

**DOES EDUCATION AFFECT THE LITTERING BEHAVIOR? EVIDENCE FROM
THE TOP HIGHER EDUCATION INSTITUTION OF PAKISTAN**

*** Dr. Abida Sharif**

Assistant Professor, Department of Sociology, Fatima Jinnah Women University,
Rawalpindi.

Tabinda Arooj

tabindaarooj@gmail.com

Dr. Imran Sabir

Assistant Professor, Department of Sociology, Quaid-i-Azam University, Islamabad.

Email of the corresponding author: abida.sharif@fjwu.edu.pk

ABSTRACT

Littering is one of the major issues in Pakistan, which is often attributed to illiteracy and ignorance. This research aims to find out whether education and awareness affect littering behavior. We employed the 'Social Learning Theory and 'Ecological System Theory' to understand the relationship of education with environmental conservation behavior. Using stratified sampling, the quantitative research method was employed to survey 200 Quaid-i-Azam University Islamabad students. Findings suggest that the gender of students, qualification level, institutional ranking, and awareness do not affect littering behavior. These results are inconsistent with the conclusions of the previous studies, which propose that education and awareness are positively correlated with anti-littering behavior. We suggest that environmental socialization strategies should be adopted in the early socialization policies for better environmental conservation practices.

Keywords: Littering behavior, Pakistan, higher education, environmental socialization, environmental conservation

INTRODUCTION

Littering is considered a threat to the environment, yet it can be found almost everywhere in Pakistan, even in educational institutes. Littering is a major social and environmental problem (Schultz et al., 2011; Gould, R.K., 2016). It is the most visible and ignored form of environmental degradation and a reason for climate change in Pakistan (Rasul et al., 2012). It not only looks ugly but also harms the health of humans and wildlife. It creates health and safety problems (Beeharry et al., 2017).

Littering is a major problem in Pakistan and is seen in most cities, villages, and neighborhood countries. Most of the literature on Pakistan addresses communal or commercial waste and its recycling but not the littering behavior itself. Almost no current literature addresses littering behavior, its relationship with education in Pakistan, and methods to reduce littering. Some articles in the newspaper talk about it but little else. Moreover, Al-Khatib et al. (2009) and Torgler, Garcia-Valinas, & Macintyre (2012) suggest that littering is unique to each culture and region. It is necessary to study this problem wherever it occurs.

Modernization, globalization, and industrialization lead societies toward development and change but also bring garbage challenges. With the regular increase in population, trash is also increasing, but there are no arrangements to manage it. Owing to limited knowledge, people do not bother to throw their trash anywhere and practice littering, which is not just an eyesore but also damaging the environment. Developing countries are more victims of this due to a lack of awareness, management, law-making, and enforcement agencies, and Pakistan is no exception.

Quaid-e-Azam University Islamabad is one of the most prestigious institutes, providing higher education to students and producing many PhDs annually. Despite having the most educated population living and studying there, they still face on-campus littering. This research considers if there is any relationship between the observed on-campus littering and the level of education and environmental awareness.

Objectives of the Study

This research intends to measure the level of awareness of the students of the top higher education institution in the country and their practices towards environmental conservation in the university.

The key objectives of this research were:

To find out the level of awareness about the littering behavior of the students of Quaid-i-Azam University.

To discover the practices of the students of Quaid-i-Azam University on littering behavior.

To study the relationship, if it exists, between education and littering behavior

Theoretical Framework

Ecological System Theory

Urie Bronfenbrenner was an American Psychologist. His critical work is Ecological System Theory. Ecological system theory discusses the development of children in the context of the relationships that make their environment. Bronfenbrenner (1992) explains different environmental layers, each affecting children's development. According to this theory, there are five complex environmental layers: microsystem, Mesosystem, Exosystem, Macrosystem, and Chronosystem. The main focus of the researcher is on the microsystem and Mesosystem that plays an essential role in the education and learning of an individual.

