

The Influencing Factor of the Student Behavioral Intention in Garbage Management at
Nursing Academy and Midwifery Academy in Pematangsiantar

¹Lismawati, ²Indra Utama, ³Seri Asnawati, ⁴Wulan Sari Purba

^{1,4}Akper Kesdam I/Bukit Barisan Pematangsiantar,

²Universitas Muslim Nusantara

³Universitas Sari Mutiara

Email correspondence: elsayonk068@gmail.com

Abstrak

Background: The increasing population will influence the number of garbage. A pile of garbage increases as many as 4% in every year, and in Sumatra has 8.7 billion ton a pile of garbage. The way to minimize the garbages by the managing or recycling. Aim: To comprehend the student in garbage managing at Pematangsiantar. Method: This study used cross-sectional with 228 students as a sample. Result: 53.3% of the respondent has a high behavioral intention in garbage-managing with used the garbage in another time, while as many as 52.2% has a behavioral control, and subjective norm by the respondent be a high result of three-point in the analysis, represented with 72.4%. The effect of bivariate analysis found that behavior, subjective norm, and behavioral control related to the behavior of student intention. Conclusion: This study showed that there is a correlation between behavior, subjective norm, and behavioral control with behavior intention. The wishes of the student to caring for managing or recycling because the garbage has many effects on the environment.

Keyword: Behavior intention, *Theory of Plan Behavior*, Garbage-management, recycling

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BACKGROUND

The problem of garbage is an important issue and need to resolve today; it caused by the increases in number population it equal with increases a pile of garbage (Tan, 2015). Almost 1,3 billion ton of garbage in years and the World Bank estimated that number a pile of garbage will reach 2,2 million ton in 2025. Besides, a pile of garbage in Indonesia estimated 38,5 million in years (200.000 ton) and kept on increasing as many as 2-4% in years (WIjayanti, 2015). Furthermore, a pile of garbage in Sumatera reach 8,7 billion ton in years (Amir, 2016) and especially in Pematangsiantar district with the population as many as 236.947 people have 587 m³/day a pile of garbage (Gultom, 2014).

To minimize a pile of garbage at the Education Center (Formal or Non-Formal) needs a strategic by the sources. The Education Center is a gathering place for many people who can be the largest garbage producer aside from markets, households, industries, and offices (Musfirah, 2017). Strategic place to educate the generations about environmental development sustainability and as agents of change is campuses (Moelyaningrum and Ningrum, 2017; Tangwanichagapong et al., 2017). Nursing Academy and midwifery Academy in Pematangsiantar are campuses that can accommodate 240 students. A preliminary survey found in every morning ceremony are always reminded to throw garbage in its place, and there are signs to manage and sort them. Most of the student does not follow the signs. The researcher interesting to investigate behavioral intention in garbage management although many of them spend time on campus.

The related factor in garbage management intention consists of behavior, subjective norm, and Perceived Behavioral Control (PBC) (Ajzen, 1991). The previous study in Malaysian primary schools shows that behavior is not related to intention (Mahmud, 2010) because in Malaysia it has been applied by their family. Besides subjective norms showed a significant correlation with student intentions ($r = 0.391$, $p < 0.01$). In other study found that subjective norms are related to student intentions ($r = 0.316$, $p < 0.01$) (Gadiraju, 2016). Perceived behavioral control (PBC) also correlates with the intention ($r = 0.524$, $P < 0.01$) (Akulume & Kiwanuka, 2016), while other studies promoted that subjective norm does not affect the student intentions in sort out the garbage (Ayob, 2016). Zhang D (2015) stated that Perceived Behavioral Control (PBC) had a significant correlation with the behavioral intention in garbage management. However, perceived behavioral control (PBC) does not affect students' behavior to recycle (Philippsen Y, 2015).

Based on the data, the researchers are interested in investigating the related factors of student behavioral intentions in garbage management at Nursing and Midwifery Academy in Pematangsiantar. The study will use correlation description research and guided by the Theory of Planned Behavior. This study is the basis of information to comprehend students' behavior in garbage managing at Pematangsiantar.

