

IMPLEMENTING ZERO WASTE CITIES OF PKK HARAPAN KITA IN BANDUNG CITY, INDONESIA

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Abstract

The issue is about the waste management is the most important problem we faced in the world. The problem is not the waste itself, but rather with PKK Harapan Kita Cadres (agent of change) behavior. This study examines whether Cadres PKK behavior have consistency and harmony between cognitive and behavior in the management waste conveyed through the Kang Pisman campaign, because the community has a tendency to get rid of or avoid the disharmony. The consistency of this behavior is later reviewed from Festinger's cognitive dissonance theory. The population in this research as many as 45 people who are cadres PKK (Family Welfare Programme) Harapan Kita RW. 02 in Bandung City, using non-probability sampling techniques by census, so that the entire of the population become the samples. The research used a simple quantitative experiment method to figure out how to determine the cognitive dissonance: The influence of the Kang Pisman campaign is forming the household plastic waste management behavior in Bandung City. The results showed the Kang Pisman campaign had the influence with a 95% level of confidence in forming the household waste management behavior. The indicators of the Kang Pisman campaign which has the effects reduce and reuse the waste.

Keywords: PKK Cadres, Zero Waste, Bandung

INTRODUCTION

The Bandung city is home to 2.5 million people which produces over 1,600 tons of waste/day. It costs an average of USD 6.8 million (IDR 96 billion) to transport waste from houses in the city to the Sarimukti landfill. This cost is projected to increase from USD 12 (IDR 165,000)/ton/day to USD 31 (IDR 431,000) in 2022 when Bandung moves its waste disposal further away from the city to the Regional TPA in Legok Nangka. This does not include the cost of handling and monitoring of ash that emanates from Legok Nangka, due to its use of thermal technology. Bandung only transports a maximum of 1,200 tons of waste/day to Legok Nangka, while another 400 tons/day is managed within the city. Moreover, the transfer station can only accommodate about 40% of the city's waste. The existence of a National Waste Management Policy and Strategy seeks to manage 100% of waste in 2025, 30% through reduction, while the remaining 70% will require safe handling and disposal (GAIA, 2019).

In Bandung, a Zero Waste city program was implemented in 2013. This program aims to solve the problem of waste from its sources. It involves the invitation of the community to reduce plastic consumption, sort, and process household waste into compost. This program enacted a waste bank in almost every neighborhood association (RW) in the city to accommodate (sell)

household plastic waste. These sales are then used to pay the PBB (Earth Building Tax) of Bandung City.

The Zero Waste city program in Bandung is carried out by socialization at the sub-district and urban village levels. It involves the PKK (Family Welfare Empowerment) Cadres, which then invite the community to get involved. PKK cadres are agents of change in society and serve as a bridge of information between government programs and the community. PKK Harapan Kita RW 02 is an example of a successful PKK in Bandung that has an independent waste bank.

Carrying out waste sorting from home is not as easy as it seems. First, there is no institution which fully responsible for sorting and managing waste. Second, the law highlights the need to sort waste but does not prescribe enforcement strategies. Third, community structures such as villages or RW do not have the resources and authority to oblige the community to sort their waste from the sources. Therefore, change agents in the community are required to function as companions, models, and extensions of information in the community. PKK cadres have a strategic position as agents of change in carrying out government programs. PKK also has consistent behavior in disseminating knowledge on waste sorting to the community. The successful implementation of a region-specific environmental program cannot be separated from PKK participation. This is because PKK is one of the community organizations that consist of women in almost every RW in Bandung.

PKK Harapan Kita has several programs within the nuances of community empowerment and environmental management. In realizing this program, they act as agents of change to assist the community. They also transfer knowledge and skills to the community regarding waste sorting. However, it takes motivation from within to carry out the program consistently. This agrees with Wanti & Tripustikasari (2018), that extrinsic motivation is required to stimulate and persuade active behavior. This motivation can be grown through the lure of rewards when carrying the program.

