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MORALITY AND SOCIAL INFLUENCE AS PREDICTORS OF LITTERING BEHAVIOUR IN ILORIN, NIGERIA

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Abstract
This study examines morality and social influence as predictors of littering behaviour in Ilorin metropolis. A cross-section of two hundred and fifty respondents (101 males and 149 males), participated in the study. Their age ranged from 15 to 60 years. Respondents completed a questionnaire pack which included-the Littering Prevention Behaviour Scale (LPBS); the Perceived Social Influence Scale (PSIS); and the Morality Scale (MS). The results revealed a significant positive relationship between littering behaviour and age (r=.163, p<.05), gender (r=.148, p<.05), morality and littering behaviour (r=.146 p<.05). Also, results of multiple regression analysis indicated that age, gender, marital status, level of education, income, social influence and moral development have significant joint prediction on littering behaviour among participants [R=.291; R^2=.085; F(8,238), t=-10.40, p<.05]. However, there is independent prediction of education on littering behaviour among the sampled respondents [t = 1.96, p < .05, β = .122]. Morality development does significantly predict littering behaviour among the participants [t = -.137 p <.05, β = -.032]. Social influence does not significantly predict littering behaviour [t = 1.04, p>.05, β = -.066]. It was found that gender have a significant influence on littering behaviour [t (2.359) =247; P<.05]. Implications of the findings were discussed, pointing toward the need to replicate the study with larger sample size from multiple backgrounds to ensure generalizability of the findings. The study recommends that public enlightenment through mass media should be used to educate people on the hazards related to unhealthy refuse disposal pattern and government to also formulate policy that will encourage morals and hygienic behaviours that will encourage littering prevention.

Key Words: *Morality, Social Influence, Littering Behaviour, Ilorin*

Introduction

A dirty environment can breed several infections that are harmful to the dwellers. Illegal dumping of refuse in the society causes epidemic among people such as; spread of infectious diseases, contamination of food and water, air pollution and environment that breeds

disease vectors (Onifade and Nwabotu, 2014). A litter consist of household toxic substances that are improperly disposed on land or in water; whether the litter is intentional or unintentional, large or small, it can drastically affect the environment for years to come, before carelessly tossing another item out the window or looking the other way when someone else does, humans should consider the impact you can make on the environment by recycling, reusing and disposing of waste properly (Hearst Seattle Media, 2018). Illegal refuse dumping refers to the dumping of large items of rubbish in public areas such as roadsides or illegal landfills-private land where waste is dumped without councils or Environmental Protection Authority approval, such illegal dumping of waste is an environmental crime that is highly visible problem in most developing countries (Environmental Protection Agency, 2012).

Illegal dumping varies from small bags or rubbish in an urban environment to larger scale dumping of waste materials in isolated areas such as bush land. When it rains, illegally dumped rubbish can impact proper drainage of run-off, making areas more susceptible to flooding when waste block ravines, creeks, culverts and drainage basins (Nwabotu, 2014). Illegal refuse dumping includes waste materials that have been dumped, tipped or otherwise deposited onto land where no license or approval exists to accept such waste. Moreover, polluted areas also cause a lower appreciation of people's direct physical environments (Budruk and Manning, 2003). Refuse on beaches, in lakes, street and streams, in swimming pools, in parks and playgrounds can cause cuts and abrasions which sometimes results in serious infections which can lead to incapacitation or death of a victim, refuse on sidewalks and steps may also cause serious falls which can result in broken bones or even death (Budruk and Manning, 2003). Psychological variables like pro-socialness, personality and environmental factors have been discovered to be the root cause of littering however much has not been said on how moral behaviour can influence littering behaviour.

Studies on moral development have for a long time been attached to the idea that individuals steadily progress through a series of stages toward an ever more sophisticated moral stance, and that stable differences exist in the degree to which individuals commit themselves to empathic or pro social acts like making one's environment clean (Kohlberg, 1984). Some of the most effective ways of promoting sustainable preventing littering behaviour include morality which attracts attention through the use of persuasive messages and strategies which targeted family and citizens to the right audience (Tanyanyiwa, 2015). Tanyanyiwa further put it that, though there is no direct link between values and action but some desire values like morality can indirectly be initiated through moral practices such as; picking up litter dumped by others in his/her presence can influence attitudes and behaviours that could prevent littering. Though, research on morality as predictor of littering prevention is scanty both at local and international world but some studies put it that social influence is key to reason for littered environment (Keep America Beautiful (KAB), 1974).

