

Socio-Demographic Factors and Quality of Life: A Cross-Sectional Study Among Indonesian Adolescence

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ABSTRACT

Adolescence is considered as the most crucial stage in one's life also in hold important role in the long-term development of Indonesia. Body of research has shown the importance of quality of life in adolescence, however to date few studies to none dedicated to investigate quality of life in adolescence, especially in Indonesia. This study aims to describe the quality of life of adolescents in Indonesia and examine the role of sociodemographic factors. A total of 2580 Junior Secondary School and Senior High School students from across participate in this study, age from 13-19, from various socio-demographic background. Result shows predominantly lower score in environmental domain in general adolescent population and also across socio-demographic factors. Current study also supports previous findings, that socio-demographic factors play a significant role in quality of life of Indonesian adolescence. Research findings discussed in the paper along with direction for future research.

Keywords: *Quality of life, adolescence, sociodemographic factors, profile*

1. INTRODUCTION

In the last few decades, the number of adolescent population shown an upward trend in Indonesia. In 2019, around 25% of Indonesian population is classified as adolescent [1]. Perceived this as an opportunity as demographic bonus, Indonesian government has focusing on developing the quality of adolescent to increase national development growth [1][2]. The view is supported by former studies, many have argue that adolescence considered as the most critical period in developmental stage since it will determine the course of life in the upcoming development stage [3][4]. In order to develop healthy adolescence, previous works shows the importance of satisfactory life condition, often referred as quality of life [5][6][7].

1.1. Related Work

1.1.1. Profile of quality of life

Based on previous research, higher quality of life promotes positive aspects of one's life. Higher level of health related quality of life found to predict the increase of life satisfaction, self-esteem and subjective happiness among Portuguese adolescents, while negatively correlates with depression, anxiety, and stress scores. Study in Indonesia [8] also shows significant role of quality of life in predicting secondary level students' happiness and life satisfaction. In similar vein, research found the impact of quality of life to risky behavior. Study in USA conducted by Topolski et al. [5] examined the relationship of adolescence quality of

life with health-risk behavior such as tobacco and alcohol consumption, illicit drugs usage and engagement in sexual risky behavior. The result shows that adolescent with compromised quality of life significantly reporting more engagement in health-risk behaviours. The findings supported by another cohort study among Swiss young men [6], which shows higher score of health-risk behavior among the participant with lower score of quality of life. Recent study conducted in Indonesia further established the role of quality of life in online risky behaviour [9].

Quality of life defined by World Health Organization [10] as personal reflection of one's life in regards of the objectives and expectations, in accordance to the culture and system they live. According to World Health Organization (WHO) [10], quality of life can be assess by measuring four life domains: physical health, psychological, social, environmental situation. Given the importance of quality of life during adolescence in term of developmental stage as previously discussed, and in term of long-term national development plan by Indonesian government [9][12], it raise the urgency to capture current condition of Indonesian adolescent quality of life. To date, there has been little to none study has been conducted to measure quality of life among Indonesian adolescent population [11]. Therefore, this study aims to provide a comprehensive picture of Indonesian adolescents' quality of life.

1.1.2. Quality of life and socio-demographic

According to Central Bureau of Statistics of Republic Indonesia, in 2019 [1], more than 20% of youth reporting

health issue during previous month, and 8.78% of them experience disruption in carrying out daily life because of the issues. However, less than 50% looking for health assistance. This can relate with the quality of life in health condition and physical related domain, and we assumed difference quality of life in term of socio-demographic factors.

Matsumoto and Juang [13] reported cross-cultural difference related in definition of health and action related to health concern in different nations. Related by the findings by Matsumoto and Juang, Indonesia has tremendous diversity in culture and socio-demographic factors as reported by Central Bureau of Statistics of Republic Indonesia [14] where Indonesia has 6 acknowledged formally by law, 1340 ethnic group, dan around 2500 everyday language, and given the diverse sociodemographic factors in Indonesia, it raise the importance to investigate further the role socio-demographic factors in the level quality of life.

Previous studies in different countries and different health conditions [11][15][16] have found differences in the level of quality of life at different socio-demographic factors, but none has explore it in adolescence stage, especially in Indonesia. Therefore, this study also aims to determine the role of sociodemographic factors on the quality of adolescent life in Indonesia.

1.2. Our Contribution

Current study aims to extend previous research from Purba et al. [11] and to provide an overview of Indonesian adolescences' quality of life, both in general and its four domains [10] by recruiting participant from various background (ethnicity, location, and religious belief) providing a more representative sample for Indonesian adolescence. This study also aim to investigate the role of socio-demographic factors in the level of quality of life, in attempt to give valuable reference for the school, physical and mental health practitioners, and also the policy maker.

