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Tourists' Littering Habits and its Impact on the Health of Local Communities in Swat Valley

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Abstract

Tourism is a key economic driver for developing countries, creating jobs and bringing in much needed foreign income. Nevertheless, the negative impact of littering is very critical specifically in tourist places. This study examines the effect of tourists' littering behavior on the health of local communities in Swat Valley, Khyber Pakhtunkhwa, Pakistan. Adapting a quantitative cross-sectional research design, data was collected from 360 households using purposive sampling. The study highlights that prevalent litter types, such as plastic bags, cigarette filters, and food wrappers, contribute significantly to pollution in the Swat River. Health issues such as cholera, food poisoning, gastroenteritis, skin diseases, dengue, diarrhea, typhoid, and hepatitis show significant associations with contaminated water, emphasizing the severe health risks associated with improper waste disposal. The results underscore the urgent need for effective waste management policies to mitigate health risks and enhance environmental quality in tourist areas.

Keywords: *Tourism, Littering, Health Impact, Swat Valley, Waste Management, Environmental Pollution, Contaminated Water, Public Health*

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1. Introduction

Tourists are people who travel and stay in places outside their usual surroundings for no more than one consecutive year, whether for leisure, business, or other reasons (Holden, 2008). In many developing nations, tourism plays a crucial role in supporting the development process. The tourist industry has been utilized as a tool to increase revenue and support the expansion of the gross domestic product (Zaei & Zaei, 2013). The term "host community" refers to the towns or cities that receive tourists and provide them with the necessary services (Cook, Yale, & Marqua, 2006). According to Smith (2001), host communities are people who live close to tourist destinations and are either directly or indirectly impacted by or involved in tourism-related activities.

Tourists and the destination environment engage in a variety of interactions throughout tourism, and the results of these interactions are often referred to as "impacts of tourism." Although many people think of tourism mainly in terms of economic advantages like tax income and job creation, Kreag (2001) pointed out that the consequences of tourism go much beyond these domains. In developing countries, tourism is often viewed as a driving force for economic growth, as it can lead to job creation and increased foreign income. However, the industry also brings with it certain negative consequences (Wei, Shuib, Ramachandran, & Herman, 2013; Kala, 2008).

Waste disposal is a major problem in areas with a lot of tourists and beautiful natural attractions. Improper disposal has a negative effect on the environment, including roadsides, waterways, and picturesque landscapes. For example, it is estimated that more than 70,000 tons of rubbish are produced annually by cruise ships in the Caribbean (UNEP, 1997). Littering is one of the most common types of pollution among the others (Oluyinka, 2011). A widely recognized definition of litter is "trash, discarded or scattered in disorder across socially inappropriate areas" (Robinson, 1976, p. 363).

Littering, the act of spreading litter, can be categorized into two types: active and passive. Active littering refers to the deliberate act of holding onto litter while occupying an area and then intentionally leaving it behind when departing (Sibley & Liu, 2003, p. 417). On the other hand, passive littering occurs when litter is left behind in an area after it has been occupied, without deliberate intent (Sibley & Liu, 2003, p. 417). Regardless of the type, both forms contribute to an increase in litter. Environmental pollution, including littering, impacts more than 200 million people worldwide (Gillespie, 2018).

The three main types of negative implications from litter are hard to quantify. Aesthetic damage involves a decrease in the natural attractiveness of an area (US Brewers Association Inc., 1972). The second is of a medical nature, given that litter can be hazardous to locals' health. For instance, Armstrong and Molyneux (1992) found that 5% of all hospital treated injuries in Liverpool were attributable to glass litter, occurring on the streets. The third consequence is economic, both in terms of litter collection itself and the wider problems arising from littering in public areas. For instance, nearly $22000 daily are spent by councils in Victoria to clean up illegal dumped waste and roadside litter (Victorian Litter Fact Sheet, 2008).

Littering incurs environmental, human, and financial costs. Environmental pollution leads to health issues and damages ecosystems and wildlife. In fact, more lives are lost due to environmental pollution than from diseases like malaria, AIDS, and tuberculosis combined (Gillespie, 2018). The harmful effects of pollution on animals also have indirect consequences for humans. For example, when marine species ingest plastic waste, toxic chemicals can enter the human food chain (The Ocean Cleanup, 2019). It is estimated that by 2050, nearly 99% of all seabirds will have ingested some form of ocean-borne plastic waste (World Wildlife Fund, 2019).