METHODS

This study uses a cross-sectional design with 240 students as a population. Afterward, using the formula based on Krejcie RV and Morgan DW (1970) obtained 228 results (degree of accuracy of 5%). The study was carried out at the Nursing Academy of Kesdam I/ Bukit Barisan, Nursing Academy of Abdi Florensia, Agatha Midwifery Academy and Polytechnic Midwifery Academy in Pematangsiantar.

RESULT

Table 1.
The Frequency Distribution of Respondents' Characteristic at Nursing and Midwifery Academy

Respondents' Characteristic	Frequency	Percentage (%)
Old	M=20,27 SD=1,29	
Sex		
Male	27	11,8
Female	201	88,2
Grade/Term		
I/II	56	24,6
II/IV	82	36,0
III/VI	90	39,5
Major		
Nursing	145	63,6
Midwifery	83	36,4
Tribe		
Batak	148	64,9
Jawa	66	28,9
Etc.	14	6,1
Religion		
Moslem	84	36,8
Protestant	134	58,8
Catholic	10	4,4

Based on table 1, the most respondents are 20.27 years old. On grade III / term VI be a majority with 39.5% than grade I and II. Besides, most of the Nursing Academy respondents (63.6%) were larger than the Midwifery Academy (dominant with Batak tribe and Protestant) that is 58.8%.

Table 2. The Frequency Distribution of Respondents' Behavior Intention at Nursing and Midwifery Academy

Variable	Frequency	Percentage (%)
Behavioral Intention	Mdn=3,50	Range=1-5
High	122	53,5
Low	106	46,5
Behavior	Mdn=3,00	Range=1-5
Positiv	119	52,2
Negativ	109	47,8
Subjective Norm	Mdn=3,00	Range=1-5
Tinggi	165	72,4
Rendah	63	27,6
Perceived behavioral control	Mdn=3,00	Range=1-5
High	119	52,2
Low	109	47,8

Table 2 shows that the frequency of high behavioral intention with 53.5% is more dominant than low behavioral intention with 46.5%. Besides, positive behavior as many as 52.2% with the higher of the subjective norm as many as 72,4% are dominant.

Table 3.
The Correlation between Behavior with Student Behavioral Intention of Nursing and Midwifery Academy

Variable	Behavioral Intention	
	Coefficient	p-value
Behavior	0,183	0,06
Subjective Norm	0,211	0,01
Perceived Behavioral Control	0,538	0,01

Based on table 3, describe that behavior has related to student behavior intention of nursing and Midwifery Academy in Pematangsiantar. It means the quality of students' behavioral intention depends on student's behavior. On the other hand, this table shows that subjective norm is related with student's

behavioral intention. It means the quality of behavioral intention depends on the subjective norm. Also, the perceived behavioral control is related to the behavioral intention of nursing and midwifery academy students. It means the quality of behavioral intention depends on perceived behavioral control.

DISCUSSION

Behavioral Intention

The result is most of the respondents had a high behavioral intention that is as many as 53.5% because they will sort the goods thing to reuse in a coming month or they regularly use in the campus. Besides, it was same as the study by Apinpath (2014) and Vassanadumrongdee with Kittipongvises (2018) which stated most of the respondents had a high behavioral in sorting the garbage.

Behavior

The results of this study indicate that most of the respondents (52.2%) have positive behavior in garbage management. Shewasenad (2017) supported this study which obtained 77.5% of respondents had a positive behavior towards garbage management. Behavior is consistency in a positive or negative form towards an object or situation (Musfirah, 2017). In this study, students stated that strongly agree that reducing, recycling is excellent to reduction and utilization of garbage. Also, the students agreed to try hard to utilize and recycle as much garbage as possible.

Subjective Norms

Based on the results most of the respondents (72.4%) have high subjective norms because they are confident that the official person will agree to them in garbage management. This study is similar to other studies where respondents have good subjective norms (Apinpath, 2014). A person can participate in pro-social activities for various reasons such as getting approval from the group and achieving group expectations. For example, someone will be involved in a recycling campaign if their colleagues also expect them to involve themselves (Zahari, 2012). Respondents in this study also stated that most families think that garbage management is a good thing to do. Subjective norms are social factors that include perceived social pressure to

be involved or not involved in certain behaviors (Zhang, 2015). Possible sources of these social factors include pressure from family, neighbors, peers, or society.