According to studies, person can be made better off by influencing them to dispose in a more appropriate bin; such an individual could also defend those things that are important to them when they see

contravention from others (littering) through family and neighbourhood (Keep Britain Tidy, 2015). It is also about how individuals describe their values regarding hygienic environment; the motivation to do certain behaviours that are consistent with one's personal view of him/herself or that match the tribe/village/community or city that one lives in (Tanyanyiwa, 2015). According to Tanyanyiwa's study, desire behaviour like keeping environment clean can be promoted by attracting attention e.g. the use of posters, mass media awareness which have persuasive messages such as; well-done! Thank you! labelled on litter bins or a bin with the picture of the Models or personalities in the location picking up litter with the words, keep our town clean, only recyclables! Etc. Generally, citizens apply social proof daily; when somebody sees someone doing something, they may think this is the norm hence begin to display such behaviour which can change and encourage the observed behaviour (Bandura, 1997). Research shows that contextual factors did initiate people to littering attitudes.

Evidence suggest that age does influence littering likelihood, as young people tend to be more careless about their littering behaviour (Schultz *et al.*, 2011); though all age groups do litter, it is more prevalent among the younger ones than older ones. A survey in Scotland found that those aged 16-24years appeared to be the most prevalent litterers, with 86% reporting they had dropped litter, compared to only 29% among those aged 65+. Similarly, a Welsh survey23 classified 76% of those aged 16-34 as litterers, compared to only 24% of those aged 55+, while a poll of the general public in England24 found that 38% of those aged 18-24 admit to dropping litter, compared to 9% of those aged 65+ (Keep Scotland Beautiful, 2008).

A study has it that, females have stronger anti-litter attitudes than males, and that men drop slightly more litter than women do (Keep Scotland Beautiful, 2008) , while surveys across US research into littering attitudes describes men as being on average less 'pro-social' in their attitudes to littering, compared to women (Torgler *et al.*, 2008). KAB (1974) revealed that age, sex, occupation, and residence are related to littering behaviour. In the study, it was found that, young people litter most. It is well established that human beings perceive a significant social influence of those close to us (such as family and friends) on our everyday behaviour. Inadequate bin facilities in locations, presence and number of trash receptacles have been discovered as significant predictors of littering behaviour (Schultz *et al*., 2011). This shows that government on his own parts have a lot of roles to play to prevent this unacceptable behaviour that affect both the environment and the inhabitants. Indeed, the current study is an eye opener to citizen and government on the roles the human behaviours play in a healthy environment. The general objective of this study is to investigate whether gender, moral development and social influence could predict littering behaviour among dwellers of Ilorin South Local Government in Ilorin capital of Kwara state, Nigeria.

Research Hypotheses

The following research hypotheses were postulated to guide the objective of this study thus:

i. There will be a significant relationship between demographic variables (such as; age, gender, educational status,

family type), morality, social influence and littering behaviour.

ii. There will be a significant joint and independent influence of social influence and moral development on littering behaviour.

iii. Individual males will display a high littering behaviour significantly compare with female counterparts

Methodology

Design

This study adopted a survey method utilizing *expost facto* design. The independent variable is littering behaviour while the dependent variables are moral development and social influence which were continuously measured with a scale on individual respondents. However, the study used the quantitative data collection techniques to achieve its objectives among the target population.

This study was conducted in Ilorin south Local Government Area in Ilorin capital city of Kwara State, and it involved selected inhabitants of the area from age range of 15 years to 60 years (with 101 males and 149 females). This setting is most suitable for this type of study because the respondents have the characteristic traits of events under investigation.

Research Participants

The participants were randomly selected purposively during questionnaires administration. A total sample size of about 250 while 101 were males and 182 were females.

Instrument

Three instruments were used in the study, namely: Littering Prevention Behaviour Scale (LPBS) (Ojedokun, 2016); Perceived Social Influence Scale (PSIS) Cheryl *et al.*, 2010) and Moral Development Scale Professionals (MDSP) Scale, Skisland *et al.*, 2012) with section A, consists of socio-demographic information of the participants, such as age, gender, occupation, educational level, religion, economic status and marital status, tribe.

