COUNS-EDU ♦The International Journal of Counseling and Education
Vol.7, No.2, Month 2022, pp. 69-76 |
p-ISSN: 2548-348X- e-ISSN: 2548-3498
http://journal.konselor.or.id/index.php/counsedu
DOI: 10.1007/10.23916/0020220739020

Received on 11/20/2022; Revised on 12/02/2022; Accepted on 12/25/2022; Published on: 12/30/2022

Analysis of age, length of stay, and gender factors on clean and healthy living behaviors

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Abstract
The role of the community is one of the causes of decreased air drainage quality. Water pollution occurs in the Baung Panjalinan Drainage. The water quality condition is visually black which indicates water pollution. Pollution is related to behavior, which is formed based on the characteristics of a person and the environment. The research aims to determine the effect of age, length of stay, and gender on people's behavior in managing household liquid waste and disposing of waste in trash cans. This research was analyzed quantitatively using SPSS, Paired Sample t-test for comparison test. The results of this study showed that the behavior of household wastewater management, age, length of stay, and gender did not have a significant effect. While the behavior of throwing garbage in the trash, only the age factor has a significant effect, while the length of stay and gender factors have no significant effect.

Keywords: environment, behavior, age, gender, length of stay.

How to Cite: Zaim, R.L., Dewata, I., Carlo, N & Umar, I. (2023). Analysis of age, length of stay, and gender factors on clean and healthy living behaviors. *Couns-Edu: International Journal of Counseling and Education, 7*(2): pp. 69-76. DOI: 10.1007/10.23916/0020220739020

Introduction

Drainage is part of the urban drainage system, which functions to drain and control excess air surface so as not to harm the community. Therefore, efforts to maintain the performance of the urban drainage system do not only look at performance in accommodating excess water but also at how the water quality is and what is the role of the community in the performance of drainage performance (Novita, Pradana, & Dwija, 2020).

Water quality describes the condition of the water, which is measured to obtain the elements contained in the water to meet regulated water quality standards (Yusal & Hasyim, 2022). The decline in water quality can be caused by increased human population and socio-economic activities. Such as changes in the function of land on river banks to become residential areas, which can increase the potential for pollution in drainage (Destouni & Jarsjö, 2018) and will affect ecological dynamics such as human health and welfare (Albert et al., 2021).

One of the causes of the decrease in the quality of drainage water is the influence of the conformity of the community's role in clean and healthy living behavior, namely the behavior of managing household liquid waste and the behavior of disposing of garbage in its place which (RI, 2011), which if left unchecked can cause water pollution in the drainage (Effendi, 2003; Siregar, 2019).

The potential for water pollution occurs in one of the primary drainage channels in Padang City, the Baung Panjalinan Drainage. The source of water pollution comes from the activities of the community

(domestic) who are active and live around the drainage flow. Research conducted (Azhar & Dewata, 2018) shows that domestic activities impact increasing organic pollution loads. The water quality condition in the Baung Panjalinan Drainage is visually black and cloudy, which indicates water pollution in the drainage (Matolisi, Sriati, & Faruk, 2015).

Water pollution in drainage can not be separated from the role of community behavior. A person's behavior is known to be formed based on a person's characteristics and the community environment, such as gender, age, and length of stay (Yuliana & Haswindy, 2018). Previous research by Lewin in Notoatmodjo (2010) states that taking appropriate action for healthy behavior is influenced by three variables, namely demographic variables that manifest in age and gender, as well as social psychological variables that are influenced by knowledge of external stimulus conditions.

The increasing age factor will provide a person's level of understanding to be more mature in thinking and behaving (Siregar, 2019). The age of 40 years is considered the age of maturity of reason, understanding, and good self-control (Muchlisin, 2022). Furthermore, previous studies regarding individuals who have lived in urban areas for a long time tend to display more positive attitudes toward the environment. This positive attitude is expected to be the basis for behaving (Laksono & Sjabadhyni, 2012). However, research (Nurmalita, 2016) states that there is no significant relationship between gender and a person's behavior.

