

The influence of perception on community behavior in managing household waste and toilet activities on the banks of the Martapura River, Banjar regency

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ABSTRACT

Martapura River, as one of the main rivers in South Kalimantan Province, plays a vital role in the lives of the people in Banjar Regency. However, many residents still dispose of household waste directly into the river and use floating latrines for bathing, washing, and defecating (MCK), a practice that continues to this day. Misperceptions can trigger behaviors that do not support river preservation and increase pollution. This study aims to analyze the influence of perceptions on community behavior in waste management and MCK activities. The research employs a quantitative approach with a cross-sectional design involving 100 respondents from communities along the Martapura River selected through purposive sampling. Data were statistically analyzed using the Structural Equation Modeling (SEM) with a 95% confidence level. Result showed that the community perceptions on waste management and MCK (bathing, washing and toilet) activities have a significant influence on their behavior (p-value <0.001).

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INTRODUCTION

There have been many studies conducted on the condition of river water in Indonesia, especially in big cities (Syaputri, 2017)(Yudo, 2014)(Khotimah, 2022). Based on data from the Ministry of Environment and Forestry (KLHK) in the 2023 Indonesian Statistics book released by the Central Statistics Agency (BPS), more than half of the quality of river water spread across 34 provinces is polluted.

One of the rivers in Indonesia that plays an important role for the community, especially in South Kalimantan Province, is the Martapura River (Hairini et al., 2021). The Martapura River is one of the main rivers in South Kalimantan Province which plays a vital role in the lives of the people in Banjar Regency. Since ancient times, the Martapura River has been used by the Banjar tribe as a transportation route, trade, source of clean water, agricultural irrigation and irrigation, even until

now the river water is used as a source of raw water for the local PDAM. The large amount of pollutants entering the water body through various community activities, especially around the riverbanks, is the cause of the decline in water quality.

The water quality status of rivers in South Kalimantan according to data from the Ministry of Environment is classified as heavily polluted, especially for the Martapura River and the Barito River (Haryanto, 2018)(Diniyanti & Halimatussadiyah, 2020)(Gustami et al., 2023). However, data from the Central Statistics Agency in The 2023 Indonesian Statistics book shows that the water quality status of the Martapura River has improved from heavily polluted to lightly polluted in 2023 (Statistik, 2018).

Based on the results of field studies, many people still dump household waste into the Martapura River, and there are MCK activities in floating toilets that are still used by the community today (Khotimah and Nasruddin, 2022).

(Siahaan et al., 2023) reported on the use of floating toilets in rivers in the community in Pasayangan, Martapura, Banjar Regency, from 57 respondents, 52.6% of respondents admitted to using floating toilets in the Martapura River. This was triggered by a lack of knowledge about the dangers of indiscriminate feces disposal, in addition to the perception that it is common for feces to be disposed of on the ground or in rivers, which also made people use floating toilets. They can also bathe and wash clothes in the same river. As a result, they are susceptible to diarrhea. Data from the South Kalimantan Provincial Health Office revealed that diarrhea cases in Banjar Regency were the highest among 13 regencies/cities in South Kalimantan Province with a total of 5,516 cases in 2020. (South Kalimantan Provincial Health Office, 2024).

The decline in river water quality cannot be separated from the influence of community activities around the river (Khotimah and Nasruddin, 2022). So far, research related to river water pollution has mostly only analyzed biological, chemical and physical factors from the source of pollution. Social and cultural factors of the community can also underlie river water pollution in terms of the perception and behavior of the community.

Perception is a process that individuals go through to understand and interpret their sensory impressions in order to give meaning to their environment. (Robbins, 2023). Public perception of rivers greatly influences how they treat and utilize the river. This perception includes public views on river water quality, cleanliness, and the importance of rivers in everyday life. Poor perception causes rivers that should be a source of raw water, drinking water, fisheries, livestock, agriculture and urban businesses or as a drainage and flood control system, to change function because their quality is polluted due to various activities, especially household waste from people who dump their waste, either directly or indirectly into the river. This shows that public perception of rivers is still limited to being a place to dispose of various types of waste (Kospa, 2018).

