



DIFFERENCES IN THE WASTE REDUCTION BEHAVIOR OF FEMALE WORKERS AT HOME AND WORK

Nihayatu Aslamatis Solekah¹, Ratna Wardani²
¹Universitas Islam Negeri Maulana Malik Ibrahim
Malang; Indonesia
²Institut Ilmu Kesehatan Strada Indonesia
¹aslamatis_1@pbs.uin-malang.ac.id
²ratnawardani61278@gmail.com

ABSTRACT

One of the main SDGs programs is a waste reduction to maintain future environmental sustainability. This study examines differences in the waste reduction behavior of female workers at home and in the office. It involved 128 lecturers at four State Islamic universities around East Java through a purposive sampling approach with the criteria of female lecturers who have worked for at least one year with a master's degree in education. After the data were collected, they were tested with paired t-tests. The results demonstrated differences in attitudes towards behavior, subjective norms, knowledge, personal norms, and recycling facilities. Perceived behavioral control is the only variable that did not show any difference in the waste reduction behavior for female workers at home and the office. It implied that the behavior of female workers in waste reduction at home and the office is inconsistent.

Keywords: attitude, knowledge, recycling facilities, waste reduction behavior

INTRODUCTIONS

The Ministry of Environment and Forestry (KLHK) reported that waste in Indonesia reached 21.88 million tons in 2021. This volume decreased by 33.33% from the previous year, 32.82 million tons. Based on the source, households contribute the most to national waste, with 42.23%. Referring to the Indonesian Environmental Statistics data by the Central Statistics Agency (BPS), only 1.2 percent of households have recycled their waste. Businesses and government play a significant role in reducing waste, not to mention individuals as consumers who contribute a lot of garbage in their lives. Researchers identified a phenomenon whereby women reported



International Conference and Visiting Scholars 2022
INSURI Ponorogo > Universiti Sains Malaysia

more concern for the natural environment than men (Arnocky & Stroink, 2010). Besides, Whitmarsh et al. (2018) expanded the behavioral and situational scope of research on waste reduction behavior, focusing on recycling in the domestic context by exploring this behavior in three different contexts: home, work, and vacation. According to Tudor et al. (2007), there are differences in the recycling behavior of workers at home and the workplace. The behavior is influenced by the attitudes and beliefs that underlie workers towards the environment. Qiang Wang (2013) argued that individuals could solve environmental problems by showing environmentally responsible behavior, such as adopting similar ecologically friendly activities. Varotto and Spagnoli (2017) identified waste reduction behavior as influenced by individual and contextual factors. To understand individual behavior, this study employed a theory of planned behavior approach with three variables, attitude toward behavior (AtB), subjective norm (SN), and perceived behavioral control (PBC). Then, the value belief norm theory approach was added with knowledge (KN) and personal norm (PN) variables. For contextual factors, this study included reducing facilities (RF).

According to Ajzen (1991), attitude is the extent to which people evaluate the target behavior as favorable or unfavorable, the subjective norm is the social pressure people feel to perform the behavior, and PBC refers to the perceived difficulty or eases in performing the behavior.

This study does not focus on recycling behavior but on reducing behavior under Khan et al. (2019) that individual behavior in developing countries remains low in the willingness to recycle, considering that most of them still think that recycling requires funds and does not benefit them while reducing focuses on one's awareness on prevention or reuse.

This study aims to acknowledge the differences in the waste reduction behavior of women workers, specifically lecturers, at home and the workplace. It is grounded on the fact that researches on waste reduction behavior in educational organizations such as universities receive little attention. Meanwhile, they should have a higher level of knowledge a better



environmental awareness (Whitmarsh et al., 2018). The study result is expected to be used as a reference for the State Islamic University, aggressively launching the green and intelligent campus program. In addition, it will reduce domestic waste for working women who support the government's Sustainable Development Goals (SDGs) program in the context of environmental protection in 2030 in item 12 (responsible consumption and production).