In the long term, the goal of the Zero Waste Cities Program is expected to be a culture of behavior in the community that is consistent between the cognition and behavior of both management and members of the Harapan Kita PKK Cadre. One of the theoretical developments that discuss the consistency of this behavior is the cognitive dissonance theory by Festinger. This is a psychological theory where there is a discrepancy between awareness and cognition which causes discomfort, therefore, dissonance arises in the individual. Furthermore, this theory generally explains the cognitive theory which focuses on how attitudes are consistent with cognition, specifically how behavior affects attitudes (Severin & Tankard, 2005).

Festinger used the term "cognitive" to preclude dissonance, where all kinds of thoughts, behaviors, and perceptions are represented in people's thinking through their cognition. The theories of social psychological attitudes and attitude change generally involve people comparing their attitudes with others, or comparing the basis of certain attitudes with information offered by communicators. Through Festinger's concept, cognitive representations, attitudes, behavior, social customs, and communication are observable in all

phenomena in humans which are considered relevant to the cognitive dissonance theory. Festinger states that consistency among cognitions is not a preference, but a drive. The same way humans reduce their thirst by drinking and their hunger by eating, people who feel inconsistent have to find ways to help themselves. The drive to reduce inconsistency can be achieved in a variety of ways, but attitude change is the most important resolution in the early research on dissonance. The greater the dissonance, the greater the urgency to make cognitive changes to reduce unpleasant states of tension (Cooper, 2019) Based on research by Ehrlich et al. (1957), cognitive dissonance occurs in individuals who see promotion through advertising. This agrees with (Koller, 2010) regarding customer satisfaction which is conceptualized as general satisfaction. Due to product variation, the specific satisfaction measure has mismatched attributes. Meanwhile, loyalty is separated into shopping and brand. In both cases, loyalty includes the intention to repurchase and the word of mouth. Different from complaint behavior, word of mouth only consists of a lighter aspect of positive and negative recommendations regarding stores and brands. Other cognitive dissonance research from (Consequences & Harmon-jones, 2016; McElrath, n.d.; Miklosovic & Miklosovic, 2010; O. Svenson et al., 2009; O. L. A. Svenson, 2017; Thomas & Bruning, 1984) see a cognitive representation of dynamic decisions. A greater choice of perception will lead to a change in attitude as a method to reduce cognitive dissonance.

Conceptually, Festinger (1957) defined cognitive dissonance as a state of psychological discomfort that motivates regulation, before a state of arousal (e.g., Lawrence and Festinger, 1962) in (Vaidis & Bran, 2019). Moreover, other research described it as a state of unpleasant feelings (Harmon-jones & Harmon-jones, 2007). From these two definitions, it is not clear whether this theory should be a distinct and specific state, or can be expressed with emotion. Some research, for example, considers guilt, surprise, and anger as evidence for this theory. However, this perception is not based on agreement. While creating the questionnaire, Elliot and Devine (1994) (Vaidis & Bran, 2019) only used three items, including uncomfortable, disturbed, restless, and excluding many other items, such as guilt. They emphasize that different influence assessments will capture the nature of cognitive dissonance, depending on the situation. The Action-Based Model (Consequences & Harmon-jones, 2016; Harmon-jones & Harmon-jones, 2007), examined the ultimate goal of reducing distractions with effective and non-conflicting actions. Therefore, when reducing distractions conflicts with action, a state-oriented approach is required. This model was supported by several observations including neural activation (Vaidis & Bran, 2019).

Sweeney, Hausknecht, and Soutar (2000), Soutar and Sweeney (2003), as well as Montgomery and Barnes (1993) successfully derived the set of items to measure cognitive dissonance. Moreover, the two-dimensional model of cognitive dissonance fits the data very well. Cognitive dominance and emotional dissonance are used to measure the dissonance aspect. Cognitive items related to thoughts about discretion involve decision-making as self-attribution (I don't think I should have done it or I wonder if I could have done better). This is different from indicators of the cognitive component of dissonance, and indicators from an emotional point of view give positive words (Koller, 2010).