(Siregar et al., n.d.)(Yavuzaslan et al., 2023) defines perception as a process that individuals go through to organize and interpret their sensory impressions in order to give meaning to their environment. (Thoha, 2007) states that perception is defined as a cognitive process felt by each person in mastering data about their environment, either through sight, hearing, appreciation, feeling and smell. (Walgito, 2010) states that perception is an impression of an object obtained through the process of sensing, organizing, and interpreting the object received by the individual, so that it is something meaningful and is an integrated activity within an individual. Perception can be interpreted as the process of receiving, selecting, organizing, and giving meaning to the stimuli received.

According to (Notoatmodjo, 2007), perception is influenced by two major parts, namely internal factors and external factors. Internal factors are factors found in people who perceive the stimulus. External factors are factors inherent in the object. Internal factors include experience or knowledge, which are factors that play a major role in interpreting the stimulus obtained. Furthermore, hope or expectation will influence perception of the stimulus. A person's need for something will create a stimulus that causes us to interpret the stimulus differently. For example,

someone who is motivated to maintain their health will interpret cigarettes as something negative. Emotions are something that makes someone afraid of influencing their perception of the existing stimulus. Culture, someone with the same background will interpret people in their group differently, but will perceive people outside their group the same.

External factors consist of contrast, to attract attention by creating contrast in color, size, shape or movement. Then the change in intensity, is a loud sound or bright light will attract the attention of individuals. Repetition, is a stimulus that is repeated that does not enter our attention, will eventually get our attention. Next, something new, a new stimulus that attracts our attention more than something we already know. Something that gets the attention of many people, is a stimulus that gets the attention of many people will get more attention.

According to Thoha (2015), the process of perception formation is based on several stages, namely: first, stimulus or stimulation, namely the occurrence of perception begins when someone is faced with a stimulus/stimulus that is present from their environment. Second, registration, a visible symptom is a physical mechanism in the form of sensing and a person's condition is influenced through the senses they have. A person can listen to or see the information sent to him, then register all the information sent to him. Third, Interpretation which is a cognitive aspect of perception that is very important, namely the process of giving meaning to the stimulus received. The interpretation process depends on the way of deepening, motivation, and personality of a person.

Behavior is a set of actions or actions of a person in responding to something and then becomes a habit because of the values that are believed (Rofi'ie, 2019)(Istianah & Karaing, 2022)(Nawawi, 2024). Human behavior is essentially an action or activity of humans, both observed and unobservable by human interaction with their environment which is manifested in the form of knowledge, attitudes, and actions. Behavior can be interpreted more rationally as the response of an organism or a person to stimuli from outside the subject. This response is formed in two types, namely passive and active forms where the passive form is an internal response, namely that which occurs within humans and cannot be directly seen from other people, while the active form is when the behavior can be observed directly (Triwibowo & Pusphandani, 2015).

In relation to health behavior, according to Lawrence Green (1980) in Triwibowo (2015) there is a way to analyze and evaluate through three factors, namely the first Predisposing Factor which is a positive factor that facilitates the realization of practice (facilitating factors) such as trust, belief, education, motivation, perception, knowledge. Second, Supporting Factor, this factor is manifested in the physical environment, the availability or absence of health facilities or means. In essence, supporting factors enable the realization of supporting or enabling factor behavior (Fadiyah, n.d.)(ERAWATI, 2022)(Ayu Khoriantari, 2022). Finally, Driving Factor, which is manifested in the attitudes and behavior of health workers or other officers, who are reference groups for community behavior. People's behavior is more influenced by important people.

Based on the scientific facts, references and theories above, the research was conducted with the aim of studying: (1) the influence of perception on community behavior in terms of household waste management; (2) the influence of community perception on their behavior in MCK activities (bathing, washing and toileting).

RESEARCH METHOD

Place and Time of research

The research was conducted at several points in the Martapura River Watershed, Banjar Regency (Figure 1).

