

**Littering Attitude, Belief, and Practice of Students at Addis Ababa University:
Qualitative Exploration**

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Abstract

This research investigated students' beliefs about, attitudes toward, and practices of littering. Research data was obtained from 24 self-selected students (19 for focus group discussion & five for semi-structured interview) and photograph and video-taping of littered areas. An inductive thematic analysis of the data showed that students are aware of their responsibility to take care of their environment despite their failure to avoid littering anywhere. Problems in the person such as negligence, responsibility diffusion, and lack of knowledge of the consequence of littering anywhere, very limited and unattractive infrastructures like lack of dustbins, absence of provision of enforceable rules and regulations and the associated consequences for littering anywhere, and the traditional orientation that emphasise personal rather than communal hygiene were the most noted reasons for littering anywhere. Voucher cards, cigarette butts, bus tickets, plastic shopping bags ('festal' in Amharic), aluminium foils, chewed gum, and related dust were found to be the most littered items. Thus, measures like dustbins and professional attitudinal and behavioural change training and sensitisation programs shall be implemented to manage the littering problem.

Keywords: *Littering Attitude, Littering belief, Littering Practice*

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1. Introduction

1.1. Background of the study

Littering is a widespread problem that has negative consequences for the well-being of society and has been discussed in a wide range of subject areas (Chaudhary, Polonsky, & McClaren, 2021). Typically, that results in littering is viewed as either intentional or negligent. Additionally, other terms, including "accidental," "careless," and "deliberate", have been used in various research. Deliberate littering is the willful throwing, dropping, or discarding of objects in inappropriate places (Beck, 2007). Around 200 thousand tons or more of solid trash were produced daily in African nations in 2015 (Un-Habitat, 2010). Accordingly, most African nations struggle with an imbalance between the volume of waste they produce and their ability to handle it appropriately (Niekerk & Wegmann, 2019). For example, in Kampala, 45-50% of the tons of waste per day remained uncollected (Niringiye, 2010), while 42.5% of waste from households in Ethiopia was dumped on the roadsides and open fields (Erasu, Feye, Kiros, & Balew, 2018).

According to Mercer's (2007) Human Resource Consulting on Health and Sanitation's Quality of Life Report, Addis Ababa is Africa's second filthy city, following only Antananarivo, and the world's sixth filthy country. As part of the city's ever-increasing activity and population, the problem appears to worsen. On the contrary, it is common to see government officials make erratic and only temporary efforts to address the city's huge and staggering problems, which are frequently centered on a campaign-like response. To this end, scrutiny of individuals littering behaviour,

factors that promote littering behaviour, and impediments to scrubbing behaviour shall be given priority.

People make many things that are only used once and then thrown away, like paper and plastic dining utensils, paper towels, disposable diapers, and non-refillable pens. Even if a person wants to look at the cleanliness of his/her home, food, and his /her children, responsibility stops too often at the doorstep” (National Environment Agency, 2011). Thus, the need for every citizen to feel responsible and bring behavioural change by promoting antilittering behaviour to the cleanliness of the communal settings through behavioralbehavioural changes is obligatory. As far as the knowledge of the current research is concerned, no /little detailed scientific study focusing exclusively on littering behaviour, belief, and attitude has been conducted unless the case is considered part and parcel of waste management studies (Kaso, Hareru, Ashuro, &Soboksa, 2022; Dika, Nemie, &Birhane, 2019; Wendimagegn, 2019).

To combat the daunting challenge of Addis Ababa city cleanliness, the city government set up an exclusively responsible organ. Addis Ababa City SanitationAdministration Agency (AACSA) was established through Addis Ababa City Administration Executive Bodies and Municipal Service under Proclamation No. 15/2009 with a mission to “make the city clean by increasing the participation of the society and stakeholders; controlling and following up of how to collect, keep, and transport wastes; developing the residents’ awareness, and providing service in a modern and sustainable way.” According to the agency, as of

the 2006 Ethiopian fiscal year alone, AACSSAA has employed more than 4000 street cleaners (Addis Newsnet, Oct 21, 2014). This doesn't include the more than 6000 cleaners organised under 568 Small and Micro Enterprises (SMEs) and private agencies (Addis Newsnet, Oct 21, 2014). However, apart from some cleaning campaigns and labour and cost-intensive efforts made to keep Addis Ababa clean, little or no attention has been given to the need to bring pro-environmental behavioural and attitudinal change by the organ. This would serve as an instigating call to draw attention to the professional and scientific cause of the preemptive measures of littering rather than focusing on the aftereffects. Thus, this research paper attempts to qualitatively explore the littering practice, attitudes, and beliefs of students at the *Sidist Kilo* campus.