In religious moderation, pro-environmental behavior in reducing waste aligns with the concept of Akhlaqul Karima (noble behavior), especially in Ri'ayatul Bi'ah (maintaining environmental sustainability). Hence, keeping people away from negative attitudes and behavior implies environmental preservation from disaster and pollution (Al Qaradhawi, 2002: 3). The concept of Ri'ayatul Bi'ah is based on five ideas of benefit: (1) Hifdzuddin, (2) Hifdzunnafs, (3) Hifdzunnaql, (4) Hifdzul Aql, (5) Hifdzul Maal (Multi, 2019).

Regarding maintaining a sustainable environment, *Li Hifdziddin* is closely related to the fact that humans are sent down to this earth to be caliphs, with religious guidance to ensure that they occupy and preserve the universe. On the other hand, arbitrary actions will negate justice and Ihsan, both of which are commands of Allah. One of the activities categorized as tarnishing the function of the caliphate imposed on humans is destroying the environment, as the earth belongs to Allah, not humans. As in the Qur'an QS Al A'raf: 56.

Li hifdzinnafs is protecting the environment and preserving it the way we protect the soul. Protecting the soul means protecting human psychics and their safety. Damage to the environment, pollution, depletion of natural resources, and neglect of the principles of balance will endanger human life. Keeping a sustainable environment means maintaining the descendants or preserving future generations.

Li hifdzinnaql is a privilege Allah has given humans to apply *tackling*, which is a responsibility to carry out religious sharia. Every action counts or will be written down. However, if the human mind does not work correctly,



the essence of efforts to maintain human life is in vain, even if they are like animals.

Li hifdzilmaal means protecting property or wealth as it is a provision to live in the world. The earth and its contents are treasures, so protecting the environment is necessary. We should preserve natural resources, avoiding environmental exploitation without a clear purpose, which leads to an imbalance in the ecosystem.

This study uses a quantitative approach. It is conducted at 4 State Islamic Universities around East Java: UIN Maulana Malik Ibrahim Malang, Gajayana street No 5, Dinoyo, Lowokwaru, Malang; UIN Sunan Ampel Surabaya, Ahmad Yani Street No 117, Jemur Wonosari, Wonocolo, Surabaya; UIN KH. Achmad Siddiq Jember, Mataram street, No 1 Mangli, Jember; and UIN Sayyid Ali Rahmatullah Tulungagung, Major Sujadi Timur street No 46, Tulungagung. It employs a purposive sampling method with the following criteria:

1. Female
2. Working as a lecturer at the universities in East Java (UIN Maliki Malang, UIN Sunan Ampel Surabaya, UIN KHAS Jember, and UIN Satu Tulungagung)
3. Minimum masters' degree
4. Working for at least one year

The construct measurement for each indicator of Attitude toward Behavior (AtB), Social Norm (SN), and Perceived Behavioral Control (PBC) was adopted by Whitmarsh et al. (2018). Knowledge (KN) adapting, Personal Norm (PN) adapting, and Pro-environmental identity (PEI) was measured by six items of general pro-environmental waste awareness statements, referring to Whitmarsh et al. (2017) and Wang et al. (2019). The recycling Facilities (RF) variable is adapted to Whitmarsh et al. (2018) and Zhang (2019). The questionnaire is completed with a 5-point Likert scale.

The data are tested with a t-test using SPSS 26. Paired t-test is a hypothesis-testing method with dependent (paired) data. The characteristics



most often found in paired cases are that an individual (object of research) receives two different treatments. Although using the same individual, the researchers still obtain two kinds of sample data, data from the waste reduction behavior of female lecturers at home and data from the waste reduction behavior of female lecturers in the office.

RESULTS AND DISCUSSION

The analysis in the study is divided into several criteria, including the university the participants work at, last education level, length of work, and length of the marriage. In terms of university, 40 female lecturers (31.25%) work at UIN Malang, 29 of them (22.66%) work at UIN Surabaya, 25 (19.53%) work at UIN Jember, and 34 (26.56%) are from UIN Tulungagung, as listed in Figure 1. Meanwhile, their education level, position, and marriage length are presented in Figures 2,3, and 4, respectively.