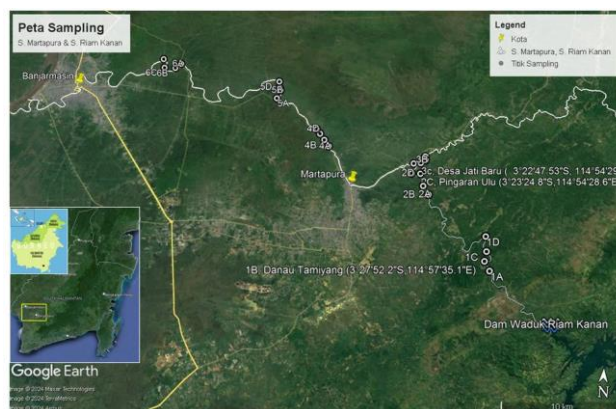


Figure 1. Research location map

The research implementation time was carried out in September-November 2024, including preliminary surveys and data collection. The research location consisted of six villages/sub-districts along the Martapura River, namely Mandikapau Barat, Pingaran Ulu, Jati Baru, Sungai Batang, Sungai Rangas Tengah, and Lok Baintan.

Research Procedures

This type of research is quantitative with an analytical observational research design using a cross-sectional approach. The questionnaire research sampling was conducted by assessing the perceptions and behavior of the community in the Martapura River Watershed in managing household waste and MCK activities. The sample in this study was the entire head of the family or representatives of one adult family in the Martapura River Watershed in the Banjar Regency area consisting of six villages/sub-districts, namely Mandikapau Barat, Pingaran Ulu, Jati Baru, Sungai Batang, Sungai Rangas Tengah, and Lok Baintan with a total population according to data from the Population and Civil Registration Service in 2023 of around 10,495 people, with a sample of 100 people, determined using the Slovin formula with a margin of error (10%).

Data collection was carried out by distributing closed questionnaires containing a series of questions and statements used to obtain data related to the research. The following is the procedure for collecting questionnaire data from the community: a) Visiting areas within the research area at water sampling points from each village; b) Conduct a survey of household data within that radius; c) Ensure that selected households meet the specified inclusion criteria (head of household, distance from home, etc.); d) Distribute questionnaires to selected heads of household or representatives; f) Provide a brief explanation of the purpose of the research and how to fill out the questionnaire (the researcher can help fill out the questionnaire if necessary); g) Collecting questionnaires that have been filled out by respondents; h) Ensure that the data that has been collected is complete and valid.

Data analysis

Statistical data analysis using multivariate analysis of Structural Equation Modeling (SEM) with latent (construct) variables of Waste Perception (PLimbah), MCK Perception (PMCK), Waste Behavior (PrLimbah) and MCK Behavior (PrMCK). Waste Perception (PLimbah) consists of 12 indicators, MCK Perception (PMCK) also has 12 indicators, while Waste Behavior (PrLimbah) and MCK Behavior have 9 indicators each. The data from this study are ordinal data with a Likert scale from 100 respondents to a number of indicator variables. The ordinal data before being analyzed by SEM were first transformed using the method of successive index (MSI). SEM analysis was assisted by the JSAP statistical program (JASP Team, 2024, JASP (Version 0.19.2)[Computer software]).

RESULTS AND DISCUSSIONS

This study examines the relationship between perceptions and behaviors related to waste management and MCK activities in communities living along the banks of the Martapura River. The aim is to understand how communities independently manage waste and carry out MCK activities. A list of questions in the form of a questionnaire with ordinal data types, which are used to collect information from respondents, is presented in Table 1 for perceptions and behaviors related to waste and Table 2 for perceptions and behaviors related to MCK.