The microsystem is the closest layer to the children. It contains the part of the environment that directly interacts with the child and has immediate surroundings (Berk & Petersen, 2004). Microsystem includes family, peer group, school, neighborhood, and childcare environment. According to the ecological system theory, children must regularly interact with the adults in the microsystem. Otherwise, they cannot explore other vital tools and parts of the environment. At this stage, the impact is bi-directional.

The next layer is the 'Mesosystem'. Mesosystem provides the relationship or connection between two stages (Lau & Ng, 2014). For instance, it offers the relationship between parents and teachers or between parents and child's peer group. The more the Mesosystem interacts, the stronger an individual's socialization is.

Social Learning Theory

The most influential theory of development and learning proposed by Canadian Psychologist Albert Bandura (1969) is the social learning theory. It is an integration of cognitive and behavioral theories of development and learning. It can provide a holistic

approach that can help to understand learnings and learning experiences worldwide. The main points of social learning theory are Cognitive process, Vicarious reinforcement, Modeling, Reinforcement, and Reciprocal Determinism. According to Bandura, learning is also a cognitive process that takes place in an individual's social context. If an individual grows up in an environment where people take care of the environment, he will become an environment-friendly individual. Then, the process of learning is triggered by 'Vicarious Reinforcement.' It refers to an individual's learning that can occur through observing behavior and its consequences. According to Bandura, most human behaviors are educated or learned through an observational process that Bandura called 'modeling.' Modeling is the process of observing the behaviors and happenings at one place and then recoding this information later to guide action. Thus, the process of 'modeling' could play an essential role in learning the anti-litter behavior of an individual. Observing the strict consequences of littering in one place and then recoding those consequences while throwing litter could help an individual learn anti-littering behaviors. According to Social learning theory, reciprocal determinism plays an important role in education or learning children. According to this concept, the learner is not passive in education or learning. Learner and environment are interlinked and mutually influence each other. If an individual is learning anti-litter behavior from the environment, he is polluting the environment from his act, and in turn, the environment will serve polluted and unhygienic places to live in for that individual.

Social learning Theory and Ecological System Theory help us understand education's effect on individuals' behaviors. Ecological system theory provides us with the learning processes' systems. Individuals and surroundings could play an important role in producing and polishing environmental behaviors in individuals. Then, the social Learning theory provides us with the process through which an individual can learn behaviors from his surroundings through learning and observational processes. All these processes could play an important role in educating an individual to become environmentally responsible.

Research Methodology

The quantitative research method is used in this research. The universe of this study is Quaid-i-Azam University because it is the top higher education institution in Pakistan with a fair representation of cultural and ethnic diversity. Four strata were developed to extract the representative sample of 200, as the University is divided into four faculties: Biological sciences, Natural sciences, Social sciences, and Semi-autonomous Institutes. The survey was conducted to collect data through closed-ended questions using a questionnaire (Raof et al., 2021; Abdulmuhsin et al., 2021; Hameed et al., 2021; Yan et al., 2020; Nuseir et al., 2020). The data was later analyzed through IBM statistics software.

Results

The relationship between gender and littering behavior was analyzed using the following hypotheses:

Ho: There is no relationship between gender and littering behavior.

H1: Gender and littering behavior are positively correlated.

Table 1 Chi-square values for Gender and Littering Behavior

	<i>Value</i>	<i>Df</i>	<i>Asymp. Sig. (2-sided)</i>	<i>Exact Sig. (2-sided)</i>	<i>Exact Sig. (1-sided)</i>
<i>Pearson Chi-Square</i>	.247 ^a	1	.619		
<i>Continuity Correction^b</i>	.123	1	.726		
<i>Likelihood Ratio</i>	.247	1	.619		
<i>Fisher's Exact Test</i>				.660	.363
<i>Linear-by-Linear Association</i>	.246	1	.620		
<i>N of Valid Cases</i>	200				
<i>a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 34.31.</i>					
<i>b. Computed only for a 2x2 table</i>					

The P-value for the chi-square test is 0.619, which is greater than 0.05 (Asada et al., 2020; Junoh et al., 2019; Basheer et al., 2019a; Muneer et al., 2019; Basheer et al., 2019b; Basheer et al., 2018). The confidence interval is 95%, thus we will accept our null hypothesis that there is no relationship between gender and littering behavior. The results of this study do not correspond with the research conducted by Schultz (2011) that men litter more than women. This survey shows no significant difference in littering behavior across genders. We then hypothesized that the level of education and no relationship with the littering behavior.