1.2. Statement of the Problem

Littering is a recurring problem worldwide, particularly in rapidly expanding cities and towns. Addis Ababa University, one of the forefront higher institutions in the country, is not an exception in its failure to consider littering a major challenging environment. One can visit the football stadium at the *Sidist Kilo* campus to see how thoroughly littering has made the university unclean. The only thing that the campus has been doing is attempting to overcome the challenge by employing as many cleaners as possible. But the attempt looks futile as the solution should root in the individual behaviour and a change in it. Rather than looking after the littered dirt, it would be advisable to take proactive measures like behavioural changes and the development of pro-environment attitudes. This would be possible only when there is a clear understanding of the attitude, belief, and practice of littering.

As a result, the current research attempted to answer the following fundamental questions:

- Who is responsible to keep the cleanliness of Addis Ababa University?
- What do students at Addis Ababa University feel when they consciously litter?
- How do people litter?
- What are the solutions to combat the problem?

2. Literature Review

2.1. Behaviour as a Cause of Environmental Change

Until recently, the impact of human behaviour on our environment has been given little or no attention. For example, Stern (1992), cited in Nickerson (2003), identified and discussed three areas of psychological research that pertain to environmental change: "the study of environmental attitudes; the analysis of individual actions that, in aggregate, have a high impact on important global changes; and the study of individual effects on collective action, including organisational resource consumption and policies that set the context for resource use". In addition to indirectly attempting to change behaviour through a shift in attitudes, Nickerson (2003) listed some other methods, including legislation and governmental regulations backed by the threat of civil or criminal penalties, tax incentives for environmental preservation or clean-up costs, tax deductions for pollution-producing activity costs, persuasion, and education.

2.2. Theories of Attitude Change

Attitude theories have been organised into four categories (Eagly&Chaiken, 1993; O'Keefe, 1990). Consistency Theories assume the need of the individual for consistency. There must be consistency between attitudes and behaviors, and among attitudes and behaviours. A lack of consistency causes discomfort, so an individual attempts to ease the tension by adjusting attitudes or behaviours to achieve balance or consistency once again. One of the earliest consistency theories was the balance theory (Himmelfarb&Eagly, 1974; Kiesler, Collins & Miller, 1969; O'Keefe, 1990). Heider's (1958) *balance theory* assumes that relationships among the perceiver, another person, and an object are either positive or negative based on the cognitive perceptions of the perceiver. Newcomb (1961) studied *interpersonal situations* and *cognitive balancing* and transferred these ideas to research on the *pressures for uniformity* in groups.

Abelson (1959) proposed four additional modes of restoring balance: (a) denial, (b) bolstering, (c) differentiation, and (d) transcendence (Himmelfarb&Eagly, 1974; Kiesler, Collins & Miller, 1969; Insko, 1967; O'Keefe, 1990). Attitude changes occurred when the individual attempted to re-establish balance by modifying their attitudes. *Affective-cognitive consistency* theory examines the relationship between attitudes and beliefs (Rosenberg, 1956). Festinger's (1957) *theory of Cognitive Dissonance* examines consistency among cognitive elements or beliefs about oneself, behaviour, or environment. Dissonance occurs when elements are logically inconsistent or psychologically inconsistent because of cultural mores, specific

opinions deviating from more encompassing opinions, or information or experiences that are contrary to previous information or experiences. Dissonance motivates the individual to reduce the dissonance and return to consonance.

Early Learning Theories emphasise the stimulus characteristics of the communication situation. Hovland, Janis and Kelley (1953) identified three classes of variables that influenced the effectiveness of the message: (a) source characteristics, (b) setting characteristics, and (c) communication content elements. Bem (1967) assumes that attitudes were learned due to previous experience with the environment.

2.3. Littering

The way we dispose of waste matter has been believed to affect the environment. The litter campaign has been in place for more than half a century. Nickerson (2003) noted that littering as a manifestation of improper waste disposal is prevalent in many local areas and began to receive national attention in the United States due to the Keep-America-Beautiful campaign in the late 1960s and early 1970s. Nickerson (2003) believed that though littering does not threaten irreversible change, it is an irritant to many people and especially frustrating because it seems to reflect a “the-world-is-my-personal-waste-basket” attitude on the part of the people who litter.

Individuals with certain desirable personal traits and unfavourable attitudes towards littering will have greater tendencies to participate in pro-environmental behaviours (Ojedokun, 2011).). Why people litter is not entirely clear, but apparently, the perceived acceptability of littering by peers plays some role in as much as people are

more likely to litter in an already littered area than in a clean one (Cialdini, Kallgren & Reno, 1991; Krauss, Freedman, & Whitcup, 1978; Reiter & Samuel, 1980 cited in Nickerson, 2003). In the United States, Numerous publicity campaigns have been mounted by states and municipalities to increase public awareness of the problem, discourage littering, and promote clean-up activities (Nickerson, 2003).