By looking at the phenomenon and previous research regarding the factors that influence a person's behavior, the researcher aims to find out how the influence of age, length of stay, and gender influence the behavior of household wastewater management and the behavior of disposing of garbage in trash cans at Baung Panjalinan Drainage.

To provide quick answers to the problems that have been described, the hypotheses that need to be tested in this study are:

H1: There are significant differences in community behavior based on household wastewater management behavior, seen from the age factor < 40 years and > 40 years.

H2: There are significant differences in community behavior based on the behavior of household wastewater management, seen from the length of stay factor < 11 years and > 11 years.

H3: There are significant differences in community behavior based on the behavior of household wastewater management, seen from the male and female gender factors.

H4: There are significant differences in people's behavior based on the behavior of throwing garbage in the trash, seen from the age factor < 40 years and > 40 years.

H5: There are significant differences in people's behavior based on the behavior of throwing garbage in the trash, seen from the length of stay factor < 11 years and > 11 years.

H6: There are significant differences in people's behavior based on the behavior of throwing garbage in the trash, seen from the male and female gender factors.

Method

The population in this study is the people of Air Tawar Barat Village, Padang City. The sampling technique used in this study is purposive sampling. Purposive sampling is a sample selection technique with specific considerations (Sugiyono, 2017). Researchers in this study consider that people have the potential to have a more significant role in polluting the drainage, namely people whose homes are not far from the drainage because they have close access to it. So the sample in this study was the community of 30 houses directly facing the Baung Panjalinan Drainage.

The Source of data in this study uses primary data sources. Primary data was obtained through a questionnaire with a 5-point Likert scale. In addition, this study uses age, length of stay, and gender as research variables. Clean and healthy living behavior, which is assessed, focuses on behaviors that impact the quality of drainage water, namely the behavior of managing household liquid waste and disposing of garbage in trash cans.

The data analysis technique used is a quantitative analysis technique using the Statistical Product and Service Solution (SPSS) program. The quantitative method used is descriptive statistical analysis and

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statistical management analysis. Descriptive statistical analysis is a statistical technique used to analyze data by describing the collected data without making general conclusions (Sugiyono, 2017).

The type of statistical management used in this study is a comparative test to test the research hypothesis. This different test is used to compare the conditions of one or more variables in two or more samples that are not the same or at different times. If the samples are normally distributed, then the different test that will be used in this study is the parametric paired sample t-test. However, if the samples are not normally distributed, then the non-parametric Wilcoxon sign test will be used. The hypothesis will be accepted if the Asymp. Sig < 0.05, and the hypothesis will be rejected if the Asymp. Sig > 0.05. The Normality Test uses the Shapiro-Wilk Test because the number of samples used is <100. Data is said to be normally distributed if Sig > 0.05 and not normally distributed if Sig. < 0.05 (Putra, Kasdi, & Subroto, 2019).

Results and Discussions

This study produced descriptive statistical tests, normality tests, and paired sample t-test hypotheses to determine the effect of age, length of stay, and gender on the behavior of household wastewater management and the behavior of disposing of waste in trash cans. The results of the descriptive statistical tests are presented in Tables 1 and 2. The normality test results are presented in Table 3, the results of the paired sample t-test hypothesis test on household wastewater management behavior are presented in Table 4, and the results of the paired sample t-test hypothesis test on disposal behavior waste in the trash are presented in Table 5.