Table 1. Ordinal data with Likert scale of Waste Perception and Behavior (Latent Variable) from 100 people (n = 100) interviewed in 6 Villages on the Martapura Riverbank. Scale 5: strongly agree, 4: Agree, 3: undecided, 2: disagree, 1: strongly disagree

Response (n)	Waste Perception (WAP)										Waste Behavior (PrWaste)										
	PL1	PL2	PL3	PL4	PL5	PL6	PL7	PL8	PL9	PL1	PL1	PL1	PRL	PRL	PRL	PRL	PRL	PRL	PRL	PRL	
	0	1	2	1	2	3	4	5	5	0	1	2	1	2	3	4	5	6	7	8	9
1	5	1	5	5	1	5	5	5	5	3	4	5	5	5	5	4	5	2	5	4	5
2	5	1	5	5	5	5	4	5	5	4	4	4	4	4	5	2	5	2	5	5	5
3	5	1	5	5	4	5	4	4	5	5	3	5	4	5	5	2	5	2	5	4	5
4	5	1	5	5	1	5	5	5	5	2	5	4	5	5	5	5	5	5	5	4	5
5	5	2	5	5	2	5	5	4	4	3	4	5	5	5	5	2	5	2	5	4	5
6	5	1	5	4	3	5	5	4	5	4	3	3	5	5	5	2	5	2	5	4	5
7	5	2	5	5	4	3	5	5	5	5	5	5	5	5	5	2	5	2	5	4	5
8	4	1	5	5	1	4	4	5	4	3	4	5	5	5	5	4	5	2	5	4	5
9	5	4	5	5	2	5	4	3	4	5	5	2	5	5	5	4	5	2	5	4	5
10	5	1	3	5	1	4	5	5	4	5	5	2	5	5	5	5	4	3	4	4	4
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96	5	5	5	5	5	5	5	5	5	1	5	1	4	4	4	5	5	5	5	5	5
97	5	2	5	5	4	5	4	5	4	4	4	3	4	5	4	2	4	3	4	4	4
98	2	5	4	5	4	4	4	5	4	4	2	5	2	5	5	4	4	1	1	2	5
99	5	1	5	5	5	5	5	5	5	2	1	1	4	5	5	4	5	4	3	4	4
100	3	1	2	1	2	2	2	2	2	2	2	2	5	4	5	4	4	4	1	2	3

Information:

Variable Indicators:

PL1 = Rivers are not a place to throw away garbage and food waste.

PL2 = Garbage and food waste in the river will not disappear by itself even if carried away by the current.

PL3=The presence of garbage and food waste in the river disrupts daily activities. PL4=Throwing garbage and food waste into the river damages water quality.

PL5=Throwing leftover food into the river is not the same as feeding the fish.

PL6=Throwing garbage and food waste into rivers has a bad impact on health.

PL7=Throwing leftover food waste into rivers will be a problem even if it is done in small amounts.

PL8=Throwing rubbish and leftover food into the river is a dishonorable act

PL9=Pollution due to garbage and food waste in rivers is the responsibility of the government and the community to overcome it.

PL10=Throwing rubbish and food scraps into the river is not common around here.

PL11=If my neighbor throws garbage and food waste into the river, I don't do it.

PL12=Throwing rubbish and leftover food into the river is not the culture of the people around here.

- PRL1=I don't throw rubbish and food scraps into the river
- PRL 2=I throw away rubbish and leftover food in the place provided.
- PRL 3=I use waste disposal services provided by the government in the form of waste banks and TPS.
- PRL 4=I reprimand me if I see other people throwing rubbish and leftover food into the river
- PRL 5=I obey the existing rules to throw away trash and food waste in the right place.
- PRL 6=I report if I see violations of dumping garbage and food waste in the river.
- PRL 7=I participated in outreach to keep the river clean from rubbish and food waste.
- PRL 8=I participate in activities to keep the river clean from rubbish and food waste.
- PRL 9=I invite family members not to throw garbage and food scraps into the river.

Table 2. Ordinal data of Perception and MCK Behavior (Latent Variable) from 100 people (n = 100) of the community / respondents in 6 Villages on the Martapura Riverbank. Scale 5: strongly agree, 4: Agree, 3: undecided, 2: disagree, 1: strongly disagree