2.4. Attitudes, Beliefs, and Behavior as Determinants of Each Other

Nickerson (2003) described that human behavior is the cause, directly or indirectly, of most of the detrimental environmental change. He indicated that *attitudes*—which include *beliefs* and *values*—are major determinants of behaviour. People typically, although not always, behave in a way that is consistent with their attitudes. It is not surprising to find, for example, that attitudes regarding personal responsibility and the capability to effect change are somewhat predictive of environmentally relevant behavior (Fleishman, 1988 cited in Nickerson (2003). Thus, it makes sense to attempt to change behavior by changing attitudes. The strength of the relationship between attitudes and behavior appears to depend on the strength of existing barriers to action: The stronger the barriers to action, the less likely pro-environmental attitudes are to affect pro-environmental behavior.

3. Research Methodology

3.1. Design of the Study

For this study, a qualitative research design was implemented to determine why students litter in and around Addis Ababa University. Qualitative research using data collected through observation, interview, and focus group discussion was used to

obtain a rich account of students' littering behaviour, beliefs about littering, and littering practice. In this regard, quoted in Creswell (2007), Denzin and Lincoln (2005) stated that qualitative research consists of a set of interpretive, material practices that make the world visible. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them. Thus, the phenomenological approach to qualitative research, which is interested in the world as it is experienced by human beings within particular contexts and at particular times rather than in abstract statements about the nature of the world in general, is used (Willig, 2008). The phenomenological approach explored the participants' lived experiences concerning littering behaviour.

3.2. Study Area

The study was carried out at AAU, Sidis Kilo Campus. This particular research area was selected purposefully since the littering problem has been the researcher's day-to-day observation.

3.3. Participants

In this study, first-year sociology students from Addis Ababa University were selected to participate in the research. **Self-selection** sampling (*or volunteer sampling*) is applied since the researcher wants to allow individuals to choose to take part in the research *on their own accord* (voluntarily) rather than being approached by the

researcher directly. The method is useful as it is quick and relatively easy to do. It can also reach a wide variety of participants. Among first-year sociology students, a total of twenty-six (14 female and 12 male) students, of which nineteen (11 female and 8 male) for focus group discussion (FGD) and seven students (4 female and 3 male) for semi-structured interviews were voluntary to participate in the research.

3.4. Tools for Data Collection

Naturalistic observation, focus group discussion, and interviews were all carried out to collect primary data. These are believed to entail detailed information about students littering behaviour, opinion, belief, and practice. Participants were provided with the best opportunity to dig out their experiences, opinions, feelings, and practices about littering.

To ensure reliability and minimize biases in the semi-structured interview, the researcher presented questions in the same way to all seven interviewees as presented for the first one. Furthermore, rapport which made the interviewees speak freely and put them at ease, was built to validate the instrument. Moreover, data collected using observation methods would serve the purpose of triangulation, which checks the data's validity.

Naturalistic Observation

The naturalistic observation data collected by photographing and video recording was made in and around the stadium area, the main get of Addis Ababa University, roads inside and around the campus, and spaces in front of libraries and classrooms. Littered items/ objects were recorded and/or photographed in those areas to check how they

were disposed of. Observation is a method researchers widely use to gather data by watching and describing what the subjects do (Creswell, 2007). Observation has an advantage over other methods because of its directness. Specific to this study, one drawback of data collection through observation is that though littering is an omnipresent issue, determining when students litter most was difficult, so observation of the action and associated feelings of participants was limited. However, the researcher observed what and where students litter.

Semi-Structured Interview

The next day after the focus group discussion was held, five semi-structured interviews were conducted consecutively and tape-recorded with consent for 4 female and 3 male interviewees. Before carrying out the semi-structured interview, adequate considerations were undertaken to ensure whether the circumstances of the campus were conducive for the interviewee. For example, the semi-structured interview was not immediately before or after exam periods, tests, or stressful, busy periods, as these may have influenced the participants' stability to think critically about their beliefs, behaviour, and practice of littering.

Regarding the instrument, the semi-structured interview tool was designed based on the aforementioned objectives of the study. The items are constructed in line with the review of the literature and observations of the problem. Semi-structured interview was used because it is a flexible method, enabling the researcher to modify the line of inquiry. Despite pre-determined questions in a semi-structured interview, the order

and wording of the questions can be changed depending on the interviewer's perception of what is more appropriate and inappropriate with a particular interviewee, and additional questions may also be included (Robson, 1993).

