusion criteria of street children aged 10-19 years who were Muslims and were willing to participate in the study.

**Data collection method.** Primary data were obtained from observations and interviews using a questionnaire. The instrument applied had been tested, validated, and trained for its application to five enumerators from Public Health Faculty, Hasanuddin University.

**Data analysis.** All data were analyzed using chi square test to find out the relationship between risk factors of smoking behavior among street children. This analysis was used to examine the relationship of independent variables (status of school, living with parents, family history, peer influence, and the level of religiosity) with the dependent variable (smoking behavior in the last 30 days). This study passed the examination of research ethics commission from Hasanuddin University.

## Results and Discussion

The results were based on data gathered from interviews with respondents associated with the characteristics, smoking behavior of respondents, and several factors related to smoking behavior. Average age of respondent was 12 years old (22.0%) and male (80.1%). Most of the street children had not finished primary school (58.5%). There were respondents living with their parents (96.8%), and 84.5% of the respondents resided in Makassar; however, some of respondents came from outside of Makassar, such as Bantaeng, Bone, Bulukumba, Gowa, Java, and other areas.

Most respondents had been street children for less than 5 years (80.5%). The biggest reason to become a street child was to make money (71.1%). The most time spent on the street was in the category of 4-8 hours (74.0%). Most of them are buskers (45.8%) with daily income of approximately Rp 21,000 to 50,000 (41.2%). Percentage of respondents who participated in non-governmental organizations (NGOs)/ foundation was 19.1%.

**Smoking indicated Behavior** Most of the respondents had never smoked (62.0%) the rest who smoked (38.0%). Most of them started smoking at the age of 9-10 years (33.1% of the respondents who had never smoked). The percentage of respondents who smoked in last 30 days was 37.2%, and most of them were male (45.9%). Of those respondents, there were 56.3% who smoked everyday. The average numbers of cigarettes smoked per day was less than or equal to ten cigarettes. To explore more about the smoking behaviors of street children see Table 1.

The most common time to start smoking after waking up in the morning was >60 minutes (72.8%). The type of smokers could be determined based on the amount of cigarettes smoked per day and time to start smoking (after waking up). Most of the respondents were light smokers (47.6%) who smoked  $\leq 10$  cigarettes per day and started smoking more than 60 minutes after waking up. No respondents could be considered as very heavy smokers. The categories of smokers considered were light, moderate, heavy, and very heavy. Based on the results obtained 28.2% of the respondents had tried to quit smoking.

More respondents were enrolled in school (94.2%) and lived with their parents (96.8%). Most respondents had family members who smoked (76.2%). The most common family member who smoked, based on the interviews, was the father of the respondents (68.7%). Other family members who smoked were mother, sister, uncle, aunt, cousin, in-law, grandfather, and grandmother. Furthermore, it was found that 8.5% of the family members who smoked had invited respondents to smoke. There were 69.0% of the respondents who had family members that prohibited respondents to smoke.

**Table 1. Smoking Behavior of Street Children Last 30 Days in Makassar in 2013**

Smoking Behavior	n	%
Type smoker :		
Non smoker	174	62.8
Light smoker	49	17.7
Mid smoker	8	2.9
Heavy smoker	1	0.4
Others	45	16.2
Trying to stop smoking :		
No smoking	174	62.8
Yes	78	28.2
No	25	9.0
Type of cigarette :		
No smoking	174	62.8
Non Filter	4	1.4
Filter	99	35.8
Number of cigarettes per day:		
No Smoking	174	62.8
$\leq 10$	64	23.1
11-20	33	11.9
21-30	1	0.4
>30	5	1.8

Respondents were more likely to have friends who smoked (76.9%). Respondents who made friends with a smoker for a year had the highest percentage of smoking (29.5%). Based on interviews conducted, it was indicated that 48.4% of respondents who smoked had been invited by a friend who smoked, and 76.7% of respondents claimed to have been affected by smoking invitation. Moreover, 59.2% of respondents had sufficient religiosity.

Table 2 shows no significant relationship between school status with smoking behavior of street children ( $p=0.613$ ). Respondents who attended school mostly did not smoke (62.5%). However, more smokers among respondents attended school (37.5%) than smokers who did not attend school (31.2%).

There was a significant association between living with parents with smoking behavior of street children in Makassar in 2013 ( $p=0.002$ ); nevertheless, this study found no association between family smoking history and smoking behavior ( $p=0.874$ ). More street children who did not live with their parents smoked (88.9%). In contrast, most of street children who lived with their parents did not smoke (64.6%).

There was no significant relationship between peer influence and smoking behavior of street children in Makassar in 2013 based of statistical tests with  $p=0.157$  ( $p \geq 0.05$ ). There were 60.6% of street children who did not smoke although their peers smoked. In addition, a high percentage of the street children who did not smoke were supported by peers (70.3%). Then, there was a significant relationship between the level of religiosity and smoking behavior of street children in Makassar in 2013 based of statistical tests with  $p=0.023$ .