Littering Prevention Behaviour Scale LPBS

The 41-item LPBS was developed by the Ojedokun (2016) to assess littering behaviour. The items measure personal conscious actions grouped under littering prevention behaviour. It is a self-report measure with response format in Likert scale ranging from never (1) to always (5), and the higher the scores, the more the tendencies of engaging in littering prevention behaviour. The reliability Cronbach alpha coefficient recorded in this study was .70, while the present study recorded .76 Cronbach alpha.

Perceived Social Influence Scale

The PSIS was developed by Cheryl *et al.* (2010), to measure level at which individuals are easily initiated to behave in line with people in his/her environment. It consisted of 10 items assessed in four-point Likert-type format (strongly disagree, disagree, agree, strongly agree). Four points were used for ease of telephone administration. The instrument has a possible range of 10-40, with higher scores indicating higher levels of these beliefs. Scores in this sample ranged from 10-40, with a mean of 20.50 and standard deviation of 6.25 (median score was 20). The internal consistency of the overall instrument was $\alpha = .90$. Subscale alphas were $\alpha = .84$ for utilitarian influence, $\alpha = .85$ for value-expressive influence, and $\alpha = .81$ for informational influence. The average item-total correlation was .69 and ranged from .60 - .75 Test-retest reliability was acceptable during the two-week interval ($r = .73$, $p < .001$ for utilitarian

influence; r = .62, p < .001 for value-expressive influence; r = .52, p < .001 for informational influence). For this study, the Cronbach Alpha co-efficient analysis recorded was .74

The Morality Scale

The MS is a standardized instrument developed was modified and adapted by Oguntayo and Ajagbe (2018) from Moral Development Scale for Professionals (MDSP) (Skisland *et al.*, 2012) to assess morality in individuals. It consisted of 10 items assessed in four-point Likert-type format thus; strongly agree=5, agree= 4, Undecided=3, disagree=2, strongly disagree=1. Reliability assessed as item-total correlations and Construct validity was also tested with a principal component analysis with varimax rotation and Kaiser Normalisation. The obtained value for the Kaiser–Meyer–Olkin measure of sampling adequacy was 0.74, and the Bartlett's test showed pb0.001, signifying an adequate sample and a sufficient minimum sample size for performing this factor analysis and the Cronbach's alpha coefficient reached was a value of 0.71. Items are scored directly, where 10 is the minimum score and maximum scores are 50. Individuals who score who score 30 and above are high on morality.

Sampling Procedure

The sampling technique employed is purposive sampling technique which involves the selection of participants in such a way that it would follow the purpose of the study strictly by considering only the residents of Ilorin south and Ilorin west local government in Kwara State Nigeria. Participants were approached in their various homes, schools and offices during the day and the purpose of the study was explained to them and inform consent was sought. Participation was voluntary and only those who gave informed consent received the questionnaire. They were assured of confidentiality of their responses and anonymity was achieved since there was no provision on the questionnaire for any identifying personal information. Upon completion of the questionnaire, respondents returned it and were verbally appreciated for taking time to take part in the study.

Statistical Analysis

Data was analysed using descriptive statistics such as frequency, mean, standard deviation and variance. Hypothesis one was analyse using Pearson product moment correlation, multiple regression and t-test for independent samples were used to analyse hypothesis one, two and three respectively.

Results

Demographic Information of Participants

The study only involved adults above 18 years of age. The frequency distribution of age of the participants revealed that the participants whose ages range from 15-25years were 139(55.6%), 26-35years were 72(28.8%), and 36-60 years were 39(15.6%). Gender frequency shows that male respondents were 101(40.4%), while female respondents were 149(59.6%). Religion frequencies show that participants who were Christians were 131(52.4%), and those who are Muslims were 119(47.6%). Marital status frequencies show that participants who are married were 80(32.0%), participants who are single were 168(67.2%), participants who are cohabiting was 1(.4%), and participants who are separated was 1(.4%). Tribe frequencies show that participants who are from Yoruba were 210 (84.0%),

participants from the Igbo were 17(6.8%), while participants who are from the Hausa tribe were 14(5.6%). The Occupation frequency shows that participants who students were 160(64%), those who are civil servants were 62(24.8%), while those who are artisans were 28(11.2%). The educational qualification frequencies show that those who have no formal education were 52(20.8%), those who have SSCE were 78(31.2%) while those who have tertiary education were 120(48%).