Respo nse (n)	Perception of MCK (PLimbah)									Toilet and Washing Behavior (PrMCK)														
	PM1	PM2	PM3	PM4	PM5	PM6	PM7	PM8	PM9	PM10	PM11	PM12	PR1	PR2	PR3	PR4	PR5	PR6	PR7	PR8	PR9	PR10	PR11	PR12
1	5	1	5	5	1	5	5	5	5	5	5	4	5	4	5	2	5	4	5	5	5	5	1	
2	5	4	5	5	2	5	5	5	5	5	5	4	4	5	2	5	2	5	4	5	5	5	4	
3	5	3	5	5	5	4	5	4	5	5	4	4	5	2	5	2	5	5	4	5	5	3		
4	5	1	5	5	1	5	5	5	5	5	5	3	5	4	5	5	5	5	5	5	5	1		
5	5	5	4	4	5	4	4	5	5	5	5	5	5	2	5	2	5	5	5	5	5	5		
6	4	4	5	5	4	5	5	5	5	5	5	5	5	2	5	2	5	5	5	5	4	4		
7	5	5	5	5	4	5	4	4	3	4	4	4	5	2	5	2	5	5	5	5	5	5		
8	4	4	5	5	4	5	5	5	5	4	5	4	5	4	5	2	5	4	5	4	5	4		
9	4	4	4	5	5	5	5	5	5	5	5	5	4	5	5	2	5	4	4	4	4	4		
10	5	5	4	5	5	5	5	5	5	5	5	3	5	5	5	2	5	4	4	5	5	5		
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96	5	5	5	5	1	5	5	5	5	5	5	1	5	3	5	3	5	5	5	5	5	5	5	
97	5	4	5	4	4	4	4	3	3	4	4	3	5	1	4	1	5	5	5	5	5	4		
98	1	5	1	3	2	4	4	2	4	3	5	2	3	3	4	2	2	2	5	1	5	5		
99	5	1	5	4	1	5	5	5	5	3	5	2	5	1	5	1	1	5	4	5	1	5		
100	1	2	1	1	2	1	2	2	1	5	4	3	2	2	2	1	1	2	2	1	2	1	2	

Information:

Variable Indicators:

PM1=Rivers are not a place for doing MCK

PM2=Waste that is thrown into the river will not disappear by itself because it is carried away by the current.

PM3=The presence of toilet and toilet activities in the river disrupts daily activities

PM4=Conducting toilet and bathroom activities in rivers damages the quality of river water.

PM5=Defecation and urination in the river makes the fish in the river unfit for consumption

PM6=Toilet in the river has a bad impact on health

PM7=Washing and sanitation in rivers will be a problem even if done in small quantities

PM8=Washing in the river is a despicable act

PM9 = Pollution due to MCK activities in rivers is the responsibility of the government and the community to overcome it.

PM10=Washing and toileting activities in the river are not common around here.

PM11=If my neighbor does MCK activities in the river, I don't join in doing that.

PM12=MCK activities in the river have not been a habit of the people around here for a long time.

PRM1=I don't do MCK activities in the river

PRM 2=I carry out MCK activities in the space provided.

PRM 3=I use the MCK services provided by the government in the form of public toilets.

PRM 4=I reprimand me if I see other people doing toilet activities in the river

PRM 5=I comply with the existing rules for carrying out MCK activities in the proper place

PRM 6=I report if I see other people doing toilet activities in the river.

PRM 7=I participated in socialization to maintain river cleanliness from MCK activities in the river

PRM 8=I participate in activities to maintain the cleanliness of the river from MCK activities in the river

PRM 9=I invite family members not to carry out MCK activities in the river.

From the questionnaire data on the perception and behavior of waste and MCK of the community of a number (sample, n) of 100 respondents (Table 1 and Table 2), statistically using Structural Equation Modeling (SEM) analysis, it was shown that community perception significantly (at $\alpha = 0.05$) influences their behavior in terms of waste and MCK as seen in Table 3.