Unregulated solid waste disposal significantly exacerbates environmental degradation and has a host of detrimental effects. These include a spike in infectious diseases including cholera, typhoid fever, and diarrhea, as well as more frequent flooding and blocked drainage systems. In addition to causing fly and tick infestations, blocking streams also creates breeding grounds for mosquitoes, which spread dangerous illnesses like dengue fever, malaria, the Zika virus, and yellow fever (Yongsi, 2008; Olokor, 2001; Davies & Cahill, 2000). Because of their detrimental impacts on public health, indiscriminate trash disposal and unhygienic circumstances require immediate attention (Olokor, 2001).

Water-related diseases can be split into two main categories: communicable diseases which include, waterborne, water-washed, water-based and vector borne diseases. Ont the other hand, Non communicable diseases result from direct contact with water that are chemically polluted. Waterborne diseases are caused by bacteria and

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viruses which enter the body through contaminated water. A study done by Landrigan et al., (2011) and Johnson & Paull (2018), further described that exposure to unsafe water can be a reason for non-communicable diseases. On the other hand, Prüss-Üstün et al. (2008), highlighted that water and sanitation related infectious diseases are accounted for about 3.4 million deaths worldwide per year. Moreover, a study done by Journal of Environmental Psychology 2017, discovered that children residing near areas having high levels of litter, including glass litter, are highly exposed to risk of injuries from broken glass (Maguire et al., 2017).

Littering is one of the major problems faced by Pakistan, a challenge for both the government and locals. Waste disposal openly not only gives a bad impression to tourist sites but also affects entire ecosystem. Many mountain regions of Pakistan have high potential to be developed for tourism, but the size and amount of unmanaged waste there can hamper these developments with serious environmental implications especially in terms that impact well-being of local communities.

The severe implications of tourist littering behavior for the health and well-being of local communities are an even greater problem in Swat Valley. Littering by tourists in public or natural places causes an increase of overflowing waste that maintain cleanliness, yet it becomes aesthetic pollution along with creating serious health hazards and economic losses. And these piles of plastic, metal and glass, left by tourists, are an immense health risk for local populations. These waste dumps are ideal breeding ground for pests particularly the rats and insects, besides polluting Swat River with all chances of waterborne diseases. Moreover, the insufficient solid waste disposal infrastructure and absence of public awareness campaigns advocating for immediate mitigation measures are exacerbating this problem to a level that is detrimental on health fronts especially among native populations in Swat Valley. This study aims to determine the impacts of tourists' littering behavior on the health of local communities. It was hypothesized that there is a relationship between litter types and the level of contamination in the Swat River, where an increase in litter contributes to higher contamination levels.

2. Method

2.1 Research Design

This study adopted a quantitative cross-sectional research design to examine the association between tourists' littering behavior and health status of population. This design, in fact captured the current associations and trends which provided significant insights into how tourist littering affects public health.

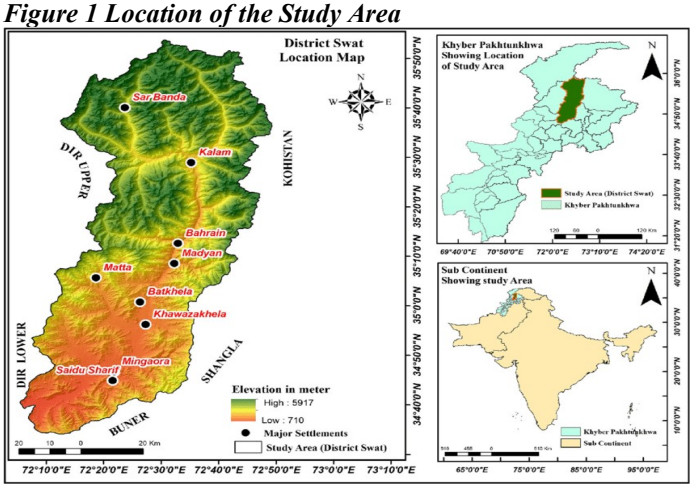
2.2 Sample

The target population was among local households of Kalam, Swat Valley with average family size of 6.7, which resulted in 3458 households. Taro Yamani's formula was used to determine a sample size of 360 households. This led to a more complete investigation of the relationship between tourist littering and local health. Due to logistical issues (floods, road cuts), the presence of visible litter, the need for valuable insights and timely data collection, purposive sampling was used. This method focused on reachable areas with major litter issues to include participants with relevant experiences.

