

Commuters' Perceptions of Littering on Trains in South Africa: A Case for Environmental Social Work

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Abstract

Environmental social work is a growing area of interest in social work globally; yet in South Africa there is still an absence of literature in this field. Building on the definition of environmental social work as assisting humanity in creating and sustaining a biodiverse planetary ecosystem, we researched the relationship between perceptions of waste disposal behaviour and waste disposal practices such as littering. Littering has been underexplored in developing countries, including in South Africa, and particularly in South African public transport. This article reports on the results of a case study at one train station in the Western Cape province of South Africa to explore and understand possible reasons for littering on trains and train stations as perceived by commuters. A qualitative exploratory methodology was used to collect 21 in-depth semi-structured interviews at the train station. The data were thematically analysed and the perceived determinants of littering were highlighted. The findings echoed the global literature referring to a lack of infrastructure such as bins, the litterers' personal traits, and the need for education and awareness. Two unique South African themes emerged: job creation and dissatisfaction with the government or authorities not being responsive to the commuters' needs. This study, the first on littering on trains in South Africa, makes a case for the importance of environmental social work by demonstrating the way in which it could contribute to sustainability and reaching the United Nations' Sustainable Development Goals.

Keywords: littering; train commuters; perceptions; South Africa; case study; environmental social work; Sustainable Development Goals



Introduction and Background

In 2018, the World Bank indicated that 2.01 billion tonnes of waste were being generated globally per year, of which 33 per cent was not well managed. The situation in Africa was even worse, as half of the waste generated was being openly dumped. It was further estimated that, owing to the population growth in Africa, waste generation would triple by 2050 (World Bank 2018). Today, the implication of this worldwide problem is that the United Nations' Sustainable Development Goals (SDGs) will not be met without effective waste management, not only by local governments but also by every individual, household, business and institution that generates waste (Lenkiewicz 2016). Unmanaged waste pollutes the environment, clogs drains, pollutes water, kills animals living on land and in bodies of water, and is a threat to climate change, sustainable cities and human health and well-being.

Environmental problems are social problems (Rocha 2018), and it is of vital importance that social work reflects a growing interest in this field (Gray, Coates, and Hetherington 2018; Rambaree 2020; Rocha 2018). During the last decade, there has been a growth in literature on environmental social work (ESW), such as studies by Gray, Coates and Hetherington (2018), Ramsay and Boddy (2016), Rocha (2018) and Rambaree (2020), to mention only a few. Although social work has always taken a person-in-environment approach (Gray, Coates, and Hetherington 2018), the profession has also been reluctant to become involved in environmental issues.

While looking at several definitions of ESW, we found slight differences of focus. Gray, Coates and Hetherington (2018) define ESW as focusing on environmental factors that affect society and people. Rambaree (2020) describes ESW as focusing on ecological and environmental sustainability and justice within the context of sustainable development. Ramsay and Boddy (2016) take a slightly different view of ESW: they view it as helping humanity to create and sustain a biodiverse planetary ecosystem through social change. This definition places the responsibility of taking care of the planet on both the individual and society to ensure the well-being of the persons living in those environments. This definition is also the approach taken in this article.

For social workers throughout South Africa, unmanaged and dumped waste is not an unfamiliar sight. These often-dirty environments directly affect the health and well-being of the communities we work with. Niyobuhungiro and Schenck (2020) found that littering and illegal dumping are caused by individual behaviour, a lack of awareness and education, and disorganised communities. Although waste is seen as a social problem caused by people, no research could be found nationally and internationally where social work engages with communities regarding waste behaviour.

Change in behaviour and communities cannot be facilitated without a good understanding of the reasons for and drivers of littering and illegal dumping in a specific socio-economic, environmental and political context. This article aims to describe train commuters' perceptions of why they litter in the particular context of a train station in

South Africa. We hope that the results of our study can guide social workers and development practitioners to facilitate change in the South African context and contribute to the understanding of ESW.

Understanding Littering

To be able to understand littering, it should be compared with the concepts “pollution” and “indiscriminate dumping of waste”.