The percentage of respondents who were still smoking in the last 30 days was 37.2%. This shows an increase in smoking behavior when compared with the street children who were also involved in a study in Makassar in 2009, in which only 26.1% were still smoking when the survey was conducted.<sup>7</sup> The percentage of reasons for not smoking because it was prohibited by parents was 72.9%, including included who had never smoked and ex-smokers, and only 16.6% non-smokers argued that smoking is not good for health. Other reasons include because they did not want to, they did not find the cigarettes tasty, they felt they were still young, tired, prohibited by their brothers, and some also said that they did not smoke because they believed smoking is a sin.

Results showed no relationship between school status and smoking behavior of street children in Makassar, 2013. Getting a good education has been thought to help adolescent to refrain from smoking. In addition, warning of the dangers of smoking have been included in every pack of cigarettes nowadays.

**Table 2. Factors Related with Smoking Behavior of Street Children in Makassar 2013**

Independent Variable	Smoking Behavior				Statistical Test
	Yes		No		
	Amount (n)	Percentage (%)	Amount (n)	Percentage (%)	
<b>School Status</b>					
No school	5	31.2	11	68.8	p = 0.613
School	98	37.5	163	62.5	
<b>Living with Parents</b>					
No	8	88.9	1	11.1	p = 0.002
Yes	95	35.4	173	64.6	
<b>Family History</b>					
Have	79	37.4	132	62.6	p = 0.874
Don't have	24	36.4	42	63.6	
<b>Peer Influence</b>					
Have	84	39.2	129	60.6	p = 0.157
Don't have	19	29.7	45	70.3	
<b>Level of Religiosity</b>					
Less	52	31.7	112	68.3	p = 0.023
Enough	51	45.1	62	72.0	

Other factors could influence street children's smoking behavior despite their education. One of which was the age factor. The adolescent phase is often associated with a period of time when an individual searches for identity, and adolescents typically think smoking as a symbol of power.

Based on the results of this study, it was also found that most respondents did not complete primary school (58.5%); this could be one cause of the immaturity of thinking about the impact of smoking behavior. Curiosity sometimes encourage adolescents to try or experiment, which is one of the psychosocial changes that occur during adolescence.<sup>12</sup>

This finding is not consistent with a study done in Makassar to adolescents aged 10-24 years, which found that the level of education was significantly associated with several risk behaviors including smoking behavior.<sup>7</sup> Utami and Winarno's research showed that there was a direct and significant relationship between level of education and knowledge about the dangers of smoking. In that study, they also found positive results between age and smoking behavior. Therefore, the study found no association between knowledge with rejection towards smoking behavior.<sup>13</sup>

However, results showed an association between living with parents and smoking behavior of street children in Makassar in 2013. This suggests that living with parents can exhibit better behavior.

In addition, when they were home, some street children did not dare to smoke because of the presence of their parents who forbade them from smoking, so smoking was only done when they were on the streets. The results support the relationship between living with parents with smoking behavior as 96.8% of the street children lived with their parents, and 64.6% were non-smokers. Results also indicated that more street children who did not live their with parents were smokers (88.9%).

Furthermore, residential status is one of the factors that influence the behavior of street children. Street children who are "pure" or only live on the road show antisocial behavior.<sup>14</sup> Children living on the streets are also vulnerable to threats. The environment where street children live make them physically and emotionally vulnerable. A study in Tanzania found that children living on the streets engaged in substance abuse, including smoking behavior to survive the discrimination and difficulty in obtaining food.<sup>15</sup>

Thus, contribution of social factors is necessary in handling the problem of street children. Creating a safe and supportive environment can help prevent and respond to the street children's health problems. The goal is to increase positive behaviors of street children.<sup>16</sup>

One environmental factors that can influence the behavior of street children is the concern of parents, peers, and other adults. Therefore, it is important to connect with the families of street children. Those

children who are not together with their parents can set up a group that can help fulfill their needs, so they can create a new family. In addition, communication skills and parenting skills within the family are necessary, so they can develop a more positive interaction with the street children. Street children who do not live with their family can also build a group of adolescents who support their positive behavior.<sup>16</sup>

One model of handling street children is by focusing on the provision of social support or family empowerment to prevent children from becoming street children or to allow street children to go back to their family. In addition, focusing on institutions is also necessary, either temporarily (preparing reunification with their family) and permanently (especially if the street child do not have parents or relatives). This approach also includes temporary shelter facility that provides shelter for street children. Other treatment is centered on community by involving community development or by promoting networking through various institutions, both governmental agencies and civil society organizations.<sup>17</sup>

This study also found that there was no association between family history and smoking behavior of street children. This was because 83.4% of families with history of smoking prohibited respondents from smoking, as seen on the results of cross tabulation between family history of smoking with smoking prohibition by family members. In addition, only 8.5% of respondents were invited by family members to smoke.