Perceived Behavioral Control

Based on the study most of the respondents (52,2%) reported that has high perceived behavioral control. On the other hand, Apinpath study (2014) also reported that the most of households (87.8%) had a high perceived behavioral control. The results of this study indicate that respondents strongly agree that the reduction of garbage material is easy. According to Gusti, et al. (2015) perceived behavioral control is the perception of the ease or difficulty of implementing sustainable garbage management and contribute positively to the behavioral intention of sustainable garbage management.

The Correlation between Behavior with Behavioral Intentions

The results indicated the correlation between behavior and behavioral intentions ($r = 0.183$; $p < .06$). It means the quality of behavioral intention depends on positive behavior. According to Ajzen (1991) behavior is the first determinant that will form an individual's intention whether to participate or not in certain behaviors. This study supported by Apinpath study (2014) on Community Mapping and Theory of Planned Behavior as Study Tools for Solid Waste Management, which stated that behavior relates to behavioral intentions. Also, Gadiraju (2016) reported that behavior was related to behavioral intentions ($r = 0.310$; $p < 0.01$).

The Correlation of Subjective Norms with Behavioral Intentions

Based on the results, subjective norms are related to behavioral intentions ($r = 0.211$; $p < .01$), it means the increasing of behavioral intention depends on the subjective norm. This study is similar to the previous study which stated there is a correlation between subjective norm with the behavioral intention (Apinpath, 2014; Gadiraju, 2016; & Khalil, 2017). One explanation in this study is that most of the respondents (72.4%) have high social norms so that social influence is an important aspect to be identified in understanding students' behavior which related to the environment.

Previous research shows that adolescents spend most of their time after school with friends and they seem to be strongly influenced by their friends cognitively and behaviorally (Busteed et al., 2009 in Zahari, 2012). Also, students spend a lot of their time with their families, and their

home lives also play a role in developing the behavior towards recycling (Prestin & Pearce, 2010 in Zahari, 2012).

The correlation between Perceived Behavioral Control and Behavioral Intention

Based on the results, the perceived behavioral control was related to behavioral intention ($r = 0.538$; $p < .01$), means that the increase of behavioral intention depends on Perceived behavioral control. Respondents strongly agree that the reduction of potentially wasteful material is easy. Perceived behavioral control in recycling will be more beneficial if students have a lot of knowledge and confidence about how to recycle and benefit from training, as well as opportunities and good cooperation from others (Zahari, 2012). Furthermore, the planned behavioral theory also claims that people are more likely to form intentions to recycle if the perceived behavioral control is high (Philippsen, 2015).

CONCLUSION

In conclusion, most of the respondent have a high behavioral intention and positive behavioral control. Besides, most of them also have a social norm and Perceived Behavioral Control which is high categories. This study showed that behavior, subjective norm, and Perceived Behavioral Control are related to behavioral intention. The writer expected the student could more care with the negative effect a pile of garbage on the environment. On the other hand, the institution can provide the garbage bins in three types: reuse, reduce and recycle.