Pollution is the broad concept that refers to the introduction of any harmful materials into the environment (United Nations Environment 2017). Pollution includes air, water and soil pollution created by human activities, for example, soil pollution from using pesticides in agriculture and air and water pollution caused by factories. The mismanagement of waste, such as badly managed and open burned landfills, littering and indiscriminate or illegal dumping, is one of the forms of human activities that create pollution. Indiscriminate dumping is regarded as the deliberate disposal of waste and refuse on both public and private land which has not been designated as a site on which waste may be deposited. Indiscriminate dumping can only be regarded as illegal when there is a law that makes indiscriminate dumping an unlawful activity (Niyobuhungiro and Schenck 2020). Whereas indiscriminate dumping involves large quantities of waste, littering has been defined as the careless and improper disposal of small amounts of waste that results in unwanted and unnatural elements remaining in the environment (Al-Khatib et al. 2009; Khawaja and Shah 2013; Ojedokun and Balogun 2011). Littering is considered a global problem caused by human behaviour (Brown, Ham, and Hughes 2010; Marais and Armitage 2004; Ojedokun 2015). Municipalities worldwide pay millions to clean littering in public places and at public events (Garg and Mashilwane 2015).

Perceived reasons for littering include laziness, ignorance, carelessness, a lack of consequence, and insufficient, inconspicuous and distant containers (Khawaja and Shah 2013; Madhani, Dawes, and Brown 2009; Muñoz-Cadena et al. 2012; Rodríguez-Rodríguez 2012; Vilnai-Yavetz and Gilboa 2010). A lack of proper or relevant education and the presence of litter in the environment also encourage further littering (Tanyanyiwa 2015; Zambezi, Muisa-Zikali, and Utete 2020). In addition, Tanyanyiwa (2015) and Zambezi, Muisa-Zikali and Utete (2020) highlight a lack of waste ownership or the belief that it is acceptable to litter and that cleaning up is the municipality’s responsibility. Blame-shifting littering to street vendors, street kids or pedestrians was observed in a study conducted in Harare (Tanyanyiwa 2015). Muñoz-Cadena et al. (2012) and Hansmann and Steimer (2017) confirm that people often believe that everyone but themselves is littering.

Various authors have emphasised that littering is context dependent and is affected by interrelated aspects such as socio-economic, political, educational and cultural factors (Al-Khatib et al. 2009; Muñoz-Cadena et al. 2012; Tanyanyiwa 2015). People have different perceptions, beliefs and emotions about waste, and their behaviour towards

waste stems from their perceptions and beliefs (Beeharry et al. 2017; Dijksterhuis and Van Knippenberg 1998). Understanding these perceptions is a primary step in developing comprehensive and sustainable anti-littering approaches (Beeharry et al. 2017; Hartley, Thompson, and Pahl 2015). It is therefore important to explore and analyse the public's perceptions of litter and littering in the South African context.

Internationally, there is an abundance of literature on littering compared to the paucity of studies from developing countries (Chaudhary, Polonsky, and McLaren 2021). Two Zimbabwean studies by Tanyanyiwa (2015) and Zambezi, Muisa-Zikali and Utete (2020) claim that littering is one of Zimbabwe's most problematic environmental issues. The country's littering problem has worsened since 2000 and has coincided with the socio-economic and political problems Zimbabwe has since been facing. Tanyanyiwa (2015) and Zambezi, Muisa-Zikali and Utete (2020) also link the increase in littering to poor governance, corruption and ineffective anti-littering campaigns. Only a few studies have been conducted on littering in the South African context, even though South Africa has major issues with undesirable waste disposal practices (Garg and Mashilwane 2015; Southall 2018).

Internationally, there is scant literature on littering and public transport, even though some of the worst litter-affected areas are found in the vicinity of local transport centres (Madhani, Dawes, and Brown 2009). Insight into the significance of littering might be gained from studies that deal with the issue of cleanliness and public transport in general. Perceptions of onboard cleanliness are an important consideration that influences satisfaction and loyalty in public transportation and an important performance indicator (Celik, Aydin, and Gumus 2014; Eboli and Mazzulla 2012; Goel et al. 2016; Gris  and El-Geneidy 2017; Van Lierop, Badamy, and El-Geneidy 2018).