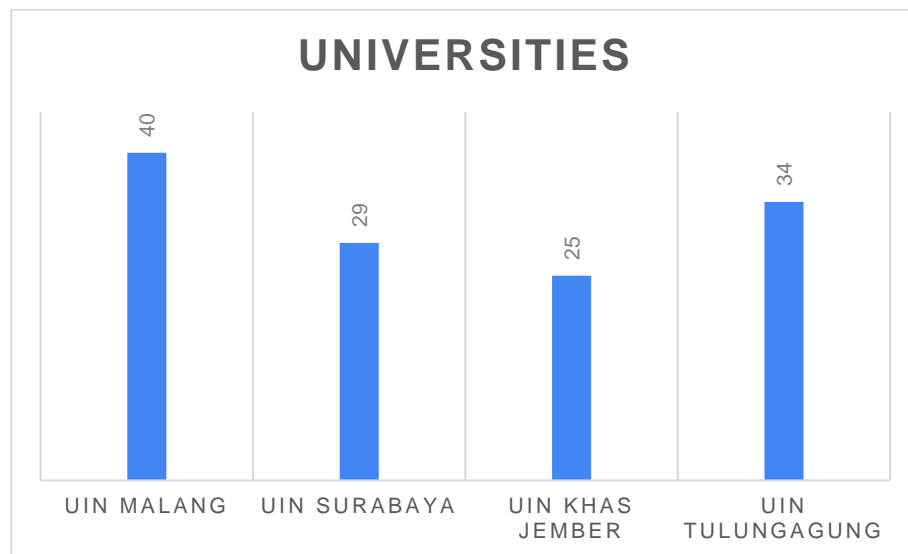


Figure 1. Respondents' Place of Work (University)

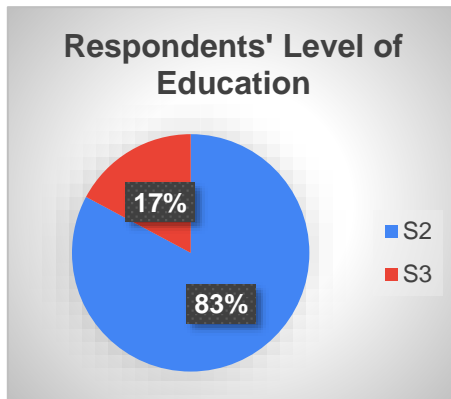


Figure 2. Level of Education

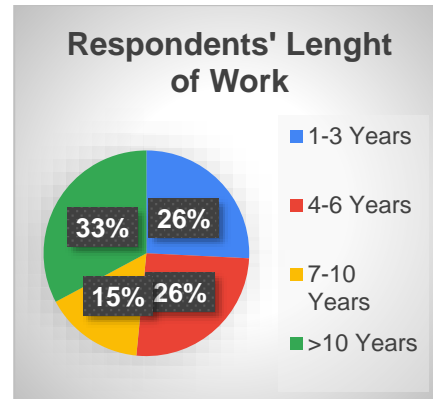


Figure 3. Length of Work

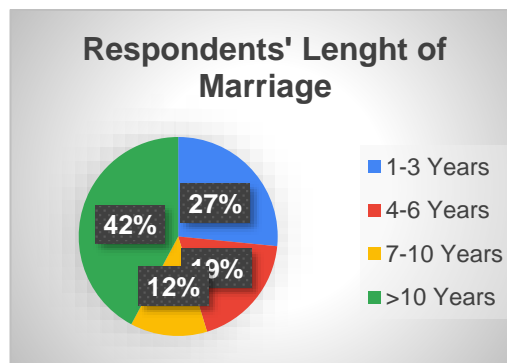


Figure 4. Length of Marriage

Descriptively, it is presented in table 1 below.