Table 2 Level of education and littering behavior

			<i>Littering in the past 2 weeks</i>		<i>Total</i>
			<i>Yes</i>	<i>No</i>	
<i>Program Enrollment</i>	<i>BS</i>	<i>Count</i>	23	24	47
		<i>% within In which program are you enrolled?</i>	48.9%	51.1%	100.0%
		<i>% within In the past two weeks, have you ever littered?</i>	24.5%	22.6%	23.5%
		<i>% of Total</i>	11.5%	12.0%	23.5%
	<i>MSc</i>	<i>Count</i>	37	46	83
		<i>% within In which program are you enrolled?</i>	44.6%	55.4%	100.0%

		% within In the past two weeks, have you ever littered?	39.4%	43.4%	41.5%
		% of Total	18.5%	23.0%	41.5%
	MPhil	Count	26	25	51
		% within In which program are you enrolled?	51.0%	49.0%	100.0%
		% within In the past two weeks, have you ever littered?	27.7%	23.6%	25.5%
		% of Total	13.0%	12.5%	25.5%
	PhD	Count	4	11	15
		% within In which program are you enrolled?	26.7%	73.3%	100.0%
		% within In the past two weeks, have you ever littered?	4.3%	10.4%	7.5%
		% of Total	2.0%	5.5%	7.5%
	<i>Total</i>	Count	94	106	200
		% within In which program are you enrolled?	47.0%	53.0%	100.0%
% within In the past two weeks, have you ever littered?		100.0%	100.0%	100.0%	
% of Total		47.0%	53.0%	100.0%	

Out of 200 respondents, 47 were students of BS, which is 23.5% of our sample; 83 were students of MSc, which is 41.5% of the sample size; 51 were students of MPhil, which is 25.5% of the sample; and 15 were students of Ph.D., which is 7.5% of the sample. Almost half of the respondents confessed that they littered during the past two weeks.

The findings of this research do not agree with the findings of previous studies. As Schultz (2011) argued, there is a relationship between littering and education. The higher the level of education, the lower the chances of an individual to litter.

We also wanted to understand whether the students are cognizant of the significance of littering behavior. For this, we asked about how they perceive littering.

Table 3 People's Perception of Littering as a Problem

<i>Littering is</i>	<i>Frequency</i>	<i>Percent</i>
<i>huge problem</i>	74	37.0
<i>big problem</i>	62	31.0

<i>moderate problem</i>	24	12.0
<i>small problem</i>	14	7.0
<i>not a problem at all</i>	9	4.5
<i>Do not know</i>	16	8.0
<i>Total</i>	200	100.0

Among 200 respondents, the maximum number of respondents considered littering a significant problem at Quaid-i-Azam University. While some respondents consider littering a minor problem of Quaid-i-Azam University, few respondents do not consider littering a problem at all. This result is quite surprising as littering prevails on campus, but some students do not consider it a problem.

We then asked students whether littering should be stopped or not.

Table 4 Students should Stop Littering

<i>Response</i>	<i>Frequency</i>	<i>Percent</i>
<i>Strongly agree</i>	109	54.5
<i>Agree</i>	55	27.5
<i>Neutral</i>	23	11.5
<i>Disagree</i>	6	3.0
<i>Strongly disagree</i>	4	2.0
<i>Total</i>	200	100.0

Most of the respondents strongly agreed that the students should stop littering. However, instead of their positive opinion about litter prevention, we have observed that littering still prevails on campus.

During the survey, respondents were also asked about the effects of littering they know. Most students on the campus were well aware of the effects of littering. Many respondents knew that littering causes health problems, makes universities ugly, causes environmental degradation, and consequently increases global warming.