Focus Group Discussion

Based on some prearranged schedules, there were three separate focus group discussions held on the same day with 11 female and 8 male participants. The three separate focus group discussions (six each) were held to get data about how and why people litter. Each of the FGDs was tape-recorded having the participants' consent. Before carrying out the focus group discussion, adequate considerations were undertaken to ensure whether the circumstances of the campus were conducive for the FGD. For example, the FGD was not directly before or after exam periods, tests, or stressful, busy periods, as these may have influenced the participants' stability to carefully think about their beliefs, behaviour, and practice of littering.

Before the focus group discussion, participants were advised to freely, spontaneously, and honestly discuss their beliefs, attitude, and practice of littering. One more opportunity was given to the participants due to the advantage of flexible data collection techniques of qualitative research design. To this end, they were allowed to write on a piece of paper regarding their feelings about, opinions, and practice of littering that they did not discuss with others for various reasons such as failure to remember while getting the opportunity to tell others or remembering later about their experience due to cue dependent memories. As a result, participants may become

ashamed of expressing their experiences during the discussion. Furthermore, this data was analyzed, too.

3.5. Data Analysis

The analysis of the collected data began by listening to the audio-recorded interviews and focus group discussions attentively and repeatedly, transcribing and coding them. Moreover, data collected through observation were transcribed and coded. The process of data transcription and coding took a long time, but I viewed it as the beginning of the analysis, as a way to get close to the data. At this stage of the analysis, the researcher created a list of themes found in the data, with subthemes, and coded them. The transcribed audio-recorded data were repeatedly listened to ensure that all of the information was comprehended accurately. Of course, this was an ongoing process, where the researcher several times added new subthemes until the final list was identified.

As described by Creswell (2007), while analyzing the data, making a number of decisions, backtracking, reviewing, rethinking, finding ways to fill gaps, going forward, and repeating the same process was carried out to detect the major issues, emerging themes, and patterns and finally meaning from the data.

New observations were noted and added to the data themes identified during the data collection period. This was especially a fitting experience for the current researcher as littering is not a one-time place-specific process or activity. Then, when it was time to

begin writing, the researcher went through files and searched for these keywords for themes to select quotes for each section—organizing, categorizing, and writing the paper according to the major categories of themes. To this end, responses were categorized based on the perceived reasons why students litter, their beliefs and practice of littering, and what, how, when, and where they litter most.

3.6. Ethical Considerations

The researcher followed the ethical guidelines such as respondents participated voluntarily, ensuring confidentiality and anonymity were ensured and maintained, i.e., no identifying information was requested and recorded. Before the interview and FGD, participants were verbally thanked for being voluntary. In addition, subjects were given adequate information regarding the study's aim, nature, and purpose. The nature of the study was that the participants would be safe from psychological and/or physical risk. Moreover, concern for the protection and welfare of the subjects was communicated before participation and, in addition to the consent given through the self-selection process of sampling the participants. Moreover, a respectful relationship was maintained without stereotyping and using labels that participants did not embrace.

4. Findings

Of the nineteen students who volunteered to participate in the focus group discussion (FGD), all availed and formed a group of 6, 6, and 7 participants. However, of the seven students who were voluntary for an interview during the selection phase, only five of them availed and interviewed (one from each gender did not come on the

interview date). Then, the transcribed data from the focus group discussion, interview, and photographs and videos of the observation were thematically analyzed and presented as follows.

Knowledge of Responsibility to Take Care of the Environment

Participants across the three focus group discussions unanimously believed that environmental cleanliness is the responsibility of each individual, personally and in the group. Furthermore, the participants emphasized that environmental protection indiscriminately falls on every citizen regardless of gender role, sex, socioeconomic status, educational background, and political and religious ideology. Thus, they ultimately admit they are too responsible to keep their campus clean.

To single out the most litterbugs, participants across the three focus groups believed it was the behaviour of everybody. However, some participants believe that the amount of specific litter may depend on the individuals who use it most. For example, littering cigarette butt is very common for men, while it is chewed gum or gum and candy wrappers for women and children. In addition, some participants argued that young men litter most as they feel energetic to display antisocial behaviour, including littering.

What do Individuals Feel While Observing Others Littering?

In an attempt to see the difference in participants' feelings when they and others litter, there seems to be a significant difference. Watching others litter is described as annoying, upsetting, offending, feeling broken heart, angry, and apoplectic. When it

comes to their littering practice, they got stacked in 'sufficient' justification such as being in a hurry, absence of dust bin around, and telling oneself that it is a common experience (*others too litter*– 'እኔ ብቻ አይደለሁ፣ ማንም ሰው ይጥላል"). Thus, it is observing others littering which is much more offensive than one's own.

On the other hand, some participants (three) during the interview expressed that they feel confused when they litter. Some feel ashamed of littering, while others blame others, like the government. Many of the participants (15) described that guilt feeling due to incompatible tendencies such as littering and the antilittering belief and attitude have conflict and result in psychological dissonance. The participants in the interview and FGD expressed that they litter items knowing that it is not a good habit to do so.