1.3. Paper Structure

This paper is organized into four sections. Section 1 consist of research background and the goal of this study. In Section 2 (Methods), participants of the study, measurement used, data analysis plan is discussed. Section 3 presents the analysis result and findings of this study, and its implication. Lastly, Section 4 presents the conclusion of this paper as well as direction for future research.

2. METHODS

2.1. Participants

A total of 2580 adolescent completed the questionnaire, however 13 data (0.5%) excluded from final analysis

(N=2563) because of the missing value in several socio-demographics variables. Participants were recruited from 15 cities across Indonesia: Jakarta, Bogor, Yogyakarta, Surabaya, Tuban, Lampung, Medan, Denpasar, Mataram, Kupang, Palu, Makassar, Aceh, Pontianak, and Banjarmasin (which reported according to their island in Table 1), and involving 25 schools (both public and private owned Junior and Senior High School,).

Data collection process lasted for 4 months (July-November 2019), where researchers come to each school and administered the self-report questionnaire with the help of trained assistants. Informed consent obtained from both school and students, since there were participants under legal age (under 17). In return of school permission and participation, we send back the summary of quality of life of each school, while ensuring the confidentiality by reporting the result in aggregate. Table 1 shows the sociodemographic information of the participants in the study.

2.2. Measurements

2.2.1. WHOQOL-BREF

Quality of life measured using WHOQOL-BREF developed by WHOQOL Group [10] which translated into Bahasa Indonesia. It measures: (a) overall quality of life, (b) general health, and (c) four domains of quality of life: physical, psychological, social, and environment using 26 questions, and participant responded to the questions given using 5-point Likert Scale. global quality of life and general health measured with 1-item question, 7-item in physical domain ($\alpha=0.625$), 6-item in psychological domain ($\alpha=0.696$), 3-item in social domain ($\alpha=0.622$), and 8-item in environmental domain ($\alpha=0.742$), with higher score shows better quality of life in each domain, vice versa. All domains shows acceptable internal consistency ($\alpha>0.6$).

2.2.2. Socio-demographic factors

The socio-demographic variables measured in this study include: *gender* (male, female), *age* (12-13, 14-15, 16-17, 18-19), *religion* (Islam, Protestant, Catholic, Buddhism, Hinduism, Confucianism), *ethnicity* (Javanese, Tionghoa, Sundanese, Betawi, Bugis, Madura, Balinese, Makassar, Dayak, Batak, Minangkabau, Sasak, Mixed, and other), *location* (open-ended, later grouped by island), *type of school* (public, private), *grade* (Junior Secondary School [VII, VIII, IX], Senior High School [X, XI, XII]).

2.3. Data Analysis

Statistical analysis was performed using Statistical Package of Social Science 21 (SPSS 21). Descriptive analysis performed to provide the profile of participants in this study.

Table 1 Profile of participants socio-demographic

Characteristics	N=2567	Percentage (%)	Characteristics	N=2567	Percentage (%)
Sex			Ethnicity		
Male	1051	40.9	Javanese	846	33.0
Female	1516	59.1	Tionghoa	418	16.3
Age			Sundanese-Betawi	155	6.0
12-13	233	9.1	Bugis	146	5.7
14-15	867	33.8	Madura-Balinese	170	6.6
16-17	1359	52.9	Makassar	121	4.7
18-19	108	4.2	Dayak	77	3.0
Grade			Batak	61	2.4
VII	109	4.2	Minang	23	0.9
VIII	194	7.6	Sasak	40	1.6
IX	234	9.1	Mixed	42	1.6
X	658	25.6	Others	454	17.7
XI	467	18.2	N/A	14	.5
XII	905	35.3	Location		
Religion			Java	772	30.1
Islam	1499	58.4	Sumatera	400	15.6
Protestant	342	13.3	Sulawesi	663	25.8
Catholic	300	11.7	Kalimantan	295	11.5
Buddhist	277	10.8	Lesser Sundanese*	437	17.0
Hindus	132	5.1	School		
Confucius	17	0.7	Public	1600	62.3
			Private	967	37.7

Note: * Lesser Sundanese Island consist of Denpasar, Mataram, and Kupang

The mean and standard deviation for overall quality of life, health condition, and physical health, psychological health, social relationship, and environmental situation calculated. The significance of mean difference between socio-demographic characteristics were evaluate using independent sample t-test and One-way ANOVA.

3. FINDINGS AND DISCUSSION

Table 2 presents the mean and standard deviation of quality of life in global score and across domains. In general, participants perceived that they have satisfactory overall quality of life and in a good health. Across domains, lowest means was observed in environmental situation (M=60.49), and similar findings also found in population study in Indonesia by Purba et al. [11]. Environmental score account from several sources such as physical safety, financial resources, health and social care availability and quality, participant’s view of living environment (ie: pollution, traffic), and transportation availability [10]. Lower score in environmental situation might cause by Indonesia susceptibility to natural disaster due to its location, from volcanic eruptions, floods, typhoon, earthquakes, landslides, and forest fires [17][18] decreasing security and quality of living conditions; The development of

infrastructure and properties in many areas also still lacking and need further improvement [18]. Lower score in environmental domain also consistently emerges in different socio-demographic group, which further highlight the need of improvement in public health, infrastructure, transportation availability, and financial condition.