Table 3. Regression coefficient/path coefficient and indicators on the model of Structural Equation Modeling (SEM) of the influence of perception on community behavior in terms of waste disposal and MCK in the Martapura River. Predictor: Independent (exogenous) variable, Outcome: Dependent (endogenous) variable. Estimate: coefficient. AIC: Akaike information criterion, BIC: Bayesian information criterion

Predictor	Outcome	Estimate	Std. Error	z-value	p	95% Confidence Interval		Standardized		
						Lower	Upper	All	LV	Endo
Waste	Waste	0.88	0.14	6.265	< .001	0.601	1.148	0.794	0.794	0.794
PMCK	PrMCK	0.93	0.14	6,654	< .001	0.659	1.209	0.798	0.798	0.798
Fit model:										
				Baseline test			Difference test			
		AIC	BIC	n	χ^2	df	p	$\Delta\chi^2$	Δdf	p
Model 1		9070.12	9408.79	100	2158.5	815	< .001	2158.48	815	< .001

Information:

- Predictor (independent variable, x)
- Outcome (dependent variable, y)
- Estimate = regression coefficient
- Std. Error = standard error of the regression coefficient
- z-value = z value
- test p = p.value
- 95% Confidence Interval = 95% range (lower: lower limit, upper: upper limit)
- Standardized, All: standardization of estimate indicators + latent variables (LV)
- Endo: estimate for Endogenous (dependent) variables.

In Table 3 the regression coefficient (path coefficient) of the variables waste perception (X1) towards waste behavior (Y1), shows an estimate of 0.88 which states that both variables have a significant effect ($p < 0.001$). Likewise, the variable of MCK perception (X2) towards MCK behavior (Y2) shows an estimate of 0.93 which states that both variables have a significant effect ($p < 0.001$). Meanwhile, the factor loading of each indicator for each latent variable is quite high and significant as presented in Table 4, and visualized in the SEM path diagram as in Figure 2.

Table 4. Factor Loadings of indicator variables in factor analysis of SEM on 4 latent variables PrLimbah, PrLimbah, PMCK and PrMCK. For complete table description, see Table 1

Latent	Indicator	Estimate	Std. Error	z-value	p	95% Confidence Interval		Standardized		
						Lower	Upper	All	LV	Endo
Waste	PL1	1.00	0.00			1	1	0.703	0.611	0.703