Table 1: Summary Showing Pairwise Inter-Variable Correlations using Pearson Product Moment Correlations

	Variable	1	2	3	4	5			$\bar{x}$	SD.
1	Age	-							1.60	.744
2	Gender	-.180**	-						1.59	.491
3	Marital Status	.606**	.107	-					1.34	.507
4	Educational Status	-.017	-.037	-.101	-				2.27	.785
5	Income	. 584**	.125*	.471**	-.053	-			1.67	.792
6	Social Influence	.088	.037	.149*	.029	.118	-		25.92	7.72
7	Morality	.053	.060	.113	-.004	.079	.162*	-	38.20	6.52
8	Littering Behaviour	.163*	-.148*	.092	.117	.125*	-.076	.46*	23.17	5.98

**. Correlation is significant at the 0.01 level (1-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

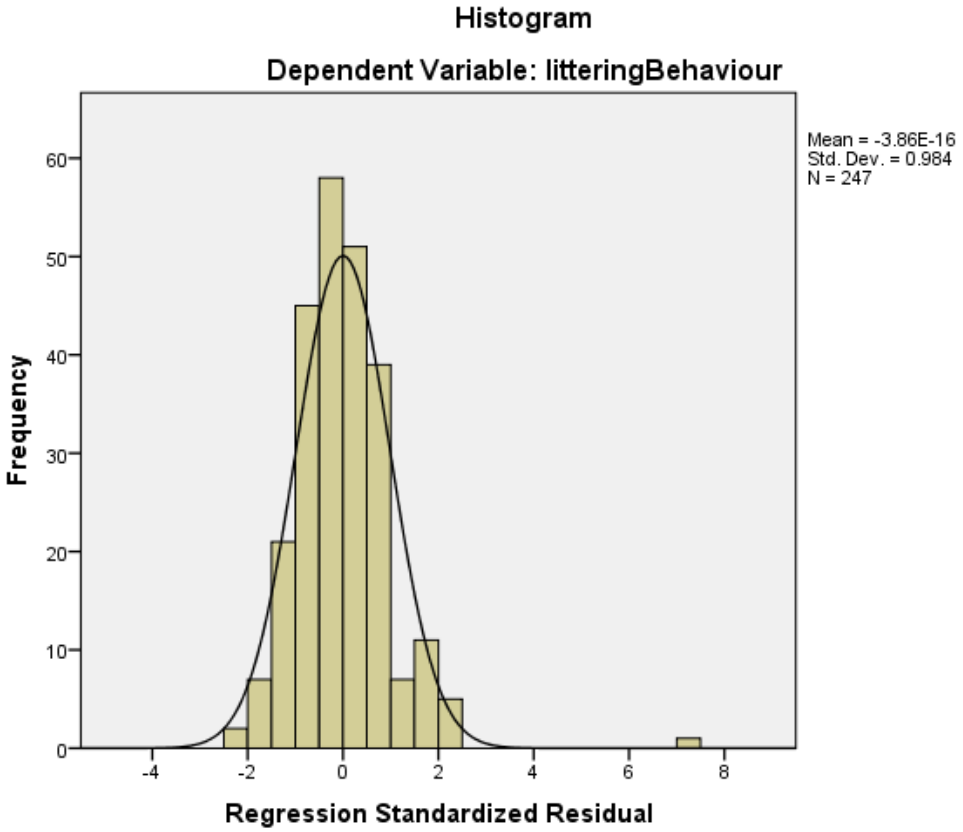
Dependent variable: Littering Behaviour

Table 1 result showed that there is a significant positive relationship between littering behaviour and age (r=.163, p<.05), gender (r=.148, p<.05), and moral development (r=.146 p<.05). However, there is no significant relationship between marital status, education background, marital status, social influence and littering behaviour, hence the need to regress the independent variables on dependent variable arise as presented below:

Table 2: Summary Showing Significant Prediction of Littering Behaviour
Linear Regression

Variables	R	R^2	F	Sig.	Beta	t	Sig.
Age					.117	1.34	.181
Income	.291	.085	2.748	.006	.047	.598	.550
Social Influence					-.066	-1.04	.298
Moral Development					-.137	-2.16	.032

**p < .01, *p < .05



Dependent variable: Littering Behaviour

For the second hypothesis of the study which stated that age, income, social influence and moral development will have a significant joint and independent prediction on littering behaviour among participants. The results shows that age, income, social influence and moral development have significant joint prediction on littering behaviour among participants [R=.291; R^2=.085; F(8,238), t=-10.40, p<.05]. However, there is independent prediction of moral development on littering behaviour among the participants [t = -.137 p <.05, β = -.032]. Therefore, the hypothesis is accepted. This implies that the pattern of moral development among the participants can be used to explain the tendency for littering behaviour among the sampled respondents. Though, social influence does not significantly independently predict littering behaviour [t=1.04, p>.05, β=-.066].