3.1. Socio-demographic Factors and Quality of Life

As predicted, different socio-demographic groups show significant mean differences in quality of life. In every aspect but global quality of life, female adolescence exhibits lower score compared with male. Kolip and Schmidt with World Health Organization [19] reported that in term of general and physical health girl generally more unsatisfied with their health This can be partly explained due to higher frequency of health issue reported by female adolescence caused by hormonal shift (menstrual pain, acne). Furthermore, the social expectation put into young girl by media and culture lead them to perceive their social life as satisfactory compared to male adolescence. The susceptibility for young girls to those influence often lead to poorer psychological state [20].

Table 2 Mean, standard deviation, and significance of mean difference across socio-demographic groups

	<i>Global</i>			<i>General Health</i>		<i>Physical</i>		<i>Psychological</i>		<i>Social</i>		<i>Environmental</i>	
	N	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
General	2567	3.68	0.69	3.70	0.92	64.00	12.11	64.41	14.96	64.06	18.03	60.49	13.27
Sex													
Male	1051	3.69	0.72	3.81*	0.95	66.09*	12.28	67.18*	15.23	66.12*	18.75	61.97*	13.63
Female	1516	3.67	0.67	3.63*	0.89	62.55*	11.77	62.48*	14.46	62.64*	17.37	59.46*	12.91
Age													
12-13	233	3.78*	0.69	3.95*	0.88	68.03*	12.00	67.10*	13.97	62.77*	17.28	65.89*	13.87
14-15	867	3.74*	0.66	3.73*	0.88	64.33*	11.42	65.10*	15.09	65.02*	17.08	60.58*	12.75
16-17	1359	3.63*	0.70	3.65*	0.94	63.02*	12.47	63.58*	15.02	63.41*	18.78	59.66*	13.40
18-19	108	3.61*	0.65	3.62*	0.93	64.95*	11.22	63.39*	14.39	67.36*	16.59	58.51*	11.50
Grade													
VII	109	3.86*	0.63	4.14*	.799	70.94*	11.79	71.48*	12.50	62.46	17.66	68.35*	13.77
VIII	194	3.70*	0.70	3.73*	.901	65.72*	10.72	63.66*	13.90	63.62	17.19	61.00*	13.60
IX	234	3.73*	0.68	3.76*	.859	65.37*	11.25	64.74*	13.54	63.57	17.48	61.42*	12.86
X	658	3.75*	0.66	3.75*	.893	63.96*	11.81	65.86*	15.45	65.15	17.44	60.51*	12.99
XI	467	3.62*	0.69	3.69*	.932	62.57*	12.25	63.12*	15.12	64.40	18.66	60.47*	12.85
XII	905	3.62*	0.71	3.61*	.945	63.20*	12.45	63.23*	15.05	63.52	18.46	59.18*	13.33
Ethnicity													
Javanese	846	3.70	0.65	3.74*	0.87	63.81*	11.97	64.04	14.82	61.92*	17.17	61.44*	12.93
Tionghoa	418	3.75	0.71	3.76*	0.93	65.51*	12.16	63.81	15.80	67.36*	18.32	61.00*	13.05
Sundanese-Betawi	155	3.72	0.68	3.84*	0.89	65.05*	10.22	65.56	12.22	62.90*	17.18	59.84*	12.62
Bugis	146	3.60	0.73	3.50*	1.00	62.16*	13.32	61.27	15.92	62.58*	19.97	60.79*	13.22
Madura-Balinese	170	3.67	0.60	3.51*	0.89	61.60*	12.52	64.04	13.96	64.80*	18.17	62.56*	12.38
Makassar	121	3.62	0.78	3.46*	1.04	62.37*	11.51	63.91	15.42	65.08*	16.71	60.51*	14.51
Dayak	77	3.79	0.92	3.75*	1.04	64.98*	12.33	63.58	18.17	68.61*	19.49	59.94*	15.79
Batak	61	3.69	0.65	3.61*	0.88	62.70*	11.84	67.01	13.99	61.89*	18.16	55.48*	11.77
Minang	23	3.91	0.67	3.74*	0.92	65.99*	11.49	70.11	9.54	69.57*	16.40	65.90*	11.42
Sasak	40	3.50	0.64	3.62*	1.03	60.36*	11.66	59.90	13.86	58.96*	20.62	57.50*	14.04
Mixed	42	3.71	0.67	3.76*	0.93	65.31*	11.76	66.47	13.99	71.63*	13.15	64.66*	11.50
Religion													
Moslem	1499	3.65*	0.68	3.71	0.91	64.05*	11.98	64.08*	14.61	62.15*	17.66	60.00*	13.31
Protestant	342	3.76*	0.67	3.74	0.92	63.10*	11.98	66.12*	15.81	66.28*	18.36	61.37*	13.28
Catholic	300	3.73*	0.74	3.72	0.92	63.15*	12.40	64.86*	15.38	68.03*	18.15	61.44*	13.22
Buddhist	277	3.70*	0.71	3.71	0.96	66.39*	11.91	62.95*	15.34	65.82*	18.04	59.32*	13.04
Hindus	132	3.66*	0.59	3.48	0.90	61.85*	12.76	64.30*	14.35	65.91*	17.88	62.76*	12.64
Confucius	17	3.94*	0.66	4.06	0.97	70.38*	11.76	75.00*	12.84	75.00*	19.32	70.96*	11.89
Location													
Java	772	3.73*	0.65	3.78*	0.86	64.73*	11.74	64.13*	13.61	61.88*	16.82	62.59*	12.60
Sumatera	400	3.65*	0.65	3.71*	0.89	64.45*	11.70	63.92*	15.44	62.27*	17.67	56.50*	12.72
Sulawesi	663	3.58*	0.72	3.61*	0.97	63.33*	12.67	63.78*	15.50	63.55*	18.48	58.73*	13.95
Kalimantan	295	3.84*	0.76	3.83*	0.97	65.79*	11.45	66.89*	16.46	71.72*	17.70	62.65*	13.09
Lesser Sundanese	437	3.66*	0.67	3.63*	0.93	62.09*	12.41	64.62*	18.52	65.16*	18.52	61.63*	12.84
School													
Public	1600	3.66	0.68	3.69	0.91	64.12	12.26	64.40	14.44	63.13*	17.76	60.66	13.33
Private	967	3.71	0.71	3.72	0.93	63.79	0.93	64.41	15.78	65.61*	18.35	60.21	13.16