Table 1 Descriptive Statistical Test Results for Behavioral Factors in Household Effluent Management

Variable		Min	Max	Mean	Std. Deviation
Age	<40 years	1.6	3.2	2.3600	0.46105
	>40 years	1.4	3.8	2.8400	0.70183
Length of stay	<11years	1.6	3.4	2.5200	0.61783
	>11 years	1.4	3.8	2.6800	0.65814
Gender	Male	1.4	3.4	2.5733	0.68397
	Female	1.6	3.8	2.6267	0.59936

Table 2 Descriptive Statistical Test Results for Behavioral Factors Disposing of Garbage in Trash Cans

Variable		Min	Max	Mean	Std. Deviation
Age	<40 years	1.2	2.8	1.9867	0.39617
	>40 years	1.4	2.8	1.9200	0.36878
Length of stay	<11 years	1.2	2.8	1.9200	0.41952
	>11 years	1.4	2.8	1.9867	0.34198
Gender	Male	1.6	2.8	2.0400	0.31351
	Female	1.2	2.8	1.8667	0.42538

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Table 3 Results of the Shapiro-Wilk Test on Household Effluent Management Behavior

Variable	Household Liquid Waste Management		The behavior of Disposing of Garbage in Trash Cans	
	df	sig	df	sig
Age	30	0.118	30	0.267
Length of stay	30	0.118	30	0.267
Gender	30	0.118	30	0.267

Test for normality of data variables for age, length of stay, and gender can be seen in Table 3 above. Through the Shapiro-Wilk test, it was found that the suitability of clean and healthy living behavior data has a significance value of 0.118 and 0.267, which, when compared with a significance value (α) of 0.05, the variable data is normally distributed. Hence, the appropriate hypothesis test is the Paired Sample t-test.

Table 4 Results of Paired Sample t-test of Household Effluent Management Behavior

Variable	**t**	**df**	**Sig. (2-tailed)**	**α**
Age	0.367	14	0.719	0.05
Length of stay	-0,395	14	0.699	0.05
Gender	1.086	14	0.296	0.05

Table 5 Results of Paired Sample t-test Disposing of Garbage Behavior in Trash Cans

Variable	**t**	**df**	**Sig. (2-tailed)**	**α**
Age	-2.686	14	0.018	0.05
Length of stay	-0.799	14	0.438	0.05
Gender	-0.255	14	0.802	0.05

BEHAVIOR OF HOUSEHOLD LIQUID WASTE MANAGEMENT

The Effect of Age Factor on Household Effluent Management Behavior

The results of the descriptive statistical test on the behavioral factors of household wastewater management revealed that the average suitability of household wastewater management behavior on the age factor has increased because the average value of respondents aged <40 years is 2.36, which is smaller than the average respondent aged > 40 years is 2.84. The minimum value of suitability for household wastewater management behavior on the age factor occurs in respondents aged >40 years, namely 1.4. The maximum value of suitability for household wastewater management behavior on the age factor occurs in respondents aged >40 years, namely 3.8. Therefore, a higher the age (>40 years) is expected to have a more appropriate behavior in the behavior of household wastewater management because increasing a person's age can affect the increase in knowledge gained (Muchlisin, 2022).

The results of the paired sample t-test illustrate that the significance value of the age factor is 0.719, which is greater than the significance level (α) 0.05. Then the paired sample t-test revealed that H1 was rejected or there was no difference in behavior towards the age factor <40 and >40 years in the behavior of household wastewater management. The insignificance of the age factor in the behavior of household wastewater management can be due to the reduced ability to receive or memorize knowledge due to someone's age, so this development process is not as fast as when they were young (Samosir, Wulansari, & Yuhesti, 2022).

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The Effect of Length of Stay Factor on Household Effluent Management Behavior

The results of the descriptive statistical test on the factor of household wastewater management revealed that the average suitability of household wastewater management behavior on the length of stay factor increased because the average value of respondents who had lived <11 years was 2.52, which was smaller than the average respondents who have lived >11 years is 2.68. The minimum value of suitability for household wastewater management behavior on the length of stay factor occurs in respondents who have lived >11 years, namely 1.4. The maximum value of suitability for household wastewater management behavior on the length of stay factor occurs in respondents who have lived >11 years, namely 3.8. The longer the time a person lives in a place, the greater the person's participation in the environment (Yuliana & Haswindy, 2018).