This research aims to determine the behavior of PKK Harapan Kita cadres in implementing the Zero Waste Cities Program in Bandung City. Based on the background described, this research proposes several problems to be analyzed as follows:

1. Do the PKK Harapan Kita cadres know and care about waste sorting appropriately in line with the Zero Waste Cities Program in Bandung City?
2. Are there any differences in the behavior of the PKK Harapan Kita cadres before and after being exposed to the KangPisman poster as one of the Zero Waste Cities Programs in Bandung City?
3. How consistent is the PKK Harapan Kita cadres' behavior in implementing the Zero Waste Cities Program in Bandung?

METHOD

This research was designed as a descriptive experimental survey in the PKK Harapan Kita group. This also aims to determine the consistency of attitudes, behavior, and knowledge in sorting household waste at the PKK Harapan Kita Cadre RW.02 Bandung City. At the initial stage, the cadres answered questions regarding waste sorting. Afterwards, they were exposed to media posters on the KangPisman program. It is one of the Zero Waste Cities Programs in Bandung City. Furthermore, this research explains the relationship between the observed variables. Correlational research involves the determination of the quantitative relationship between variables known as correlational research. According to Corper, Donald R, Schindler, and Pamela S (2003), in (Sugiyono, 2018), the population in quantitative research is the total number of components that will be abstracted. From this population, only the characteristics that have been observed can be analyzed and concluded. Therefore, the population in this research is the entire community which is members of the PKK Harapan Kita RW.02 Bandung City, a total of 45 people.

There are two variables in this research, which include the independent variable (X) and the determining variable (Y). The X denotes waste sorting related to the zero-waste city program, while Y represents the behavior of PKK cadres. Meanwhile, the measuring instrument used was a Likert scale with 5 ranges of answer choices which include (1) strongly disagree, (2) disagree, (3) neutral (4) agree, (5) strongly agree. The measuring instrument used was a questionnaire consisting of 24 questions. These involved covering waste sorting variables related to the Zero Waste Cities Program, and 36 additional questions covering the Behavioral Consistency of PKK Harapan Kita Cadres.

RESULTS AND DISCUSSION

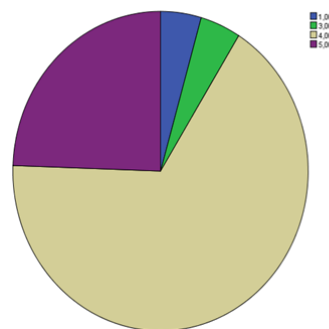
Concern and Knowledge of PKK Harapan Kita Cadres in Waste Sorting in Bandung City

The Zero Waste Cities program provides information on how waste sorting can be carried out from the generated waste source. One of the regular waste sources is household waste. Based

on the program, the community expects to obtain complete information on how to sort and manage waste independently, as well as reduce dependence on landfills.

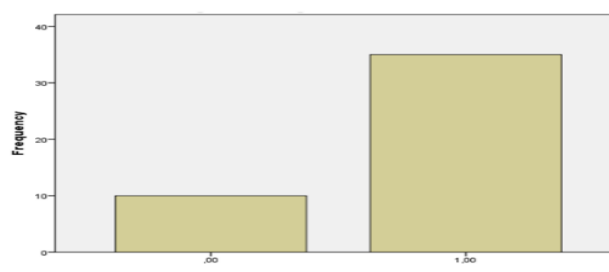
Based on the results, the average PKK Harapan Kita cadre has a concern for waste sorting and management in 30 people (66.7%), while the community members which definitely care (high concern) totaled 11 people (24.4%). However, very indifferent, normal behavior was observed at 4.4%. Most of the PKK Harapan Kita cadres who have low awareness were already provided with socialization on the Zero Waste Cities Program. However, they had not realized the benefits of sorting waste from the source and still have a dependence on waste officers' management. Most of the community is not yet aware of the impact of waste generation at the garbage dump, because the cadres still prioritize their waste being transported and disposed of. Therefore, there is no motivation to sort and process their waste independently. Although the overall attitude of the community supports and greatly appreciates the Zero Waste Cities Program in Bandung, the community still has dependence (100%) on the garbage collectors.