Smoking behavior is influenced by the social environment. Evans et al., in De Vries<sup>13</sup> states that social factors affect the individual directly and indirectly. Family factors play a major role in the form and appearance of the street children's behavior, both positive and negative behaviors. Real behaviors of street children are either directly or indirectly influenced by family background variables (22.0%) than by background environmental variables, physical characteristics, psychological characteristics, and sociological characteristics.<sup>8</sup>

However, the findings of this study are not consistent with Kristanti and Wismanto's (2000) research, which found that parents who smoked had a tendency to be permissive towards adolescents who smoked than fathers who did not smoke. It could happen because parents who smoked could not forbid their children to smoke due as the parents had the same behavior. Conversely, parents who did not smoke were able forbid their children not to smoke because they could give good example.<sup>13</sup>

The results showed no relationship between smoking behaviors of peers with street children in Makassar in 2013. This was because, although respondents had

friends who smoked and 48.4% of the respondents had been invited by their friends to smoke, 71.8% of them were not affected by the invitation. Besides the oldest friends among respondents with friends who smoke are less than one year and one year, (18.4%), respectively. This suggests that friendship between respondent and their friends who smoke not so old could be one possibility, of no relationship between smoking behaviors with peer influence. Thus, it is suspected that the longer time spent as friends with smokers, the higher the possibility for street children to smoke. Other risk factors that might arise due to the length of time the children worked on the streets were street children being vulnerable to air pollution and noise.

Other results from this study also showed that there was a relationship between street children who lived with their parents with smoking behavior. Street children who did not live with their parents would tend to have smoking behavior and higher possibility to be influenced by environmental factors, including their colleagues or peers. The results showed that 83.3% of street children who smoked lived with their peers. However, based on data obtained 100% of the street children who lived with their peers were not affected by the smoke even when they were invited by their friends to smoke. This suggests that smoking behavior of street children who lived with their peers was not influenced by their friends, but by other factors.

Sarafino mentions several factors that may influence smoking behavior in addition to environmental factors such as genetic factors, the influence of advertising, and psychological factors for relaxation or calmness, and to reduce anxiety or tension.<sup>18</sup> Psychosocial changes during adolescence can also be another factor that influences smoking behavior, like curiosity.<sup>12</sup>

These results are in contrast with some previous studies which argue for the association between peer influence to smoking behavior. A study done in Laos showed that smoking behavior with peers was associated with the occurrence of multiple risk behaviors simultaneously on males aged 15 and over 19 years old. That peer influence is associated with smoking behavior and drinking alcohol in adolescents is also supported by a study in New York, which found the association between roles and approval from peers with the intention of smoking and alcohol consumption among adolescents.<sup>9</sup>

This study found a correlation between of religiosity and smoking behavior of street children. This is important because the religiosity is one of internal factors that protect street children from undertaking risky behavior such as smoking behavior. Understanding and appreciating religious values provide guidelines for the respondents in everyday situations,

including the decision to smoke or not.<sup>20</sup> Thus, it is important to instill religious values in adolescents to help street children avoid risky behaviors.

However, this study only measured respondents' religiosity from attitude and practice dimensions without knowing how the respondents appreciated and understood Islam, so this may be a consideration for future research. There might be other factors that influence the religiosity of street children in addition to their religious attitudes and practices such as the influence of their social activity. Bartkowski and Xu stated that one of the mechanisms congruent with the conceptualization of religion to build a group is the notion of social capital.<sup>21</sup> Faith-based social is a combination of three components: exposure to religious norms, integration in religious activity, and believe in religious values.<sup>21</sup> These components are interrelated in inhibiting substance abuse in adolescents. One of the components that can be effective in the field of religion is the presence of adults and peer groups that provide opportunities to engage in prosocial activities.

Religious affiliation serves as one exposure to religious norms. Being involved with a forum active in religious activities can provide opportunities for street children to develop a positive relationship with peer group and adults. A study in Mexico indicated that the integration of religious activity served as a basic component of religious social capital. Integration in religious activity has possible key role in inhibiting the use of harmful substances.<sup>21</sup> Attendance in religious activities such as high frequency to the mosque can reduce the possibility of the street children to smoke. Thus, socio-religious activities can have protective effect on smoking behavior.

This relates to several studies that show consistent results that religiosity was associated with smoking behavior of street children. A study in Utah showed that adolescents who were religious were less likely to smoke, drink alcohol, and use marijuana than adolescents who were not religious.<sup>10</sup> Other studies have also demonstrated an association between religiosity with smoking behavior.<sup>22</sup>

## Conclusions

This study found that there was a correlation between living with parents and levels of religiosity with smoking behavior of street children. However, this study also found no correlation between school status, family history, and peer influence with smoking behavior of street children. Education and religious values can be protective factors against behavior of street children. It is necessary to involve street children in religious social activities to establish positive behaviors on street children.

Furthermore, family empowerment especially approach to parents is important because most of the street children in this study still lived with their parents. It is important for family members to provide guidance on street children because the the closest person is crucial in determining how a child interacts with the environment. The government should further optimize the function of the NGO/shelters/foundations to empower children who do not live with their parents so that those institutions can provide positive behavior guidance. In order to explore information about smoking behavior of street children and relationship, future studies should use other variables in a qualitative research. Future research may also develop a more specific measurement of religiosity to provide more information.

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