The results of the paired sample t-test illustrate the significance value of the length of stay factor of 0.699, which is greater than the significance level of (α) 0.05. Then the paired sample t-test revealed that H2 was rejected or there was no difference in behavior on the length of stay factor <11 years and >11 years on the behavior of household wastewater management. Insignificant results on a single time factor on the management of household wastewater can be caused by the low level of public knowledge regarding household wastewater disposal because the community has never received health education or information about household wastewater disposal beforehand (Samosir et al., 2022).

The Effect of Gender Factor on Household Effluent Management Behavior

The results of the descriptive statistical test on the factors of household wastewater management revealed that the average suitability of household wastewater management behavior in female respondents was better than that of male respondents because the average value of male respondents was 2.5733, which is smaller than the average female respondents, namely 2.6267. The minimum value of suitability for household wastewater management behavior on the gender factor occurs in male respondents, equal to 1.4. The maximum value of suitability for household wastewater management behavior on the gender factor occurs in female respondents, equal to 3.8. The knowledge factor by men as the head of the family can encourage the right decisions in participating in repairing poor sanitation (Samosir et al., 2022).

The results of the paired sample t-test illustrate that the significance value of the sex factor is 0.296, which is greater than the significance level (α) 0.05. Then the paired sample t-test revealed that H3 was rejected or there was no difference in behavior towards male and female gender factors in the behavior of household wastewater management. This result contradicts Lewin's theory (1970) and Green's theory (1991) which says that gender is one of the determinants of social behavior. Becker (1974) in Notoatmodjo (2010) estimates that Lewin's theory states that gender influences behavior because in their daily lives, women are more submissive and obedient to men as heads of families who have power, so they feel that their decisions are final. However, with the progress of time and the opening of knowledge to women, currently, women get the same education as men. This condition causes men and women to have the same knowledge, which can cause an insignificant difference between the sexes and their behavior.

BEHAVIOR OF DISPOSAL OF WASTE IN THE TRASH BIN

The Effect of Age Factors on the Behavior of Disposing of Garbage in Trash Cans

The results of the descriptive statistical test on the behavioral factor of throwing garbage in the trash revealed that the average suitability of the behavior of throwing garbage in the trash on the age factor decreased because the average value of respondents aged >40 years was 1.92, which was 1.92 less than the average respondent aged <40 the year is 1.9867. The minimum value of suitability for the behavior of throwing garbage in the trash on the age factor occurs in respondents aged <40 years, which is equal to 1.2. The maximum value of suitability for the behavior of throwing garbage in the trash on the age factor occurs in respondents aged <40 years and >40 years, which is equal to 2.8. increasing age (>40 years) is expected to have appropriate behavior in the management of household wastewater because, at that age, humans are at the maturity of reason, understanding, and good self-control (Muchlisin, 2022).

The results of the paired sample t-test illustrate that the significance value of the age factor is 0.018, which is smaller than the significance level (α) 0.05. Then the paired sample t-test revealed that H4 was accepted or there were differences in behavior towards the age factor <40 years and >40 years in the behavior

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of throwing garbage in the trash. This result is contrary to research conducted by (Alhanifi, 2017), namely, there is no significant difference between age and the behavior of throwing garbage.

The Effect of Length of Stay Factor on Disposing of Garbage Behavior in Trash Cans

The results of the descriptive statistical test on the behavioral factor of throwing garbage in the trash revealed that the average suitability of the behavior of throwing garbage in the trash on the length of stay factor increased because the average value of respondents who had lived <11 years, namely 1.9200, was smaller than the average respondents who have lived >11 years, namely 1.9867. The minimum value of suitability for the behavior of throwing garbage in the trash on the length of stay factor occurs in respondents who have lived <11 years, which is equal to 1.2. The maximum value of the misery of the behavior of throwing garbage in the trash on the length of stay factor occurs in respondents who have lived <11 years and >11 years, namely 2.8. The longer a person lives in a place, it is hoped that the greater the person's participation in the environment, especially the behavior of throwing garbage in the trash (Yuliana & Haswindy, 2018).