Figure 1: Waste Care Behavior of Harapan Kita PKK Cadres (Source: Primary Data, 2020)



In this research, a pretest was conducted to determine the level of awareness by the community on the Zero Waste City Program. The results showed that 35 people (77.8%) were aware of the Zero Waste Cities Program, while 10 people (22.2%) did not know about the program.

Figure 2: Pretest results of PKK Harapan Kita cadres regarding the Zero Waste Program Cities in Bandung City (Source: Primary Data, 2020)



The cadres were asked through open questions about what KangPisman is as a campaign of the Zero Waste City program campaign in Bandung City. The results showed that 16 people

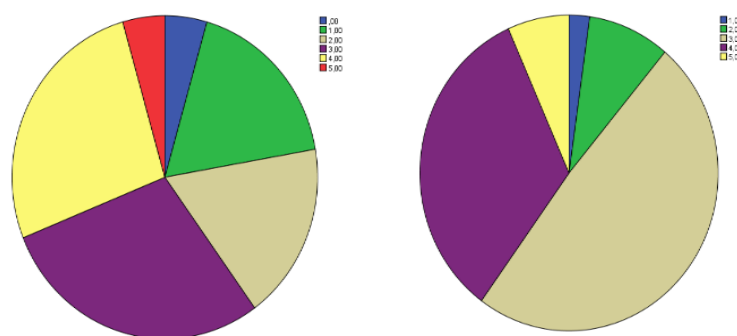
(35.6%) answered correctly, and 29 people (64.4 %) answered incorrectly. This pretest signifies that the community only answers the questionnaire normatively. However, after testing, many were still ignorant of what the campaign is. This is due to the community's level of concern on the full sorting and management of household waste, specifically during the covid-19 pandemic, where the Harapan Kita Waste Bank was not running for a while.

Differences in Knowledge and Behavior of PKK Harapan Kita Cadres Before and After the Existence of Zero Waste Cities (KangPisman) Program Poster in Bandung City

This research applied a simple experimental method by testing the respondents for their knowledge and behavior regarding the KangPisman Campaign, as one of the realizations of the Zero Waste Cities Program in Bandung City. The initial step for PKK Cadres was to carry out a pretest, after which they were enlightened with a media poster on KangPisman's campaign. After reading the poster media, respondents were retested (Post Test) on their level of knowledge and behavior towards the Zero Waste Cities Program in Bandung.

From the results of this simple pretest and post-test, only 2 people answered 5 questions correctly, 13 answered 3 questions correctly, 12 answered 4 questions correctly, 8 people answered 1 and 2 correctly, and also 2 people answered all questions incorrectly. Compared to the knowledge and behavior of PKK Harapan Kita cadres before the experiment in form of poster exposure, the results were not significantly different after the experiment. Only 3 people answered the questions correctly, 22 answered 3 questions correctly, 15 answered 4 questions correctly, 4 answered 2 questions correctly, and 1 person answered all questions correctly. Furthermore, there were no more PKK cadres that gave answers that were all wrong.

Figures 3 and 4: Pretest and Post Test Results of PKK Harapan Kita Cadre Regarding Zero Waste Cities Program in Bandung (Source: Primary Data, 2020)



Figures 3 and 4 show the comparison of respondents' answers before and after being enlightened using the poster media. The respondents who did not show a difference in answering questions were due to the literacy factor. They could not pay attention to every detail in the poster.