Note: * significant difference at $p < 0.05$

Significant differences across general and domain of quality of life also found in different age group [11]. Although previous study has found that quality of life decreasing overtimes, this study further shows that the difference can be observed as early as adolescence stage. Difference across grades might be explained by factor of age.

Our study also provides empirical evidence of the role of ethnicity and religion in quality of life across domains. Similar result for ethnicity found in Purba et al. [11], however the study shows slight difference from ours in religion, where significant difference among religious group only found in environmental situation. As mentioned in Matsumoto and Juang [13], every culture has different meaning and different health practice and norms, therefore reflected in significant different in quality of life. Rumun [21] also added that most religions have certain believe related to health practice, illness and death, which might cause the difference among different religious beliefs.

Discrepancy of quality of life across big islands in Indonesia might attribute to the availability and quality of health care provided, social practice in certain areas. Another interesting finding highlighted is significant difference of social relationship in public and private school. Study [22] shows background diversity in a school can increases trust, which lead to better perception of the quality of social relationship among students.

4. CONCLUSIONS

It can be concluded that in general, global quality of life and general health among Indonesian adolescence in this study in accordance with the norms provided by Purba et al. [11] for 17-30 age group, which this study also extended the age category for early and middle adolescence. Across four domains of quality of life, it appears that environment situation scores lower than other domains both in overall study population and also every socio-demographic groups. Based on empirical evidence, we also concludes significant role of socio-demographic factors on the quality of life of adolescents in Indonesia.

There are several limitations of current studies. Firstly, this study conducted in 2019, before pandemic COVID-19 occurs. It has been anticipated that quality of life during and after the pandemic will decrease significantly since it has been reported that many hospitals are full due to COVID-19 patients, limited mobility, physical and personal contact with each other. Therefore, a more up to date study needed to compare quality of life pre-pandemic and during/or after pandemic is over to assess the extent of its impact to quality of life. Secondly, due to to the nature of cross-sectional research methods, it need extra precaution to infer causality. Therefore raise the need of longitudinal study to observed the changes of quality of adolescence in different socio-demographic background.

Thirdly, although this study attempted to find general Quality of Life of Adolescent in Indonesia, the sample of this study only involved adolescents in school. A report released by Central Bureau of Statistics Indonesia in 2019 shows that almost 5% of Indonesia's 13-15 year old

population and nearly a quarter of youth population in 16-18 age group does not attend school. Therefore, the study result does not reflect adolescent outside education institution. Lastly, although internal consistency of WHOQOL-BREF in this study could be considered as acceptable [23][24], in social studies higher internal consistencies are desirable. Studies using WHOQOL-BREF usually conducted with adult sample, therefore WHOQOL-BREF might not be suitable to measure adolescence quality of life. Future research should investigate further the applicability and suitability of WHOQOL-BREF to measure adolescence population.

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