Latent	Indicator	Estimate	Std. Error	z-value	p	95% Confidence Interval		Standardized		
						Lower	Upper	All	LV	Endo
	PL2	0.74	0.15	4.92	< .001	0.445	1,035	0.514	0.452	0.514
	PL3	0.98	0.15	6.78	< .001	0.697	1.265	0.712	0.6	0.712
	PL4	0.90	0.14	6.57	< .001	0.633	1.171	0.69	0.551	0.69
	PL5	0.28	0.16	1.77	0.076	-0.029	0.591	0.184	0.172	0.184
	PL6	0.96	0.15	6.48	< .001	0.67	1.252	0.68	0.587	0.68
	PL7	1.18	0.16	7.43	< .001	0.867	1,488	0.784	0.72	0.784
	PL8	1.06	0.16	6.55	< .001	0.74	1,371	0.688	0.645	0.688
	PL9	0.92	0.16	5.90	< .001	0.612	1.219	0.619	0.56	0.619
	PL10	0.87	0.16	5.42	< .001	0.555	1.184	0.567	0.532	0.567
	PL11	0.95	0.16	5.86	< .001	0.632	1,267	0.614	0.58	0.614
	PL12	0.82	0.16	5.24	< .001	0.51	1.121	0.548	0.498	0.548
PMCK	PM1	1.00	0.00			1	1	0.683	0.629	0.683
	PM2	0.66	0.16	4.18	< .001	0.35	0.969	0.44	0.415	0.44
	PM3	0.92	0.15	5.96	< .001	0.616	1.22	0.639	0.578	0.639
	PM4	1.00	0.16	6.37	< .001	0.693	1,308	0.687	0.63	0.687
	PM5	0.49	0.16	3.06	0.002	0.174	0.796	0.32	0.306	0.32
	PM6	1.05	0.16	6.63	< .001	0.737	1,356	0.717	0.659	0.717
	PM7	1.03	0.16	6.44	< .001	0.718	1,345	0.695	0.649	0.695
	PM8	1.07	0.16	6.64	< .001	0.756	1,389	0.719	0.675	0.719
	PM9	1.03	0.16	6.40	< .001	0.712	1,341	0.69	0.646	0.69
	PM10	0.95	0.16	5.90	< .001	0.632	1,261	0.633	0.596	0.633
	PM11	1.10	0.16	6.78	< .001	0.778	1,411	0.734	0.689	0.734
	PM12	0.85	0.16	5.31	< .001	0.535	1.161	0.565	0.534	0.565
Waste	PRL1	1.00	0.00			1	1	0.76	0.673	0.76
	PRL2	1.11	0.12	9.27	< .001	0.878	1,348	0.855	0.75	0.855
	PRL3	1.03	0.12	8.70	< .001	0.795	1,258	0.811	0.691	0.811
	PRL4	0.74	0.14	5.51	< .001	0.478	1,006	0.542	0.5	0.542
	PRL5	1.15	0.12	9.67	< .001	0.918	1,385	0.885	0.776	0.885
	PRL6	0.49	0.13	3.68	< .001	0.229	0.751	0.37	0.33	0.37
	PRL7	1.10	0.12	9.03	< .001	0.858	1,334	0.836	0.738	0.836
	PRL8	1.20	0.13	9.47	< .001	0.95	1,446	0.87	0.807	0.87
	PRL9	1.16	0.12	9.44	< .001	0.919	1.4	0.868	0.781	0.868
PrMCK	PRM1	1.00	0.00			1	1	0.863	0.737	0.863
	PRM2	0.88	0.09	9.62	< .001	0.7	1,058	0.776	0.647	0.776
	PRM3	0.82	0.11	7.70	< .001	0.608	1,023	0.669	0.6	0.669
	PRM4	0.46	0.12	3.79	< .001	0.222	0.697	0.372	0.338	0.372
	PRM5	1.06	0.09	12.11	< .001	0.889	1.232	0.883	0.781	0.883
	PRM6	0.36	0.12	2.89	0.004	0.114	0.596	0.289	0.262	0.289
	PRM7	1.02	0.09	11.09	< .001	0.837	1.196	0.842	0.749	0.842
	PRM8	0.90	0.10	8.85	< .001	0.698	1,095	0.735	0.66	0.735
	PRM9	1.01	0.10	10.30	< .001	0.814	1.197	0.808	0.741	0.808

Loading factor, whose values are displayed in the estimate and standardized (All) columns as in Table 4, represents the correlation between the variable indicators and the latent variables. This is also known as the measurement model. For example, the latent variable Waste Perception is measured using 12 indicators, while Waste Behavior is measured using 9 indicators. If the loading factor value is squared and then multiplied by 100%, the result shows the proportion or percentage of the contribution of the indicator variety to the latent variable. The remainder reflects the error. Based on the output in Table 4, for the PL1 indicator, the standardized (All) value is 0.703. When squared, the result is 0.494 or 49.4%, with an error of 50.6%.

For the indicators on the Waste Perception variable (PerLimbah) consisting of 12 questions (variables), it can be seen in Table 4 that only the PL5 indicator is not significant. Meanwhile, the other three latent variables, namely MCK Perception (PerMCK, 12 indicators), Waste Behavior (PeriLimbah, 9 indicators), and MCK Behavior (PeriMCK, a number of indicators), all show significant results as shown in Table 4.

Additional indicators related to model fit include additional fit measures, factor variances (i.e. variance of latent variables), factor covariances (i.e. correlation between latent variables), and residual variances (i.e. residual variance of indicator variables) shown in the following illustration.