Six studies in the Netherlands investigated cleanliness in railway transportation. Two of those studies investigated factors related to the perception of cleanliness in a littered metro environment (Molenaar and Hu 2013; Vos 2015). Another study reported on the decrease in littering owing to fresh smells introduced in train compartments (De Lange et al. 2012). The fourth study investigated the effect of congruence between music tempo and cleanliness in train compartments. The study concluded that passengers perceived travel time as shorter in clean conditions (Gostelie 2017). The fifth study focused on the effects of litter and graffiti on attention and cleanliness perceptions (Siepel 2017). The most recent study investigated objective and subjective predictors of perceived cleanliness in train stations (Vos and Van Hagen 2020). Perceptions of scent, lighting, colour, and staff behaviour correlated positively and significantly with perceived cleanliness in train stations. In particular, customers' perceptions of scent and lighting were found to be powerful predictors of perceived cleanliness. Apart from studies signalling cleanliness and, by implication, the lack of littering as a quality indicator in the context of public transport services, research on littering in the public transport sector has focused on the ubiquitous problem of cigarette butt litter (Oliver,

Thomson, and Wilson 2014; Russell, Wilson, and Thomson 2012; Valiente et al. 2020; Wilson, Oliver, and Thomson 2014).

Regional research on littering and transport is also contained in literature on cleanliness. Van Lierop, Badamy and El-Geneidy (2018) cite cleanliness studies on railway transport, but the only two studies conducted in Africa (Kenya and Nigeria) focused on buses and minibuses as modes of transportation. Nevertheless, the Nigerian study indicated that cleanliness was a statistically significant factor influencing passenger satisfaction. Scholarly literature in South Africa acknowledging littering in the transport sector seems to be scarce. Noah (2002), who completed a study in Butterworth in the Eastern Cape, South Africa, analysed litter content and quantities of litter generated at a (minibus) taxi rank. No study in South Africa has yet investigated littering on trains and in train stations.

Methodology

This article reports on the results of an exploratory cross-sectional study at a train station in the Western Cape province of South Africa, with the aim of exploring and understanding the possible reasons for littering on trains and in train stations as perceived by commuters. The station is located in an urban area in the northern region and is operated by the local Metrorail network (Bergman, Bergman, and Thatcher 2019). The train station is located in one of the four towns selected for the Clean-Cities-and-Towns project funded by the Department of Science and Innovation (DSI) and the Council for Scientific and Industrial Research (CSIR). The remaining three towns selected for the study no longer have train stations owing to the deterioration of the South African railway system after 1994 to the point that the railway network is likely to be written off (Williams 2021). The data were collected during October 2019 when we visited the town to explore perceptions of littering and dumping by the residents of these selected towns. In addition to members of households and street vendors, commuters of trains and taxis were interviewed since the waste official of the local municipality had indicated that the taxi ranks and the train station were regarded as litter hotspots.

To understand the commuters' perceptions of littering on trains, we implemented a qualitative exploratory study. We employed a semi-structured interview guide with questions such as, "Why do people litter?" and "Why are the waste receptacles (if available) not used?" Observations were made of the facilities, the physical urban environment around the train station and the interaction of commuters with the urban space. Our observations were used to supplement the interview data. Photographs were taken to illustrate the context. We requested permission from the participants and the staff at the station to be interviewed and to take photographs. The station staff and the participants signed consent forms, which duly gave us permission to continue as requested. In the interest of anonymity, no identifiable person was photographed.

The participants sampled were commuters waiting for the train, above the age of 18, and willing and available to talk to us. We wanted to hear from the commuters what they thought were the reasons for littering on trains and in this train station. Six interviewers were prepared and trained to conduct the interviews. The interviewers were all postgraduate students from the University of the Western Cape in South Africa.

After the consent form to be interviewed was signed by the participants, an information sheet describing the project was handed to each. A few commuters were not interested in being interviewed, but in general the commuters were very interested in the study. We collected data until data saturation occurred. A total of 21 commuters participated. Because of the noisy surroundings, no interviews were recorded. The interviewers wrote down all the answers from the participants. The data were captured and thematically analysed. Ethical clearance for the study was obtained from the Senate Research Ethics Committee of the University of the Western Cape (number HS19/5/5). The study adhered to the principles of anonymity and confidentiality.