Where and when do People Litter Most?

Almost all participants expressed their wishes to litter in the bins. However, for various reasons, most believe that they litter almost anywhere. The participants believed they prefer places like sewerage, under bridges, sidetracks, road verges, setbacks, and communal places like teaching-learning classrooms, football fields, swimming pools, bus stops, and local restaurants and hotels. Participants repeatedly identified their tendency to litter in litter hot spots. These participants considered littering on lit hot spots normal and appropriate as they believed these positions could get street cleaners' attention more often. An interviewee put it as follows:

“ጥግ ነገር ፈልጎ እጥለዋለሁ ወይም ቆሻሻ ቡብዛት የማይበት ቦታ ሳገኝ እጥለዋለሁ” means “I look for something in the corner and throw it away, or when I find a place where there are a lot of littered items, I throw it there.”

Four of the students who participated in this study mentioned that they might keep some litter items in their bags for later proper disposal in the bin or garbage can. However, this tendency heavily depends on the nature of the littered item. For example, small and dry solid objects like bus and lottery tickets or other pieces of paper can be kept until the dustbin is accessed. However, items like empty plastic bottles, bananas, and orange skin cannot be tolerated and are littered anywhere. However, participants highlighted that littering is not a time-specific practice, but it feels very relaxed during the nighttime. Interestingly, during FGD, it was raised that special rubbish like leftovers and condoms are usually littered during the nighttime.

What do Individuals Litter Most?

Interview and focus group participants and the video recorded and photographed data showed the items littered in the study area. FGD participants emphasized that the type of litter depends on the particular item people consumed, the specific place, and the time. In this regard, for instance, they believed that children use candies and litter candy wrappers more often than anybody else. Likewise, what is littered may also depend on the specific place and time. On the other hand, it is most common for people to litter various packets after shopping. In addition, it is not uncommon to find students littering corn on the fences, sewerages, roads, etc., during the summer season when its availability is more rampant this period than any other time of the year and

littering soft in the library. Consistently the data from video, photograph, and FGD and interview participants didn't escape mentioning the most littered items as voucher cards, cigarette butt, bus tickets, plastic shopping bags ('festal' in Amharic), aluminum foils, chewed gum, gum and candies wrapper, empty plastic bottles, banana and/or orange skin, lottery tickets, condoms, used pieces of paper, chewed sugar care, 'khat' stem, takeaway leftovers, corn on the cob, tissue paper, various plastic containers and packets of shopped items.

Why do Individuals Litter?

Identifying some of the reasons for littering anywhere has taken a central position both in the focus group discussion and interview. To this end, participants commonly underlined that carelessness, negligence, responsibility diffusion, conformity (feeling the majority litter), the need to avoid filthy appearance, and habit as forerunning reasons for littering anywhere. Others added that littering anywhere is an unconscious, inattentive, and passive behaviour developed due to a lack of strict enforceable laws and supervision.

An interviewee put it as:

“በተለይ እንደ ሞባይል ካርድ እና የባስ ቲኬት የመሳሰሉት ቀለል ያሉ ነገሮች በፍፁም ስጥላቸውም አይታወቅኝም”

On the other hand, participants emphasized that littering is a result of the absence of appropriate infrastructure. Only a few well-functioning dustbins are found only in some 'carefully' selected places. A shortage of a sufficient number of dustbins together with a lack of strict control for using them

resulted in littering irresponsibly anywhere. One interview expressed it as follows:

“የኔ ችግር መስሎ አይታየኝም፤ ስንት ተገዘህ አንድ ቆሻሻ ማጠራቀሚያ ታገኛለህ፤ እሱም የተሰበሰበ ወይም በተለያየ ጎኑ ቀዳዳ ነው፤ ብትጥልበትም ባካባቢው ወዲያውኑ መበተኑ አይቀርም፡፡ ስለዚህ ምን አጨናነቀኝ”

Still, others strongly believe that littering results from a lack of knowledge of the consequences of littering. FGD participants and interviewees consistently admitted that the culture through which we grew up and the traditional orientation we got from the culture informed everybody about keeping personal hygiene, not communal. These individuals believe that littering anywhere has been considered a culturally ‘acceptable’ common practice, resulting in a lack of sense of ownership and the others-do-it too feeling. An interviewee expressed this idea with regret as follows .

“ምን ታደርገዋለህ፤ አስተዳደጋችን በመሆኑም ደንታ የለኝም፤ ደግሞስ እኔ ብቻ አይደለሁም፤ ማንም ሰው ይጥላል፡፡ ካጠገቡ የቆሻሻ ማጠራቀሚያ እየመንገድ ላይ የሚጥል ህዝብ ነው ያለን እንንሰሊ ፈልግ ቀርቶ፡፡”

Moreover, many of the participants expressed that their contribution is insignificant as the others litter anywhere, too. This results in a feeling of their effort to keep a clean environment by appropriately littering in bins is futile since others litter anywhere.