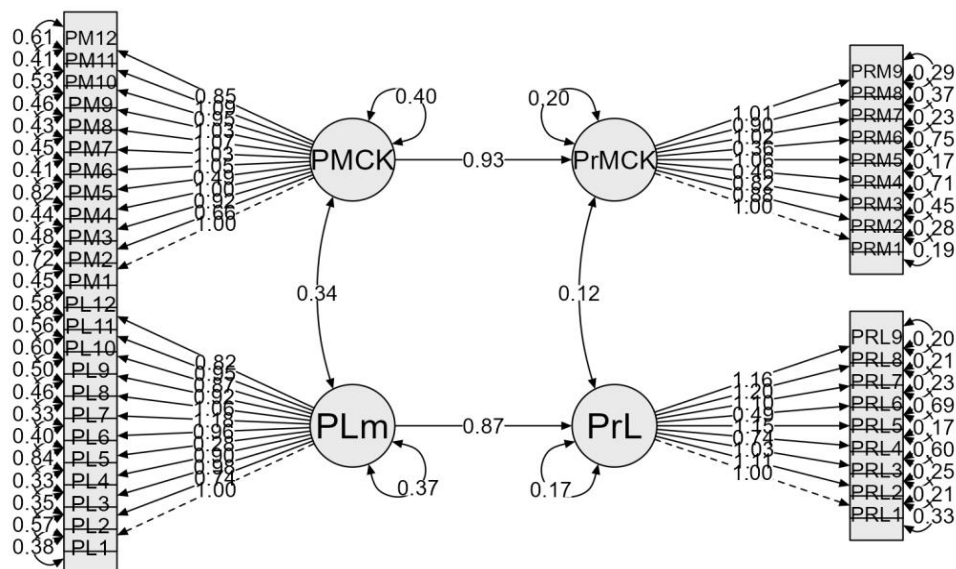


Figure 2. Structural Equation Modeling (SEM) path diagram of the influence of perception on behavior on both waste and MCK. PMCK: MCK Perception, PrMCK: MCK behavior, PLm: waste perception, PrL: waste behavior. PM1 to PM12, PL1 to PL12, PRM1 to PRM9 and PRL1 to PRL9 (see Table 1 and Table 2, c/f).

When people understand the concept and function of rivers and the negative impacts of waste on the environment and health, they tend to have better waste management behavior, such as disposing of waste in its place, obeying applicable regulations, being active in social activities and properly using available waste management facilities. On the other hand, If the community has the perception that rivers are a place to dispose of waste, the waste in the river will disappear by itself, and waste that is not dangerous or does not affect daily life can lead to careless behavior, such as throwing waste carelessly or not processing household waste properly.

Bad perception causes rivers that should be able to be a source of raw water, drinking water, fisheries, livestock, agriculture and urban businesses or as a drainage system and flood control, to change function because their quality is polluted due to various activities, especially domestic waste from people who dispose of their waste, either directly or indirectly into the river. (Alawiyah et al., 2024)(Nur'Azizah et al., 2024) This shows that people's perception of rivers is still limited to being a place to dispose of various types of waste (Kospa, 2018). Through good perception, it is hoped that people's behavior towards the environment will improve.

Likewise, people who realize that rivers not only function as a source of water, but also as an ecosystem habitat, a source of livelihood, a place of recreation, and understand that defecating in rivers can pollute water and endanger human health and the environment, will view rivers as environmental assets that need to be protected and preserved (Hwang et al., 2017). Conversely, people who view rivers as a natural, easily accessible, and free place to defecate tend to have behaviors that utilize rivers for these activities. This is often found in rural areas or communities with limited access to sanitation facilities because rivers are considered legitimate public facilities to be used without restrictions, in line with Marselina's research (2021) which states that the availability of access to proper sanitation affects the use of floating latrines

CONCLUSION

From the results of the study of the analysis of the influence of perception on community behavior in managing household waste and MCK activities on the banks of the Martapura River, Banjar Regency, it was concluded that there is a significant influence of community perception on household waste with community behavior towards household waste management and there is a significant influence of community perception on MCK activities (Bathing, washing, and toileting) with community behavior towards MCK activities (Bathing, washing, and toileting).

The results of this study can be used for further researchers who want to research the factors of perception and behavior. Public perception on the aspect of household waste and MCK activities has been proven to have an influence on public behavior on the aspect of household waste management and MCK activities. The variables that have been studied can be reused for research materials, and of course by adding other variables, for example perception variables on the aspect of agricultural or industrial waste. In addition, qualitative research is also needed to explore the perceptions and behavior of the community on the banks of the Martapura River, Banjar Regency, especially related to waste and MCK activities, and to identify the factors that influence the formation of these perceptions.

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