2.2 procedure

This study was conducted in Swat Valley, Khyber Pakhtunkhwa, Pakistan, with greater focus on famous tourist destination, the Kalam Valley. The interview schedule used for data collection was designed to ensure reliability and validity. After the successful data collection the data was analyzed using SPSS, Univariate and Bivariate analyses were done to identify the association between tourists' littering and health issues of the local communities residing in famous tourist destinations

Figure 1 Location of the Study Area



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3. Result

Table 1

Socio-economic Characteristics of the Respondents (n=360)

	categories	*f*	*%*
Age of the respondents	25 and Younger	101	28.1
	26-35	41	11.4
	36-45	93	25.8
	46-55	86	23.9
	56 and Older	39	10.8
Marital Status	Single	115	31.9
	Married	235	65.3
	Divorced	4	1.1
	Separated	1	0.3
	Widower	5	1.4
Qualification	Illiterate	25	6.9
	Primary to Middle school	57	15.8
	High School to Intermediate	215	59.7
	Graduate to Professional	63	17.5
Occupation	Unemployed	31	8.6
	Skilled Worker	68	18.9
	Unskilled Worker	23	6.4
	Shopkeeper	27	7.5
	Employee	46	12.8
	Farmer	33	9.2
	Driver	20	5.6
	Business	17	4.7
	Student	95	26.4
Average Income/Month in Pkr	30-50 Thousand	130	36.1
	51-80 Thousand	96	26.7
	81-120 Thousand	90	25.0
	121-150 Thousand	23	6.4
	151-180 Thousand	10	2.8
	181-200 Thousand	11	3.1
Average Expenditure/Month in Pkr	30-50 Thousand	192	53.3
	51-80 Thousand	97	26.9
	81-120 Thousand	45	12.5
	121-150 Thousand	17	4.7
	151-180 Thousand	7	1.9
	181-200 Thousand	2	0.6

4. Discussion

The socio-economic characteristics of the respondents reveal insights into their demographics. The age distribution shows that the largest group is aged 25 years or younger, comprising 101 respondents (28.1%). This is followed by the 36-45 age group with 93 respondents (25.8%), the 46-55 age group with 86 respondents (23.9%), the 26-35 age group with 41 respondents (11.4%), and those 56 years and older with 39 respondents (10.8%). Marital status data indicates that the majority of respondents are married, totaling 235 respondents (65.3%). Single respondents make up 115 (31.9%), while divorced, separated, and widowed respondents account for 4 (1.1%), 1 (0.3%), and 5 (1.4%) respectively. Educational attainment varies among respondents, with the majority having completed high school to intermediate levels, totaling 215 respondents (59.7%). Other educational levels include graduate to professional (63 respondents, 17.5%), primary to middle school (57 respondents, 15.8%), and illiterate (25 respondents, 6.9%). Occupational data reveals a diverse range of professions. The largest group is students, with 95 respondents (26.4%). Skilled workers follow with 68 respondents (18.9%), while other occupations include employees (46 respondents, 12.8%), farmers (33 respondents, 9.2%), shopkeepers (27 respondents, 7.5%), unskilled workers (23 respondents, 6.4%), drivers (20 respondents, 5.6%), and businesspersons (17 respondents, 4.7%). Unemployed respondents account for 31 (8.6%). The average income per month in PKR shows that the highest number of respondents earn between 30-50 thousand PKR, with 130 respondents (36.1%).

Figure 1. Areas Affected by Litter in the Swat Valley.

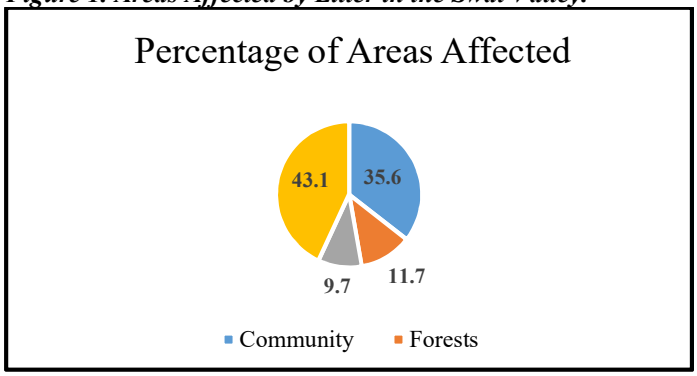

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Table 2
Types of litter(N=360)