We also asked them about the reasons for their littering behavior, as shown in Figure 1.

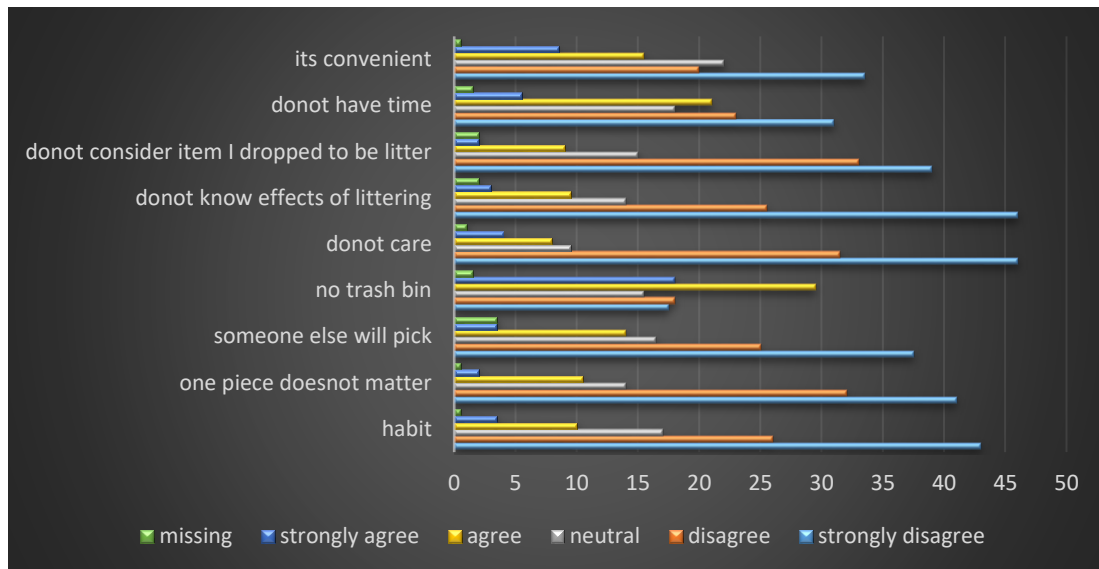


Figure 1. Reasons of littering

The top three reasons are the unavailability of trash bins, time shortage, and convenience. A maximum number of respondents said they litter due to the unavailability of trash bins nearby. The second reason for littering is that people do not have enough time to dispose of the waste properly. The third reason is convenience as it's convenient for people to throw trash anywhere and get rid of it instantly.

Previous research has put much effort into explaining the reasons for littering behavior. A 'National Environmental Agency' conducted research and asked students if they littered, and what the reasons for their actions were. This research showed that littering is due to the 'unavailability of trash bins' (Torky, 2017). Likewise, Laziness was among the major reasons for littering and barriers to proper disposal in another research (Levin 2006). Anti-littering interventions based on decreasing the distance between trash bins to encourage people to dispose of their waste in the bins could also be a successful strategy (Sibley and Liu 2003).

We also asked students to identify their sources of knowledge about the social, environmental, and economic effects of littering.

Table 5 Sources of Education about Littering

<i>Sources</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Family</i>	116	58%
<i>School</i>	134	67%
<i>Religious Teacher</i>	116	58%

Unsurprisingly, family, school, and religion play critical roles in creating awareness for environmental conservation. As Schultz (2011) argued, there is a relationship between littering and education. The findings of this research are contradictory to the findings of previous research. In this research, the data reflect no relationship between education level and the littering behavior of an individual.

Moreover, most respondents agreed that they received littering education from their schools. However, they also litter, and fewer individuals responded that they got an education about littering from their family and religious teacher but are less involved in littering practice. The results of this research are consistent with the studies by Komane (2005), and Sethusha & Lumadi (2013), who argued that the education system has failed to educate pro-environment behaviors to students.