The 21 commuters interviewed consisted of 12 men and nine women. Nine of the commuters were foreigners and 12 were South Africans. Eight of the foreigners were from Zimbabwe and one was from the Democratic Republic of the Congo. The highest level of schooling among the participants was Grade 10. The ages of the participants ranged from 18 to 60.

Findings

The findings from the interviews resulted in the following six themes as reasons for littering on trains: (1) the disposal behaviour of the train commuters; (2) the invisibility of the waste receptacles; (3) personal traits of the commuters; (4) the lack of awareness and education; (5) the belief that littering creates jobs and income opportunities; and (6) the belief that littering occurs owing to experiences of a non-caring government and that littering is therefore a form of protest.

Observations of the Physical Environment

We arrived at the train station around 09:00 to interview commuters waiting for the next train at the station. On arrival, we observed that the platforms were fairly clean inside, but that litter had accumulated around the locked toilets and was visible just outside the entrance to the station (Figures 1 and 2).



Figure 1: Litter accumulating around the toilets and on both sides of the station enclosure (Source: Researchers)



Figure 2: Litter in the drainage system outside the station (Source: Researchers)

There was a strong stench of urine. The commuters were waiting for the trains on the platforms where there was minimal formal seating and waiting areas. The commuters were either standing or sitting on the tarred surface of the platforms.

Theme 1: The Disposal Behaviour of the Commuters

The first question asked the participants to indicate what they do with their waste when travelling on the train. Surprisingly honest answers were given: “commuters throw it

out of the windows,” “throw it on the floor” and “throw it beneath the seat, on the ground or out of the window.” One participant said, “I always put mine in the bin” (at the station). An interesting explanation came from a participant who owned her actions: “We throw it out of the window or on the floor. Throwing out of the window is smarter than putting on the floor. You make a mess if you throw it on the floor. If you throw it out of the window, it is gone.”

Observations confirmed what the participants said since some of the litter could be seen on the railway line. Figure 3 is a photograph taken at the train station toilets where waste was thrown out of the toilet window. A common view was that if it is not in your sight any longer, “it is gone.”



Figure 3: Waste thrown through the toilet window (Source: Researchers)

Theme 2: The Invisibility of Waste Receptacles

On our arrival at the train station, it was still fairly clean. We observed that there were waste receptacles. However, they were not clearly visible (blue to fit in with the colour scheme of the train station) (see Figure 1). At first, we were not sure whether they were plant containers or waste receptacles. After we had made inquiries from the staff at the station, we were informed that the containers were indeed waste receptacles. There was very little litter in the receptacles. There was mainly sand in them – probably for smokers to put out their cigarettes.

The participants’ comments confirmed our suspicion about the receptacles. They noted that the receptacles were not clearly visible. Some participants were not sure whether they were allocated for waste or plants. Similarly, a participant commented: “There are no bins on the train to throw away your trash so people throw it out of the window.” Neupane (2015) confirms the link between reduced littering and the visibility of bins. One participant also noted: “The bins are full.” Consequently, the commuters discard waste on the ground. It was unclear to which bin this participant was referring since our observations showed that the bins at the station were not full. According to other

participants, there were no bins on the train. The commuters did not perceive that it was their responsibility to carry the waste to the next station or alternatively to take it to their destination. Waste was viewed as discardable and responsibility renounced. Similarly, Hansmann and Steimer (2017) found that most participants excused their waste disposal behaviour by referring to the dysfunctional infrastructure. These authors describe the tendency to renounce personal responsibility as a process of justification in the service of self-protection against self-blame and blame from others (Hansmann and Steimer 2017).

Theme 3: Personal Traits of the Commuters

Several studies have found that behavioural factors contribute to littering (Hansmann and Steimer 2017; Torgler, García-Valiñas, and Macintyre 2012). Similarly, the participants in this case study characterised commuters as “stubborn”, “ignorant”, “careless” and “complicated – they are lazy, they want easy things”. The participants believed that the commuters are disinclined to make an effort to dispose of their waste appropriately. One participant described the commuters as “lazy and untidy”. Significantly, these responses attribute littering to personal factors associated with other commuters, corroborating the findings of Hansmann and Steimer (2017). The depiction of litterers as lazy, careless, ignorant and habit-driven corresponds with the literature (Khawaja and Shah 2013; Madhani, Dawes, and Brown 2009; Muñoz-Cadena et al. 2012; Rodríguez-Rodríguez 2012; Vilnai-Yavetz and Gilboa 2010). Zambezi, Muisa-Zikali and Utete (2020) and Tanyanyiwa (2015) also highlighted the unwillingness of people to walk to waste bins or to carry their waste home with them.