S.No	Categories	No (f, %)	Yes (f, %)	N (f, %)
1.	Cigarette/Cigarette filters	101 (28.1%)	259 (71.9%)	360 (100.0%)
2.	Plastic bags/Bottles	25 (6.9%)	335 (93.1%)	360 (100.0%)
3.	Food Wrappers/Containers	121 (33.6%)	239 (66.4%)	360 (100.0%)
4.	Cold drink cans/straws/stirrers	145 (40.3%)	215 (59.7%)	360 (100.0%)
5.	Paper Bags	107 (29.7%)	253 (70.3%)	360 (100.0%)
6.	Fabric and rubber	174 (48.3%)	186 (51.7%)	360 (100.0%)
7.	Remains of animals and fruits	99 (27.5%)	261 (72.5%)	360 (100.0%)

Table 3.
Cross Percentages and Test Statistics (Chi-Square Test and Cramer's V Test) Between Litter Types and Swat River Contamination (n=360)

Litter Type	Swat River Contamination	No (%)	Yes (%)	Chi-Square Value (Sig)	Cramer's V value (Sig)
Cigarette/Filters	No	80 (30.7)	21 (21.2)	3.168 (0.075)	0.094 (0.075)
	Yes	181 (69.3)	78 (78.8)		
Plastic Bags/Bottles	No	23 (8.8)	2 (2.1)	5.124 (0.024)	0.119 (0.024)
	Yes	238 (91.2)	97 (97.9)		
Food Wrappers/Containers	No	95 (36.4)	26 (26.3)	3.305 (0.069)	0.096 (0.069)
	Yes	166 (63.6)	73 (73.7)		
Disposable Cups/Plates/Spoons	No	107 (41.0)	29 (29.3)	4.182 (0.041)	0.108 (0.041)
	Yes	154 (59.0)	70 (70.7)		
Cold Drink Cans/Straws/Stirrers	No	120 (46.0)	25 (25.3)	12.816 (0.000)	0.189 (0.000)
	Yes	141 (54.0)	74 (74.7)		
Paper Bags	No	86 (33.0)	21 (21.2)	4.734 (0.030)	0.115 (0.030)
	Yes	175 (67.0)	78 (78.8)		
Fabric and Rubber	No	140 (53.6)	34 (34.3)	10.702 (0.001)	0.172 (0.001)
	Yes	121 (46.4)	65 (65.7)		
Remains of Animals & Fruits	No	81 (31.0)	18 (18.2)	5.947 (0.015)	0.129 (0.015)
	Yes	180 (69.0)	81 (81.8)		

This is followed by income ranges of 51-80 thousand (96 respondents, 26.7%), 81-120 thousand (90 respondents, 25.0%), 121-150 thousand (23 respondents, 6.4%), 151-180 thousand (10 respondents, 2.8%), and 181-200 thousand (11 respondents, 3.1%). Average expenditure per month in PKR indicates that the majority of respondents spend between 30-50 thousand PKR, totaling 192 respondents (53.3%). Other expenditure ranges include 51-80 thousand (97 respondents, 26.9%), 81-120 thousand (45 respondents, 12.5%), 121-150 thousand (17 respondents, 4.7%), 151-180 thousand (7 respondents, 1.9%), and 181-200 thousand (2 respondents, 0.6%).

The data on types of litter reveals that plastic bags and bottles are the most common types of litter, with 335 respondents (93.1%) reporting their presence. This is followed by cigarette/cigarette filters, reported by 259 respondents (71.9%). Other notable types of litter include remains of animals and fruits, reported by 261 respondents (72.5%), food wrappers/containers (239 respondents, 66.4%), and paper bags (253 respondents,

Table 4

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Cross Percentages and Test Statistics (Chi-Square Test and Cramer's V Test) Between Health Issues and Contaminated Water of Swat River (N=360)