This explains the knowledge and behavior of respondents towards the Zero Waste Cities Program. They do not yet have the notion that information regarding waste sorting and management is important, as the waste they produce has not had a direct impact on the

environment where they live. Moreover, garbage is always transported on time, therefore, they do not feel the need to sort and manage waste independently.

Cognitive Dissonance Behavior of Harapan Kita PKK Cadres in Implementing Zero Waste Cities Program in Bandung City

Based on the results, there was no observed relationship between the implementation of the Zero Waste Cities Program in Bandung City and the cognitive dissonance of the community in sorting and managing household waste in PKK Harapan Kita Cadre. If there is a relationship, the cognitive dissonance factor in reducing and separating household waste is very small, specifically 0.295 and 0.302. However, the significant relationship is the indicator of reducing waste through separation with a correlation value of 0.474. The results of this calculation are shown in Table 1 below.

Table 1. Correlation Results of Harapan Kita PKK Cadre Behavioral Consistency in Implementing the Zero Waste Cities Program in Bandung

Correlations				
	Reduce	Separate	Benefit	Cognitive Dissonance
Reduce	1	.474**	.360*	.295*
Separate	.474**	1	.195	-.068
Benefit	.360*	.195	1	.302*
Cognitive Dissonance	.295*	-.068	.302*	1
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				
Source: Primary Data, 2020				

Based on observations, there was a real correlation between cognitive dissonance and the Zero Waste City Program implementation at the Harapan Kita PKK Cadre. There was also a significant correlation between reducing and utilizing waste indicators. Meanwhile, there was no correlation between separating waste indicators and cognitive dissonance. This was because respondents answered the questionnaire normatively, and not according to the conditions they felt. They still cannot distinguish between organic and inorganic waste, as they find it difficult to identify plastics, as well as leaf waste. Moreover, they have a high degree of caution in answering questions regarding the Zero-Waste City program in Bandung. The PKK Harapan Kita cadres tend to answer questions that are not appropriate with the reality of how the Zero Waste City program is implemented in sorting and managing household waste. Furthermore, there is a very real correlation between reducing and separating waste indicators. This is because most respondents answered that they have started to use plastic, food, and leaf waste. Plastic waste is often used as containers and pots, while food waste is reused for pet food (chickens, ducks, birds, and fish). Before use, the waste is separated according to its types. However, in this case, the respondents were often confused between organic and inorganic waste. These answers eventually cause a very real correlation between the indicators of separation and use. Furthermore, this research only contributes a significant effect of 0.033 of the X variable on Y by 19%. , the effect of cognitive dissonance of PKK Harapan Kita Cadres

in implementing the zero waste city program was 19%, while the remaining 81% is beyond the scope of this research.

CONCLUSIONS AND SUGGESTION

Conclusion

From the results, it can be concluded as follows:

1. Community members of the Harapan Kita PKK Cadre RW.02 have a 66.7% concern for waste sorting and management. Meanwhile, 77.8% of the community are knowledgeable about the Zero-Waste City program, and only 35.6% accurately know about the program.
2. There are differences in the knowledge and attitudes of the PKK Harapan Kita community cadre before and after enlightenment using the KangPisman Campaign poster in Bandung City. Although the differences in enlightenment after using the poster were not significant, there are no more people who are not aware of the campaign after reading the poster. Almost all people are aware of KangPisman, but they do not know the specifics.
3. There was a significant correlation between cognitive dissonance with the reduce and use waste indicators, as well as a highly significant correlation between the separate and use indicators.
4. This research has limitations in distributing questionnaires, selecting respondents, and time. Further research will require the use of mobile visual media in informing the public. Therefore, the effects will be more significant, as this form of media and information is more appropriate in everyday life.