Table 1. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ATB at home	4.47	128	58.37	5.16
	ATB at work	4.34	128	57.71	5.10
Pair 2	SN at home	3.80	128	116.94	10.34
	SN at work	3.64	128	119.90	10.60
Pair 3	PBC at home	3.44	128	89.11	7.88
	PBC at work	3.46	128	91.00	8.04
Pair 4	KN at home	4.62	128	100.19	8.86
	KN at work	4.42	128	102.29	9.04
Pair 5	PN at home	4.98	128	85.70	7.57
	PN at work	4.84	128	89.06	7.87
Pair 6	RF at home	4.69	128	107.81	9.52
	RF at work	4.25	128	131.77	11.65



Before getting into the different tests with Paired-T, the normality test is made using the Kolmogorov-Smirnoff test, presented in Table 2. The table shows that the data are typically distributed.

Table 2. Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
ATB	.142	128	.000	.933	128	.000
SN	.122	128	.000	.958	128	.001
PBC	.119	128	.000	.977	128	.027
KN	.185	128	.000	.933	128	.000
PN	.157	128	.000	.915	128	.000
RF	.197	128	.000	.911	128	.000
ATB	.141	128	.000	.940	128	.000
SN	.117	128	.000	.957	128	.000
PBC	.117	128	.000	.963	128	.001
KN	.114	128	.000	.957	128	.000
PN	.149	128	.000	.928	128	.000
RF	.122	128	.000	.927	128	.000

a. Lilliefors Significance Correction

The paired T-test results are presented in Table 3. The table shows the difference between the Attitude toward Behavior (AtB) of female lecturers at home and that at the office with a significance value of $0.000 < 0.05$, so the hypothesis is accepted. Meanwhile, the subjective norm variable also depicts a significance value of $0.006 < 0.05$, so the premise is born. However, the perceived behavioral control variable for female lecturers at home and in the office demonstrates a significance value of $0.508 > 0.05$, so the hypothesis is rejected. For the knowledge variable of female lecturers at home and that at the office, this study reveals a significance value of $0.000 < 0.05$, so the hypothesis is accepted. The personal norm variable shows a significance value of $0.001 < 0.05$, and the premise is born. Furthermore, the recycling facilities variable shows a significance value of $0.000 < 0.05$, so the hypothesis is also accepted.



Table 3. Paired Samples Test

Pair		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	ATB - ATB	13.29	41.02	3.63	6.11	20.46	3.665	127	.000
Pair 2	SN - SN	15.63	63.29	5.59	4.55	26.70	2.793	127	.006
Pair 3	PBC - PBC	-2.37	40.33	3.56	-9.42	4.69	-.664	127	.508
Pair 4	KN - KN	20.70	53.07	4.69	11.42	29.98	4.414	127	.000
Pair 5	PN - PN	14.06	48.17	4.26	5.64	22.49	3.303	127	.001
Pair 6	RF - RF	44.53	123.63	10.93	22.91	66.16	4.075	127	.000

The AtB variable, which is a belief about specific behaviors and their consequences, among female lecturers shows a difference between the AtB at home and work. Based on the average value, the ATB at home has a higher average. Therefore, it implies that the female lecturers perceive that waste reduction behavior at home can cause higher consequences, which might also risk their families.

This study demonstrates a different behavior at home and the office for the subjective norm variable, which refers to the individual perceptions of the expectations of people's influence in their lives (significant others) regarding waste reduction. Regarding the average SN, it shows that SN at home has a more excellent value than at the office. It means that family has a highly prominent role in the behavior of female lecturers at home, compared to colleagues at the office.

For the perceived behavioral control, this study finds no difference between the perceived behavioral control at home and that at the office.



Therefore, the behavioral controls are similar to an encouragement or obstacle at home and the office. The waste reduction facilities at the office and home are equally well provided. Correspondingly, they do not encounter challenges regarding time at home or the office.

This study shows the difference in knowledge, which refers to the lecturers' information about environmental problems and their ability to understand and evaluate the impact on society and the environment (Chekima, 2016). The average value of their knowledge at home is higher than that at the office. They know more about the materials that can be sorted, recycled, reused, or reduced for waste at home. Likewise, they know better where to store their waste items to be sorted, recycled, and reused at home.