How do Individuals Litter?

In an attempt to look at how littering happens anywhere, participants expressed that the nature of the object to be littered heavily influences their behaviour. In this respect, smaller objects like bus tickets and cigarette butts are littered anywhere in public without any reservation as if it is one's right to do so. On the contrary, objects like leftovers, tampons or pads, and 'khat' stems (offcuts or remnants of 'chat') are littered when no one is around, as this may draw public teasing or grievances if otherwise.

On the other hand, the interviewee noted that some people engage in passive littering (a technique by which a person attempts to appear not to litter in the eyes of others while doing so). These individuals engage in behaviours like simply leaving or dropping the rubbish anywhere, giving the impression that they are in a hurry and thus littering unknowingly and accidentally, or leaving the litter objects like empty plastic bottles from where they were while moving away. If told, while looking back at the object, these people usually admit that they do not need the object anymore and try to form the impression that they left it unintentionally. An interviewee put this as:

“በመጠን ከፍቶ ለነገርን ለምሳሌ የውሀኩዳን ሰው እያየኝ መጣል ስለሚደብረኝ ከተቀመጥኩበት ቦታ ጎብኘው ወይም በቆምኩበት ለቀቅ በማድረግ ጥየው እሄዳለሁ፡፡ እንጅ ባዶውን ይዠ አልጓዝም”

Finally, FGD participants believed that the person's psychological state also determines the littering behaviour. For example, a person may litter openly in public

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under the influence of alcohol or stimulants like 'khat'. Moreover, mad people used to litter without any reservation. However, at the same time, many of them try to carelessly throw litter at bins which usually misses the target and results in littering around the dustbin.

Is there any Place Safe from Littering Problems?

Interview and FGD participants stated that there are certain places where people avoid littering. The list includes religious places like churches and mosques, international hotels, own homes and compounds, in and around embassies and authorities' residencies, clean and fenced grassland areas, and notable continental or intercontinental institutions like African Union.

The participants added that littering in the aforementioned places is usually avoided due to fear of punishment from God, authorities in charge, or family. Moreover, one's self-expectation, they need not appear clumsy, and the tendency to form good impressions on people there restrict littering in those places. This was especially well expressed by an interviewee as follows:

“ማንም ሰው ቤተ-እምነት ውስጥ የማይፈልገውን ነገር እንዲሁ ባገኘበት ቦታ አይጥልም፤ምክንያቱም ያየተቀደሰ ቦታ ስለሆነ፡፡አንድ አምባሲ ወይም የባለስልጣን ቢሮም ገብተህ እንዲሁ የምትጥለው ነገር የለም፤ምክንያቱም የሚያስከትለውን ነገርታውቀዋለህ፡፡”

What shall be Done to Combat the Challenge of Littering?

To alleviate this staggering challenge, participants pinpointed the necessity and urgency to take concrete measures to bring behavioural change by inhibiting littering practices and promoting antilittering behaviour. To begin

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with, the office responsible for cleanliness shall first equip communal places and roadways with a sufficient number of appropriate dustbins at a reasonable distance between them. Then, deploy a proportional number of street cleaners for frequent discharging of the dustbins, and assign supervisors, too. FGD participants also expressed their worry that although many individuals know the consequence of littering, they hardly bring a change in behaviour. In this case, implementing strict laws and supervision may afford a lot to combat the challenge. Related to this, participants emphasize the need to apply legal punishment to bring the desired change in behaviour. An interviewee stressed the need for clear and enforceable laws as follows:

“የኛ ሰው በቅጣት በጣም ያምናል። ህግና ደንብ ወጥቶ ለትግልግል ማንኛውንም ነገር ባገኙት በታየሚጥሉ ሰዎች የሚቀጡበትን መንገድ ማመቻቸት የግድነው፤ ምክንያቱም ህብረተሰቡ ሌሎችን ህጎች ያከብራል”

Sensitization, provision of role models of notable personalities, family-level training, early childhood education, and appropriate reinforcement of antilittering behavior are some of the recommendations forwarded. Finally, FGD participants also emphasized the need to attempt to support the effort to keep a clean environment by using modern technologies to recycle, reuse, and renew some littered items.