RECOMENDATIONS

1. People who are members of the Harapan Kita PKK Cadre RW.02 have a high concern for waste management and processing. However, the pandemic caused the stoppage of the waste bank, and the community did not have a place to distribute plastic waste. Therefore, policies are required to support obedient behavior in sorting and managing waste during the pandemic.
2. The community needs an example/model regarding waste sorting and management during the pandemic. This is because the ability to understand is different in many people and individuals.
3. Supporting facilities in the Zero Waste City program are urgently needed during the pandemic, due to the increasing use of plastic in society. These supporting facilities include campaigns on the initiative in using single-use plastics and activating the existence of waste banks in the community with such arrangements. This will enhance the appropriate compliance with health protocols.

References

- ❖ Consequences, A., & Harmon-jones, E. (2016). Cognitive Dissonance and Experienced Negative Affect : Evidence that Dissonance Increases Experienced Negative Affect Even in the Absence of Cognitive Dissonance and Experienced Negative Affect : Evidence That Dissonance Increases Experienced Negative Aff. June. <https://doi.org/10.1177/01461672002612004>
- ❖ Cooper, J. (2019). Cognitive Dissonance : Where We ' ve Been and Where We ' re Going. 32, 1–11.
- ❖ Ehrlich, Guttman, D. I., Schonbach, P., & Mills, J. (1957). Postdecision to relevant information. *Journal of Abnormal and Social Psychology*, 54.
- ❖ GAIA. (2019). Paving the Way to a Zero Waste Indonesia Paving the Way to a Zero Waste Indonesia.
- ❖ Harmon-jones, E., & Harmon-jones, C. (2007). Cognitive Dissonance Theory After 50 Years of Development. 38(1), 7–16. <https://doi.org/10.1024/0044-3514.38.1.7>
- ❖ Koller, M. (2010). Redalyc.INVESTIGATING THE IMPACT OF COGNITIVE DISSONANCE AND CUSTOMER SATISFACTION ON LOYALTY AND COMPLAINT BEHAVIOUR. *Revista Brasileira de Marketing*, 9, 5–16.
- ❖ Mcelrath, E. (n.d.). Cognitive Dissonance Identification in the Institutional Setting of the Academic Library. 3, 283–298.
- ❖ Miklosovic, J. C., & Miklosovic, J. C. (2010). Cognitive dissonance : effects of perceived choice on attitude change Cognitive Dissonance : Effects of Perceived Choice on Attitude Change. 15(2).
- ❖ Rakhmat, J. (1998). *Metode Penelitian Komunikasi: Dilengkapi Contoh Analisis Statistik* (6th ed.). PT Remaja Rosdakarya.
- ❖ Severin, W. J., & Tankard, J. W. (2005). *Teori Komunikasi: Sejarah, Metode, dan Terapan di dalam Media massa* (Kelima). Prenada Media.
- ❖ Siegel, S. (1994). *Statistik Non Parametrik*. Gramedia.
- ❖ Sugiyono. (2018). *Metode Penelitian Kombinasi (Mix Methods)*. Alfabeta.
- ❖ Svenson, O. L. A. (2017). Information about expert decision and post-decision distortion of facts of own decision *Cognition and Neurosciences Information about expert decision and post-decision distortion of facts of own decision*. August 2018. <https://doi.org/10.1111/sjop.12418>
- ❖ Svenson, O., Salo, I., & Lindholm, T. (2009). Post-decision consolidation and distortion of facts. 4(5), 397–407.
- ❖ Thomas, R. G., & Bruning, C. R. (1984). Cognitive dissonance as a mechanism in vocational decision processes. *Journal of Vocational Behavior*, 24(3), 264–278.
- ❖ Vaidis, D. C., & Bran, A. (2019). Respectable Challenges to Respectable Theory_ Cognitive Dissonance Theory Requires Conceptualization Clarification and Operational Tools.
- ❖ Wanti, L. P., & Tripustikasari, E. (2018). 78 | *Jurnal Pendidikan Nonformal* Volume 13, No. 2, September 2018. Madani : Indonesian Journal Of Civil Society, 13(2), 78–84.