Some answers revealed conformity with negative or dysfunctional descriptive or prescriptive social norms, confirming the findings by Hansmann and Steimer (2017) and Owusu (2010). The participants typified littering as a “habit to throw their waste on the ground as this is the way it is done”, “we are used to do it”. The habit is perceived to be conditioned by observed littering: “There is so much waste lying around, then people also throw their waste there.” Habits, according to Hawkins (2006, 14), are bodily dispositions. It is the way the body is organised and moves, based on social and cultural memory. These socially constructed “habits” need further in-depth exploration in future research.

An interesting response that will also require further investigation was that “[e]veryone does as they like – throw it down”. This response hints at the existence of permissive space (Cooper-Knock 2018; Vandervelde 2010) where state actors and the public enable a space in which littering can take place without repercussions, even though a legal framework is in place.

Theme 4: Lack of Awareness and Education

According to Eastman et al. (2013) and Muñoz-Cadena et al. (2012), education has consistently been advocated as a positive influence on environmental behaviours,

although this has not been fully investigated. In this case study, the “lack of education” cited by quite a few participants appeared mostly to refer to the way in which people have been raised to interact with the environment: “It is about the way people were brought up.”

People have a “lack of knowledge about how to clean”, one participant explained. Another participant elaborated that “[p]eople think the littering will not affect their lives. They do not think it will cause damage. They are not educated enough. They do not know the repercussions of their behaviour”.

Linked to the previous theme that littering is habitual, this lack of education does not refer so much to formal education. The participants linked being aware of the relationship between waste and the environment and the person’s well-being. Increased awareness and agency about their waste and the environment are indicative of increased critical consciousness. Freire (1998) sees critical consciousness as conceiving a connection between socio-economic injustices, developing new value systems, and taking action to make changes in people’s behaviour. Critically conscious people will construct complex reasons for littering.

Theme 5: The Belief that Littering Creates Jobs and Income Opportunities

A theme that does not emerge in the literature of most developed countries is waste and job creation. In this study and studies conducted in other developing countries, some participants reasoned that littering creates jobs and that they have to sustain job creation opportunities (Tanyanyiwa 2015). Given the South African unemployment rate of 32.6 per cent in the fourth quarter of 2020 (Stats SA 2021), this reasoning may not be surprising. Some of the participants expressed the opinion that they should litter as “[s]omeone will clean – it is a job for someone”. The South African government created job opportunities in the early 2000s for the unemployed through anti-poverty programmes such as the Expanded Public Works Programmes (EPWP). Typical work also includes jobs in the waste sector (such as cleaning streets) (Samson 2007). It is therefore believed that if there is no waste, there will not be jobs and no need for these EPWP jobs. One participant further motivated her littering behaviour by stating that “[t]here are people who get paid. They cannot get paid for nothing; they have to work”.

Theme 6: Littering Occurs owing to a Non-Caring Government

Another unique result of the study is the indication that littering implies discontent with an uncaring government: “People are unhappy.” Some of the participants expressed dissatisfaction with the condition of the station: “The station stinks and the people must use the bushes next to the station.” They linked this to perceived neglect and lack of care on the part of the government: “The government does not care,” and “The government does not do its work to keep it clean.”

The complex relationship between the government and the people it is supposed to serve is often reflected in the standard of waste management. Although the station is not the worst we have seen, the responses indicated disgruntlement with the government. Some participants made comments such as: “It is unpleasant to use the trains,” “The government does not do its work to clean the station. There are only security staff.” “There are cleaners but they don’t do their jobs well,” and “People are unhappy.” These statements reflect dissatisfaction with the inadequate delivery of services, and the assignment of the clean-up responsibility to the government without considering personal involvement or collaboration.