Conclusion

Littering is one of the significant social and environmental problems found in Pakistan, which is caused mainly by either intentional or unintentional human behavior. Everyone is affected by littering, whether litterers or non-litterers by creating an ugly, unpleasant, and unhealthy environment.

This research examined the relationship of gender with littering behavior, the level of education of litterers, the littering behavior of the students of Quaid-i-Azam University, and the relation of littering behavior with the education of students. It was found in the survey that there is no relationship between gender and littering behavior. The frequency of littering among males is equal to that of littering among females. Moreover, it was analyzed that education has no effect on littering practice. During the survey, it was analyzed that MPhil students are more involved in littering practice than in any other program at Quaid-i-Azam University, Islamabad.

Furthermore, it was concluded that students have basic knowledge about littering, its social, environmental, and economic impacts, and reasons for littering, but they are still involved in this practice. At last, it was found that there is no relationship between the education level of students and littering behavior. Students are getting awareness and education from multiple resources, but they still practice littering, so it is concluded that there is no relationship between education and littering behavior at Quaid-i-Azam University, Islamabad. Students of Quaid-i-Azam University have basic knowledge about the littering problem in the university and its impacts on the environment and community, and they are somehow ready to do something about anti-litter campaigns or to stop littering. However, they lack the motivation, knowledge, and explicit information and sometimes forget not to litter.

References

- Abdulmuhsin, A. A., Abdullah, H. A., & Basheer, M. F. (2021). How workplace bullying influences knowledge management processes: a developing country perspective. *International Journal of Business and Systems Research*, 15(3), 371-403.
- Al-Khatib, I. A. (2009). Children's perceptions and behavior with respect to glass littering in developing countries: A case study in Palestine's Nablus district. *Waste management*, 29(4), 1434-1437.
- Asada, A., Basheer, M. F., Irfan, M., Jiang, J., & Tahir, R. (2020). Open-Innovation and knowledge management in Small and Medium-Sized Enterprises (SMEs): The role of external knowledge and internal innovation. *Revista Argentina de Clínica Psicológica*, 29(4), 80-90.
- Bandura, A. (1969). Social-learning theory of identificatory processes. *Handbook of socialization theory and research*, 213, 262.
- Basheer, M. F., Hafeez, M. H., Hassan, S. G., & Haroon, U. (2018). Exploring the role of TQM and supply chain practices for firm supply performance in the presence of organizational learning capabilities: a case of textile firms in Pakistan. *Paradigms*, 12(2), 172-178.