Health Issue	Contaminated Water of Swat River	No (%)	Yes (%)	Chi-Square Value (Sig)	Cramer's V value (Sig)
	No	16 (39.0)	57 (17.9)	10.059 (0.002)	0.167 (0.002)
Malaria	Yes	25 (61.0)	262 (82.1)		
	No	35 (37.6)	38 (14.2)	23.367 (0.000)	0.255 (0.000)
Dengue	Yes	58 (62.4)	229 (85.8)		
	No	38 (47.5)	35 (12.5)	47.150 (0.000)	0.362 (0.000)
Skin Diseases	Yes	42 (52.5)	245 (87.5)		
	No	40 (41.7)	33 (12.5)	37.046 (0.000)	0.321 (0.000)
Diarrhea	Yes	56 (58.3)	231 (87.5)		
	No	30 (31.6)	43 (16.2)	10.196 (0.001)	0.168 (0.001)
Food Poisoning	Yes	65 (68.4)	222 (83.8)		
	No	36 (31.3)	37 (15.1)	12.709 (0.000)	0.188 (0.000)
Typhoid	Yes	79 (68.7)	208 (84.9)		
	No	56 (37.7)	17 (8.5)	27.799 (0.000)	0.278 (0.000)
Gastroenteritis	Yes	121 (62.3)	166 (91.5)		
	No	55 (37.2)	18 (8.5)	44.320 (0.000)	0.351 (0.000)
Cholera	Yes	93 (62.8)	194 (91.5)		
	No	41 (32.5)	32 (13.7)	18.029 (0.000)	0.224 (0.000)
Hepatitis	Yes	85 (67.5)	202 (86.3)		

70.3%). Cold drink cans/straws/stirrers were reported by 215 respondents (59.7%), while fabric and rubber were reported by 186 respondents (51.7%). The total number of respondents is consistent across all categories, with 360 respondents in each case, representing 100% of the surveyed sample. Studies in the past have highlighted that the prevalence of plastic waste, such as disposable materials for quick dumping like plastic bottles, bags, and other such materials, are major pollutants of the environment. Such materials not only persist in the environment for a long time but also contribute to the contamination of water (Jambeck et al., 2015; Lebreton et al., 2018). Another pollutant, such as cigarette filters/butts, is a potential source of environmental pollution and may leak harmful toxins into water bodies (Moerman & Potts, 2011).

The overview of areas affected by litter shows that the Swat River is the most impacted area, with 155 respondents (43.1%) indicating its contamination. This is followed by communities, with 128 respondents (35.6%) reporting litter in these areas. Forests and lakes are also affected, but to a lesser extent, with 42 respondents (11.7%) and 35 respondents (9.7%) respectively reporting litter in these locations as shown in Figure 1.

The analysis of association between various types of litter and contamination in the Swat River, shows that cigarette filters have a weak, non-significant association with contamination (Chi-Square = 3.168, p = 0.075; Cramer's V = 0.094). Plastic bags and bottles are significantly more prevalent in contaminated areas (Chi-Square = 5.124, p = 0.024; Cramer's V = 0.119). Food wrappers and containers also show a weak, non-significant association (Chi-Square = 3.305, p = 0.069; Cramer's V = 0.096). Disposable cups, plates, and spoons have a marginally significant association with contamination (Chi-Square = 4.182, p = 0.041; Cramer's V = 0.108). Cold drink cans, straws, and stirrers are strongly associated with higher contamination levels (Chi-Square = 12.816, p = 0.000; Cramer's V = 0.189). Paper bags also show a significant association with contamination (Chi-Square = 4.734, p = 0.030; Cramer's V = 0.115), as do fabric and rubber (Chi-Square = 10.702, p = 0.001; Cramer's V = 0.172), and remains of animals and fruits (Chi-Square = 5.947, p = 0.015; Cramer's V = 0.129). These results indicate that specific types of litter, particularly cold drink cans, straws, stirrers, and fabric and rubber, are more strongly associated with Swat River contamination. The analysis of association between various health issues and the presence of contaminated water from the Swat River indicates that Malaria exhibits a significant association with contaminated water (Chi-