5. Discussion

The results of this study indicated that the responsibility to take care of the environment is for everybody out there. On the other hand, in the current study,

participants reported being angry at or annoyed by others littering anywhere while trying to justify their own. According to Festinger's theory of cognitive dissonance, when an individual holds two or more elements of knowledge that are relevant to each other but inconsistent with one another, a state of discomfort called dissonance is created (Festinger, 1957). In this case, participants' feelings about their responsibility and littering anywhere are inconsistent, resulting in cognitive dissonance. It is dissonance because participants reported mental and emotional discomfort due to failing to be consistent in their attitudes toward being responsible in anti-littering behaviour. They felt guilty about littering items which are not expected from them. Thus, they attempted to reduce the dissonance through justification like they litter since the concerned body did not put a sufficient number of dustbins around. In this study, it has been found that students at the main campus of Addis Ababa University litter different items everywhere. Previous studies similarly reported that campus students litter items in Malaysia (Asmui et al., 2019).

The study also revealed that littering in open places seems painful, and thus littering in sewerages, road verges, and litter hot spots was very common. Similar results were obtained by Keep America Beautiful Inc.'s (2009) National Visible Litter Survey and Litter Cost Study. The findings of the survey pointed out that individuals hold the cognition of 'it is not my responsibility to keep those locations clean' and 'is best to litter on what has already been a litter hotspot where someone else would be responsible to clean it after. There is evidence that explicit appeals and simple

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reminders, such as signs prompting people to dispose of trash responsibly or thanking them for doing so, can reduce the tendency to litter (Durdan, Reeder, & Hecht, 1985).

Thus, this harmful habit must be changed, and its place must be taken by an environmentally responsible behaviour (ERB) (Osbaldiston& Sheldon, 2003) or a similar pro-environmental behaviour (Stern, 2000). Furthermore, awareness should begin in classrooms to implant and reinforce pro-environmental and pro-social principles as behavioural standards in pupils at a young age (Simsekli, 2015; Mapotse, & Mashiloane, 2017).

In this research, the most littered items identified were voucher cards, cigarette butt, bus tickets, plastic shopping bags ('Pestal' in Amharic), aluminium foils, chewed gum, gum and candies wrappers, empty plastic bottles, banana and/or orange leftovers (skin), lottery tickets, condoms, used pieces of paper, chewed sugar care, 'khat' stem, takeaway leftovers, corn on the cob, tissue paper, various plastic containers and packets of shopped items. Littering Behavior Study III (2001) in Australia has also identified most of the above items as the most commonly littered on

There were various ways of littering. For example, some objects like voucher cards were littered openly, while leftovers were littered when no one was around. Others engage in passive litterings, such as simply leaving or dropping as if unintentionally and missing the dustbin while throwing at it. Similar littering behaviours were observed in the study of Littering Behavior Study III (2001) and *National Visible Litter Survey and Litter Cost Study* (2009) of Keep America Beautiful Inc. These

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studies identified various littering behaviours and typified them as flagrant, flinging, inching, and foul shooting.

The most common reasons for littering were lack of dustbins, carelessness, negligence, responsibility diffusion, conformity (feeling the majority of others litter, too), the need to avoid filthy appearance, and habit. Others added that littering anywhere is an unconscious, inattentive, and passive behavior that has been developed due to a lack of strict enforceable laws and supervision, and **our traditional orientation** (that focus only on personal hygiene) (*አስተዳደራዊ ነው*) .

In fact, except the reason attributed to *our traditional orientation*, such as (*አስተዳደራዊ ነው*), these and some other reasons were also identified by Littering Behavior Study III (2001) of Australia. Of Learning Theories of attitude change, Bem (1967) assumed that attitudes are learned due to previous experience with the environment. Bem (1967) also expressed the necessity to rely on external cues to reward and punish the individual while attempting to change his/her attitude. However, these conditions do not meet in our context as, in particular, no reminders around the bins are found. The study also found that Litterers want bins to stand out more, more bins and ashtrays, and more bins to be closer to where they are needed. These were also reflected in much of the focus group discussion and interviews while the participants discussed their effort in looking for bins when they needed to litter. In addition, Nickerson (2003) believed that inconsistency between people's expressed attitudes toward the environment and their behaviour could be due, in some instances at least, to a lack of understanding by people of the environmental implications of their actions. In such cases, Kantola, Syme, & Campbell (1984) explain that a

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reminder of one's expressed attitude and information regarding how to bring one's behaviour in line with it may suffice to resolve the inconsistency. Thus, to bring pro-environmental behaviours, Nickerson (2003), advised that education must be a major component in any approach that has as its aim influencing people to behave, intentionally and intelligently, in environmentally beneficial ways. Lastly, while considering a behaviour change, it is important to consider the power of peer pressure. Social approval and disapproval can play roles much like those of more tangible incentives and disincentives in shaping behaviour (Cook & Berrenberg, 1981).