REFERENCE

- Ajzen I. (1991). The Theory of Planned Behavior. *Organizational Behaviour and Human Decision Processes*. 1991;50:179-211
- Akulume, M., & Kiwanuka, S.N. (2016). Health Care Waste Segregation Behavior among Health Workers in Uganda: An Application of the Theory of Planned Behavior. *Journal of Environmental and Public Health*. Volume 2016, Article ID 8132306,8 pages. Doi: 10.1155/2016/8132306
- Apinpath , C. (2014). Community Mapping and Theory of Planned Behavior as Study Tools for Solid Waste Management. *Journal of Waste Management*. Volume 2014, Article ID 934372,7 pages. Doi:10.1155/2014/934372
- Amir. (2016). Statistik Sampah. Dibuka pada situs: <http://www.sampahmasyarakat.com>. 27 Januari 2018.
- Ayob, S.F., & Low S.T (2016). *Key Determinants of Waste Separation Intention among Students on Campus*. MATEC Web of Conferences 66. Doi: 10.1051/ 00066
- Gultom, G.S. (2014). *Dampak Pengelolaan Sampah terhadap Lingkungan di Sekitar Tempat Pembuangan Akhir (TPA) Sampah Kota Pematangsiantar*. Skripsi. Universitas Negeri Medan.
- Gusti, A., dkk. (2015). Faktor Determinan Intensi Perilaku Pengelolaan Sampah Berkelanjutan Pada Siswa Sekolah Dasar. *Jurnal Kesehatan Masyarakat Andalas*. 9(2)65-72. p-ISSN 1978-3833, e-ISSN 2442-6725
- Gadiraju, T. (2016). *Investigating the Determinants of Recycling Behavior in Youth by Using Theory of Planned Behavior*. Graduate Theses and Dissertations. University of South Florida.
- Khalil, M.S., et al. (2017). Examining the Moderating Role of Perceived Lack of Facilitating Conditions on Household Recycling Intention in Kano, Nigeria. *Journal Recycling*. Doi:10.3390/recycling2040018
- Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*;30:607-610.
- Mahmud, S.N.D., & Osman, K. (2010). *The Determinants of Recycling Intention Behavior among the Malaysian School Student: An Application of Theory of Planned Behaviour*. *Procedia-Social and Behavioral Science* 9, 119-124. Doi: 10.1016/j.sbspro.2010.12.123.
- Mulyaningrum & Ningrum. (2017). Are Your Campus Eco? A Perception Students About Environmental Education, Jember Indonesia. *Jurnal Pancaran Pendidikan FKIP Universitas Jember*. Vol. 6, No.3, Page 63-76, August, 2017. Doi: 10.25037/pancaran.v6i2. 54
- Musfirah. (2017). *Peningkatan Sikap Siswa Dalam Mengolah Sampah di SMK 3 Muhammadiyah Yogyakarta*. The 5th Urecol Proceeding. ISBN 978-979-3812-42-7
- Philippsen Y. (2015). *Factors influencing students' intention to recycle*. *School of Management and Governance*. Master Thesis. University of Twenty
- Shewasenad, S., et al. (2017). Assessment of Knowledge Attitude and Practice towards Solid and Liquid Waste Management among Addis and Kometa Kebele Community Mizan-Aman Town, Bench – Maji Zone, Snnpr, South Waste Ethiopia, 2017. *Biomed J Sci & Tech Res* 1(5). Doi: 10.26717/BJSTR.2017.01.000434
- Tan, S., et al. (2015). Energy Conversion and Management. Energy, economic and environmental (3E) analysis of waste-to-energy (WTE) strategies for municipal solid

- waste (MSW) management in Malaysia. *Journal Energy Conversion and Management*, 111-120.
- Tangwanichagapong., et al .(2017). Greening of a campus through waste management initiatives: Experience from a higher education institution in Thailand. *International Journal of Sustainability in Higher Education*, Vol. 18 Issue: 2, pp.203-217. [Doi.Org/10.1108/Ijshe-10-2015-0175](https://doi.org/10.1108/Ijshe-10-2015-0175).
- Vassanadumrongdee, S., & Kittipongvises, S. (2018). Factors Influencing Source Separation Intention and Willingness to Pay for Improving Waste Management in Bangkok, Thailand. *Sustainable Environment Research* 28, 90-99. [Doi.org/10.1016/j.serj.2017.11.003](https://doi.org/10.1016/j.serj.2017.11.003).
- Wijayanti, D.R., & Suryani, S. (2015). Waste Bank as Community-based Environmental Governance: A Lesson Learned from Surabaya. *Procedia-Social and Behavioral Science* 184, 171-179. Doi: 10.1016/j.sbspro.2015.05.077.
- Zhang, D., et al. (2015). Residents' Waste Separation Behaviors at the Source: Using SEM with the Theory of Planned Behavior in Guangzhou, China. *Int. J. Environ. Res. Public Health* 2015, 12, 9475-9491. Doi:10.3390/ijerph12080947
- Zahari. (2012). *Investigating the Determinants of Recycling Behaviour among Secondary School Students in Penang*. Master of Business Administration. Universiti Sains Malaysia.