Some of the participants also complained about the stench of urine at the station. On further exploration, it appeared that there were station toilets, as can be seen in Figure 4, but that they were locked and inaccessible to the public. As mentioned earlier, one participant commented: “The station stinks and the people need to use the bushes next to the station.”



Figure 4: Toilets inaccessible to the public (Source: Researchers)

The researchers went to the officials’ offices employed by the Passenger Rail Agency of South Africa (PRASA) to investigate why the toilets were closed. They referred us to the cleaning staff who refused to talk to us. One participant explained: “People pee all over the place.” A possible explanation might be that the closure of the toilets obviates the need for cleaning. Waste behaviour such as littering, according to Hawkins (2006, 6), can often be seen as “victimised anger and frustration”. “The government does not care” summarised the participants’ perception of the government. Since they feel uncared for, they refuse to care about government property.

Discussion and Conclusion

The exploratory study described above adds to the body of literature on social work research regarding environmental issues such as littering (Gray, Coates, and Hetherington 2018), and particularly related to developing countries (Chaudhary, Polonsky, and McLaren 2021). Since littering is a person-in-context phenomenon, the nexus between public transport infrastructure and perceptions of waste and waste disposal behaviour within the broader political and socio-economic context is important (Kalina 2021). In many respects, the results from the study present similar results as studies from developed countries, citing reasons for littering as personal traits and value systems, education and awareness, and infrastructural issues. Two major reasons for littering that are unique to the South African context were identified as littering as job creation and littering as an action to show discontent with the government that “does not care”. Reasons given fall into the micro (personal traits), meso/macro (education and awareness) and macro perspectives (job creation and government discontent) of social work and social development.

Ramsay and Boddy (2016) and Rocha (2018) confirm that the field of ESW is still developing and practice applications are scant. Taking Ramsay and Boddy’s (2016) definition of ESW as assisting humanity in creating and sustaining a biodiverse planetary ecosystem towards the well-being of communities and reaching the UN SDGs, social workers and development workers have a major role to play. Ramsay and Boddy (2016) and Rocha (2018) suggest interventions such as changing personal traits and behaviour, critiquing hegemony, societal and relational change, working multidisciplinary in and with communities, dealing with the challenges in socially vulnerable communities, and helping people to take responsibility for their own behaviour through awareness of responsible citizenship towards cleaner environments. Detailed practical applications are still lacking.

At a practical level, interventions such as enhancing education and awareness for individuals, groups and communities can play an important role in bringing about behaviour change and awareness of the benefits of a clean environment for society. Particular focus on Freire’s conscientisation processes comes to mind (Hope and Timmel 1995). A combination of regular multiple and continuous participatory activities such as community clean-up actions, appropriate media campaigns, school programmes, activities to beautify the immediate environment, and involvement in producing colourful visible waste receptacles can create awareness, behaviour change and facilitate ownership of waste behaviour and a clean environment.

However, before the structural inequalities and injustices, top-down management structures, and single solutions for complex problems are not dealt with, cleaning the environment will not be sustainable (Botes 2018; Cock 2018; Kalina 2021). Green (2018) confirms that for any government or authority to be regarded as legitimate, three elements need to be present: competence, fairness and care. These elements are clearly not experienced by the train commuters in this study. At a macro level, social workers

and development practitioners can hold all levels of government accountable for competence, fairness and care through their service delivery (such as housing, water, sanitation, roads and proper waste management) and economic growth endeavours (creating enabling environments and policies for formal and informal job opportunities). A practical example will be to ensure that local solutions are developed with the affected communities and, if income opportunities are created, that the communities get the benefit of those opportunities.

Accountability in this context refers to a local government that is committed to working with its residents and creating private and public partnerships to find sustainable ways to meet their social, economic and material needs and to improve the quality of life of the communities they serve (Du Plessis 2021). Social work and social development practitioners can be instrumental in these processes. Organising communities can be facilitated to create opportunities and platforms where their needs can be voiced and where residents, government and private partnerships can be fostered to take ownership for the well-being of the community and the environment.

Environmental problems are social problems and as social workers and development practitioners, we need to regard these as important and relevant as other social problems. Environmental behaviour, as described in this article, reflects the social issues of our society, which we cannot continue to ignore.

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