For the third hypothesis, the result also shows that there is significant difference between males and females on littering behaviour.

Table 3: t-test summary table showing gender difference between respondents with male and female level of gender on littering Behaviour

	Gender	N	$\overline{X}$	Std	df	T	P
Littering Behaviour	Male	100	24.25	7.29	247	2.359	<.05
	Female	149	22.44	4.81			

Table 3 presents results of gender influence on littering behaviour. It was found that gender have a significant influence on littering behaviour [t (2,359) =247; P<.05]. Male participants (24.25) scored higher on littering behaviour than female counterparts (22.44). The hypothesis is thus accepted.

Discussion

Result from the first hypothesis revealed that there is a significant positive relationship between age, gender, moral development and littering behaviour. However, there is no significant relationship between marital status, education background, marital status, social influence and littering behaviour. According to Ojedokun (2010), age, gender and socio-economic status have relationship with littering behaviour. Overall, the literature suggests that younger people litter more than older people in US population (Schultz *et al.*, 2011). This implies that age of individual citizens is a factor to be considered as determinant of tendency for littering behaviour.

The second hypothesis which state that age, income, social influence and morality will have significant joint and independent prediction on littering behaviour among participants was partially confirmed. However, there is independent prediction of moral development on littering behaviour among the studied participants. This is also similar to what was obtained by a group of research organisation in Scotland and a research in Tanzania (Keep Scotland Beautiful, 2008; Tanyanyiwa, 2015). This implies that individual citizens' moral development counts a lot on whether he/she will litter the environment. However, social influence did not significantly predict littering behaviour. This is similar to what was obtained by Fielding and Head, (2012) who found in his research that social influence does not significantly predict littering behaviour. This may dependent on parental upbringing of individuals through moral development of littering prevention.

The third hypothesis that male participants will score high significantly on littering behaviour than female counterparts was confirmed. Gender have a significant influence on littering behaviour. The reviewed evidence suggests that women have stronger anti-litter attitudes than men, and that men drop slightly more litter than women do. This pattern is consistent between both survey and observational evidence. In terms of attitudinal research, Scottish survey found that women (61%) are more likely than men (55%) to think that littering is unacceptable no matter the circumstances (Keep Scotland Beautiful, 2008) , while surveys across Europe suggest that being a woman increases the probability of stating that littering is never justifiable by 5.4 percentage. In addition, US research into littering behaviour describes men as being on average less 'pro-social' in their

attitudes to littering, compared to women (Torgler *et al*., 2008).

Conclusion and Recommendation

The present study concludes that there is a significant positive relationship between littering behaviour and age, gender, and moral development. Also, age, income, social influence and moral development have significant joint prediction on littering behaviour among participants. However, there is independent prediction of moral development on littering behaviour. Though, social influence does not significantly predict littering behaviour. But gender has a significant influence on littering behaviour; male displayed littering behaviour higher than female counterparts. In order to achieve healthy waste disposal behaviour, there is the need to create measures that will reduce littering behaviour in Ilorin and Nigeria at large thus:

1. Government and Non-governmental organizations should organise an enlightenment programmes that will encourage moral teaching both at home, educational and religion levels.
2. Providing easily identifiable, accessible receptacles, with clear and recognizable messaging and prompts, can go a long way toward reducing littering rates.
3. One way to promote individual motivations for littering prevention is through outreach and media messages. Although prior research has shown that such campaigns typically only produce small changes in behaviour (if any), there is reason to continue utilizing media messages, and more importantly branding, in litter prevention efforts.
4. Rules and regulations on littering behaviour should be addressed and made public to citizens, so that punishment will be attached and deterrence will be foster to discourage littering behaviour.
5. Researchers should delve into other psychosocial factors not included in this study with more population to ascertain it external validity among Nigerians.

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