Based on the personal norm, which means self-expectations based on the internalization of values, personality, and habits on certain activities in particular situations developed by individuals, as a feeling of moral obligation to behave well or to perform or refrain from a specific action (Schwartz, 1977), this research shows the difference among the female lecturers at home and the office. They feel they have a higher moral obligation to reduce, reuse, and recycle waste at home than at work. Likewise, they feel more guilty if they don't reduce waste at home than at the office.

For the waste reduction facilities, this study also demonstrates the difference. The trash bins at home are different from those in the office. Once viewed from the average RF at home and the office, the RF of female lecturers at home is better than that in their offices.

The implications of the findings are: (1) the behavior of female lecturers at home and in the office is inconsistent. Their environmental factors strongly influence it; (2) improvement of facilities and infrastructure for reducing waste at the office is necessary; (3) the universities they have been working should consistently create an environmentally friendly work atmosphere, so every individual shows changes in their environmentally friendly behavior.

This study's limitation is that the research was conducted during the



COVID-19 pandemic when most female lecturers worked from home, so research during the regular work phase might generate different results.

CONCLUSION

Of the six variables tested, only one variable with a rejected hypothesis perceived behavioral control, which shows the consistency of the behavior of the female lecturers at home and the office. The behavior perceived as an encouragement or obstacle by female lecturers either at home or in the office is similar. Future studies might go with the conduct of female workers using a longitudinal or experimental approach. Therefore, their waste reduction behavior can be factually described. Besides, waste recycling behavior can also be developed to generate other benefits.

REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behaviour and Human Decision Processes*, 50(2), 179–211
- Al-Qardhawi, Y. (2002). *Ri'ayat al-Bi'at fi Syari'at al-Islam*. terj. Abdullah Hakam. et.al. Pustaka Kautsar : Jakarta
- Arnocky, S., & Stroink, M. (2010). Gender Differences in Environmentalism: The Mediating Role of Emotional Empathy. *Current Research in Social Psychology*, 16, Article 9.
- Chekima, B., Wafa, S. A. W. S. K., Igau, O. A., Chekima, S., & Sondoh, S. L., Jr. (2016). Examining Green Consumerism Motivational Drivers: Does Premium Price and Demographics Matter to Green Purchasing? *Journal of Cleaner Production*, 112, 3436–3450
- Khan, F., Ahmed, W., Najmi, A., (2019). Understanding Consumers Behavior Intentions towards Dealing with the Plastic Waste: Perspective of a Developing Country. *Resource. Conservation. Recycling*. 142, 49–58. <https://doi.org/10.1016/j.resconrec.2018.11.020>
- Muliati, I. (2019) *Ramah Lingkungan Dalam Islam (Solusi terhadap Krisis Lingkungan)*, Conference Paper,



International Conference and Visiting Scholars 2022
INSURI Ponorogo > Universiti Sains Malaysia

<https://www.researchgate.net/publication/330761818>

Qiang Wang (2013), Chinas Citizens must Act to Save Their Environment
Nature. 497(7448):159. DOI: 10.1038/497159a

Schwartz, S. H. (1977). Normative influences on altruism. In *Advances in Experimental Social Psychology* 10, 221–279.
[https://doi.org/10.1016/S0065-2601\(08\)60358-5](https://doi.org/10.1016/S0065-2601(08)60358-5)

Tudor, T., Barr, S., and Gilg, A. (2007). A Tale of Two Locational Settings: Is
There a Link between Pro-environmental behavior at work and at
Home? *Local Environment*. 12, 409–421.
<https://doi.org/10.1080/13549830701412513>

Varotto, A., and Spagnolli, A. (2017). Psychological strategies to Promote
Household Recycling. A Systematic Review with Meta-analysis of
Validated Field Interventions. *Journal of Environmental Psychology*,
51, 168–188. <https://doi.org/10.1016/j.jenvp.2017.03.011>

Whitmarsh LE, Hagggar P and Thomas M (2018) Waste Reduction Behaviors
at Home, at Work, and on Holiday: What Influences Behavioral
Consistency Across Contexts? *Frontiers in Psychology*. 9:2447.
<https://doi.org/10.3389/fpsyg.2018.02447>