The results of the paired sample t-test illustrate the significance value of the length of stay factor of 0.438, which is greater than the significance level of (α) 0.05. Then the paired sample t-test revealed that H5 was rejected or there was no difference in behavior on the length of stay factor <11 years and >11 years on the behavior of throwing garbage in the trash. These results are consistent with research conducted by (Yuliana & Haswindy, 2018), namely that there is no significant difference between the length of stay and littering behavior. Therefore, the length of stay of the community, which is not significant to the behavior of disposing of garbage, is due to the community's reasonable view because the river's condition is already dirty and full of garbage.

The Effect of Gender Factors on the Behavior of Disposing of Garbage in Trash Cans

The results of the descriptive statistical test on the behavioral factor of throwing garbage in the trash revealed that the average suitability of the behavior of throwing garbage in the trash among male respondents was better for female respondents because the average value of female respondents was 1.8667, which was less than the average male respondent. -male is 2.0400. The minimum value of suitability for the behavior of throwing garbage in the trash on the gender factor occurs in female respondents, which is equal to 1.2. The maximum value of suitability for the behavior of throwing garbage in the trash on the gender factor occurs in female and male respondents, which is equal to 2.8. research (Nurhadyana, 2012) shows that women have better concern and participation than men regarding environmental issues.

The results of the paired sample t-test illustrate that the significance value of the sex factor is 0.802, which is greater than the significance level (α) 0.05. Then the paired sample t-test revealed that H6 was rejected or there was no difference in behavior towards male and female sex factors in the behavior of throwing garbage in the trash. These results are consistent with Yetti's (2007) research, namely that there is no significant difference between gender and behavior. However, contrary to research by Alhanifi (2017), there is a significant difference between gender and littering behavior.

Conclusions

Based on the paired sample t-test, different tests have been carried out to see that there are significant differences based on the influence of age, length of stay, and gender on clean and healthy living behavior, which can be seen from the behavior of managing household wastewater and the behavior of disposing of garbage in the trash, the results showed that the factors of age, length of stay, and sex did not give a significant difference, and there were significant differences.

Significant differences occur in the age factor in the behavior of throwing garbage in the trash. This difference is negative, meaning that the age factor >40 years has experienced a significant decrease in the appropriateness of the behavior of disposing of garbage in the trash. The affective factors of the respondents can cause a decrease in the suitability of this behavior. The affective component can be seen from the tendency of the respondent's attitude during his life. Suppose people with an attitude always reject knowledge about the dangers of littering. Even though they are getting older, the behavior tends to be the same because a person's perception will be stable and settled (Rusmanto, 2013).

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The results of this study indicate that the age factor in household wastewater management behavior, on average, increases between ages <40 years and >40 years. However, the difference is not significant. While the age factor in the behavior of throwing garbage in the trash on average decreases between the ages of <40 years and >40 years, the difference is significant. The length of stay factor showed the same results for the behavior of household wastewater management and the behavior of disposing of garbage in the trash, namely an increase between the length of stay <11 years and >11 years, but not significant. The gender factor shows different results. In household liquid waste management behavior, the female gender is better than the male. In contrast, in the behavior of disposing of garbage in the trash, the male is better than the female, but the results are equally insignificant. So it can be stated that, on average, there is no significant effect of age, length of stay, and gender on clean and healthy living behavior.

This research has several shortcomings. First, there are limitations in the number of samples used. This study only used a sample of 30 respondents, so it could potentially be biased. This study only used a sample of community respondents who have houses directly facing the Baung Panjalinan Drainage, not yet considering people who have houses around the drainage but not directly facing the drainage. Future studies are expected to be able to use more sample data or a wider area of selection of respondent samples in order to show a more visible significance.

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