Littering anywhere seems almost absent in certain conditions and places. Religious places, international hotels, own homes, and compounds, in and around embassies and authorities' residencies, clean and fenced grassland areas, and notable continental or intercontinental institutions are not expected to be littered. This is due to the fear of punishment, obedience to authority figures, and sense of ownership described by the participants. *National Visible Litter Survey and Litter Cost Study (2009)* of Keep America Beautiful Inc. indicated that a clean community discourages littering behaviour everywhere and improves the overall community's quality of life. Thus, a focus shall be made on change in people's beliefs, attitudes and behaviour. Nickerson (2003) indicated that attitudes—which include beliefs and values—are significant determinants of behaviour. An attempt to change these three constructs could help bring antilittering tendencies. To this end, in a similar fashion to what the current participants recommended, the literature indicates that measures like ordinances or

laws (e.g., fines for littering) and extensive promotion (activators) and enforcement (consequences) would help a lot (Bechtel & Churchman, 2002).

To relieve the problem of littering, participants of the current study suggested that the concerned bodies shall provide dustbins; increase the number of dustmen and supervisors; implement strict laws and apply legal punishment; sensitization and provision role models of notable personalities; family level training, early childhood education; the use of appropriate reinforcement; and application of modern technologies. In this regard, previous studies evidenced that littering was common in places without rubbish bins or where litter was present. (Schultz et al., 2011; de Kort et al., 2008). This has also been supported by research and theoretical explanations. For instance, Levenson (1974) emphasized the role of intrinsic motivation over extrinsic motivation. He stated that intrinsic motivation is generally considered more likely than extrinsic motivation to move people to engage in environmentally beneficial behaviour. Furthermore, Deci & Ryan (1985) addressed that behaviour due to intrinsic motivation sustains for a longer term. Moreover, in the sensitization of litterers, effective information dissemination and persuasion campaigns shall consider issues like the clarity of the message presented, the degree to which it is personalized, how it is packaged (media), its emotional content, the specificity and concreteness of recommendations conveyed, and the credibility of its source (Hovland, Janis, & Kelley, 1953).

6. Conclusion

This study indicated that people are aware of their responsibility to take care of their environment despite their failure to avoid littering anywhere. It has been understood that participants have a feeling of responsibility (indicating a positive attitude toward one's environment and a negative tendency towards littering) and beliefs that communal places have to be clean and attractive. However, though participants were aware that their littering anywhere caused filthy and unhealthy environments (the practice of littering), these variables did not bring the desired change in behaviour. Thus, the antilittering campaign needs further concrete measures like the provision of dustbins and professional attitudinal and behavioural change training and sensitization programs.

Unlike religious institutions and big hotels, locations like sewerages, road verges, setbacks, litter hot spots, and communal places such as football stadiums and bus stops were found where most people litter. Problems associated with the person (such as negligence, responsibility diffusion, and lack of knowledge of the consequence of once action-littering), very limited and unattractive infrastructures (such as proper dustbins on average distance), absence of provision of enforceable rules and regulations, and the related consequences for failure to respect, as well as the traditional orientation that emphasize personal rather than communal hygiene were the most noted reasons for littering anywhere. Thus, bold measures to correct these reasons shall be taken responsibly, as implied in the following.

7. **Implications**

Being a staggering challenge complicated by population increment and service growth, littering is taking the front lines. Ethiopia has been allocating a significant percentage of its limited and constrained annual budget to street cleaning due to individual littering. This would have been diverted to other profoundly needed investments. Thus, the following measures shall be taken to reduce the problem of the unconsidered and invisible challenge called littering.

- There shall be the development of proper infrastructures such as properly functioning and well-designed dustbins on average distance on roadways, public places such as football stadiums, bus stops, etc.
- Various practical political and educational measures that would help to make citizens responsible, committed, well-disciplined, and productive shall be taken, which seem inexistent and, if any, ineffective.
- Logical analysis and scientific findings showed that bringing behavioural and attitudinal change is much more cost-efficient, long-lasting & effective than engaging in labour-intensive& costly investments such as cleaning after. Thus, it is extremely important to involve psychologists and sociologists to bring attitudinal and behavioural changes.
- Enforceable rules and regulations that would help mitigate the problem, especially to initiate the antilittering attitude and to apply a reasonable level of punishment on those who fail to meet the norm of antilittering, shall be in place.

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- A number of researches that reflect the impact of every individual's behaviour, belief, and attitude on the environment shall be conducted and enacted accordingly.
- Sensitization campaigns will be conducted through various media (audio, video, print), forums, and occasions.
- Consistent reminders, such as signs and signals to litter in bins, shall also be equipped.
- Mechanisms of reinforcement of antilittering behaviours and support for the needy shall be in place.
- Outsourcing antilittering packages to concerned professionals and organizations rather than trying to leave it on the government's shoulder.

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