- Basheer, M. F., Hameed, W. U., Rashid, A., & Nadim, M. (2019). Factors effecting Employee Loyalty through Mediating role of Employee Engagement: Evidence from PROTON Automotive Industry, Malaysia. *Journal of Managerial Sciences*, 13(2).
- Basheer, M. F., Raouf, R., Jabeen, S., & Hassan, S. G. (2021). Exploring the Nexus Among the Business Coping Strategy: Entrepreneurial Orientation and Crisis Readiness—A Post-COVID-19 Analysis of Pakistani SMEs. In *Handbook of Research on Entrepreneurship, Innovation, Sustainability, and ICTs in the Post-COVID-19 Era* (pp. 317-340). IGI Global.
- Basheer, M., Siam, M., Awn, A., & Hassan, S. (2019). Exploring the role of TQM and supply chain practices for firm supply performance in the presence of information technology capabilities and supply chain technology adoption: A case of textile firms in Pakistan. *Uncertain Supply Chain Management*, 7(2), 275-288.
- Beeharry, Y. D., Bekaroo, G., Bokhoree, C., Phillips, M. R., & Jory, N. (2017). Sustaining anti-littering behavior within coastal and marine environments: Through the macro-micro level lenses. *Marine Pollution Bulletin*, 119(2), 87-99.
- Berk, L. E., & Petersen, A. (2004). *Development through the lifespan*. Boston, MA: Allyn and Bacon.
- Bronfenbrenner, U. (1992). *Ecological systems theory*. Jessica Kingsley Publishers.
- Gould, R. K., Ardoin, N. M., Biggar, M., Cravens, A. E., & Wojcik, D. (2016). Environmental behavior's dirty secret: The prevalence of waste management in discussions of environmental concern and action. *Environmental management*, 58(2), 268-282.
- Hameed, W. U., Basheer, M. F., Iqbal, J., Nisar, Q. A., Meo, M. S., & Razzaq, S. (2021). Women Entrepreneurs and Microfinance Institutions: A Way to Create New Ventures. In *Handbook of Research on Nascent Entrepreneurship and Creating New Ventures* (pp. 211-227). IGI Global.
- Hameed, W., Nawaz, M., Basheer, M. F., & Waseem, M. (2019). The Effect of Amanah Ikhtiar Malaysia (AIM) on Microenterprise Success in Sabah State Malaysia. *The Dialogue*, 14(2), 223-223.
- Junoh, M. Z. B. H., Hidthiir, M. M. H. B., & Basheer, M. F. (2019). Entrepreneurial financial practices in Pakistan: The role of access to finance and financial literacy. *International Journal of Innovation, Creativity and Change*, 7(9), 210-231.
- Komane, F. N. (2005). *The assessment of environmental awareness of the secondary school learners in the Mabopane district* (Doctoral dissertation, North-West University).
- Lau, J., & Ng, K. M. (2014). Conceptualizing the counseling training environment using Bronfenbrenner's ecological theory. *International Journal for the Advancement of Counselling*, 36(4), 423-439.
- Levin, E. M. (2006). *Effective litter reduction* (Doctoral dissertation, Kutztown University of Pennsylvania, Department of Political Science).
- Muneer, S., Basheer, M. F., Shabbir, R., & Zeb, A. (2019). Does Information Technology (IT) Expedite the Internal Audit System? Determinants of Internal Audit Effectives: Evidence from Pakistani Banking Industry. *The Dialogue*, 14(2), 144-144.
- Raouf, R., Basheer, M. F., Shabbir, J., Ghulam Hassan, S., & Jabeen, S. (2021). Enterprise resource planning, entrepreneurial orientation, and the performance of SMEs in a South Asian economy: The mediating role of organizational excellence. *Cogent Business & Management*, 8(1), 1973236.
- Rasul, G., & Ahmad, B. (2012). Climate change in Pakistan. *Pakistan Meteorological Department*.
- Schultz, P. W. (2011). Conservation means behavior. *Conservation biology*, 25(6), 1080-1083.
- Schultz, P. W., Bator, R. J., Large, L. B., Bruni, C. M., & Tabanico, J. J. (2013). Littering in context: Personal and environmental predictors of littering behavior. *Environment and Behavior*, 45(1), 35-59.

- Sethusha, M. J., & Lumadi, M. W. (2013). Grade six learners' perceptions of environmental awareness: A human ecological support programme. *Journal of Human Ecology*, 42(2), 113-123.
- Sibley, C. G., & Liu, J. H. (2003). Differentiating active and passive littering: A two-stage process model of littering behavior in public spaces. *Environment and Behavior*, 35(3), 415-433.
- T. Nuseir, M., Basheer, M. F., & Aljumah, A. (2020). Antecedents of entrepreneurial intentions in smart city of Neom Saudi Arabia: Does the entrepreneurial education on artificial intelligence matter?. *Cogent Business & Management*, 7(1), 1825041.
- Torgler, B., Garcia-Valinas, M. A., & Macintyre, A. (2012). Justifiability of littering: an empirical investigation. *Environmental Values*, 21(2), 209-231.
- Torky, N. (2017). Changing littering behavior among university students in Egypt: Integration of community readiness and community-based social marketing [Master's Thesis, the American University in Cairo]. AUC Knowledge Fountain.
<https://fount.aucegypt.edu/etds/687>
- Yan, R., Basheer, M. F., Irfan, M., & Rana, T. N. (2020). Role of psychological factors in employee well-being and employee performance: an empirical evidence from Pakistan. *Revista Argentina de Clínica Psicológica*, 29(5), 638.