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Square 10.059, p=0.002; Cramer's V=0.167), with a higher prevalence in contaminated areas (82.1%) compared to non-contaminated areas (61.0%) (Yongsi, 2008; Olokor, 2001; Davies & Cahill, 2000). Dengue shows a significant association (Chi-Square 23.367, p=0.000; Cramer's V=0.255), with 85.8% of cases in contaminated areas. Skin diseases have a strong, significant association (Chi-Square 47.150, p=0.000; Cramer's V=0.362), with 87.5% of cases in contaminated areas. Diarrhea also shows a strong, significant association (Chi-Square 37.046, p=0.000; Cramer's V=0.321), with 87.5% of cases in contaminated areas. Food poisoning is significantly associated with contaminated water (Chi-Square 10.196, p=0.001; Cramer's V=0.168), with 83.8% of cases in contaminated areas. Typhoid demonstrates a significant association (Chi-Square 12.709, p=0.000; Cramer's V=0.188), with 84.9% of cases in contaminated areas. Gastroenteritis shows a strong, significant association (Chi-Square 27.799, p=0.000; Cramer's V=0.278), with 91.5% of cases in contaminated areas. Cholera exhibits a strong, significant association (Chi-Square 44.320, p=0.000; Cramer's V=0.351), with 91.5% of cases in contaminated areas. Hepatitis is significantly associated with contaminated water (Chi-Square 18.029, p=0.000; Cramer's V=0.224), with 86.3% of cases in contaminated areas. These results indicate that most health issues, particularly gastroenteritis, diarrhea, and dengue, are significantly associated with contaminated water from the Swat River.

Conclusion

In conclusion, the results highlights an important link between different types of litter and health problems related to polluted water in the Swat River. The data shows that not only are plastic bags and bottles the most common types of litter found, but they also remain as the major cause of Swat River contamination. This contamination leads to various health problems such as malaria, dengue, skin diseases, diarrhea, food poisoning, typhoid, gastroenteritis, cholera and hepatitis are prevalent in the areas where the river water is impure. The results highlight the great public health hazard from ground water pollution and suggest an urgent improvement in waste management and sanitation practice to reduce environmental contamination for better human health. The study also found cold drink cans, straws and stirrers along fabric or rubber wastes were significantly related to river contamination for which effective litter control measures are urgently required.

REFERENCES

Armstrong, A. M., & Molyneux, E. (1992). Glass injuries to children. BMJ: British Medical Journal, 304(6823), 360.

Cook, R. A., Yale, L. J., & Marqua, J. J. (2006*). Tourism: The business of travel* (3rd ed.). Prentice Hall.

Gillespie, C. (2018). Examples of secondary pollutants. Sciencing. https://sciencing.com/examples-secondary-pollutants-5314906.html

Holden, A. (2008). *Environment and tourism* (2nd ed.). Routledge.

Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., ... & Law, K. L. (2015). Plastic waste inputs from land into the ocean. science, 347(6223), 768-771.

Johnson, R. L., & Paull, C. K. (2011). A review of microplastics in the marine environment and their distribution in the sea-floor: From shorelines to the deep sea. *Marine Environmental Research, 92*, 170-179. https://doi.org/10.1016/j.marenvres.2013.10.006

Kreag, G. (2001). The Impacts of Tourism. Retrieved on 16/05/2010. Available on http://www.seagrant.umn.edu/tourism/pdfs/ImpactsTourism.pdf

Landrigan, P. J., Fuller, R., Hu, H., Caravanos, J., Cropper, M. L., Hanrahan, D., & Suk, W. A. (2018). Pollution and global health–an agenda for prevention. Environmental health perspectives, 126(8), 084501.

Liu, J. H., & Sibley, C. G. (2004). Attitudes and behavior in social space: Public good interventions based on shared representations and environmental influences. Journal of Environmental Psychology, 24(3), 373–384. https://doi.org/10.1016/j.jenvp.2003.12.003

Maguire, S. A., Mann, M. K., Sibert, J., Kemp, A. M. (2017). Are clean and safe play areas for children associated with less childhood morbidity? A multi-city study in England and Wales. PLoS One, 12(5), e0176885. doi: 10.1371/journal.pone.0176885.

Oluyinka, O. (2011). Attitude towards littering as a mediator of the relationship between personality attributes and responsible environmental behavior. Waste Management, 31(12), 2601–2611.

Pruss-Ustun, A., & World Health Organization. (2008). Safer water, better health: costs, benefits and sustainability of interventions to protect and promote health. World Health Organization.

Journal of Psychology, Health and Social Challenges
Journal homepage: www.jphasc.com
ISSN ONLINE: 3006-8800/PRINT: 3006-8797

Smith, S. L. (2001).Measuring the Economic Impact of Visitors to Sport Tournament and Special Events. Annals of Tourism Research 28(3) 829-31.

UNEP. (1997). *Coastal tourism in the wider Caribbean region: Impacts and best management practices.* United Nations Environment Programme.

Victorian Litter Action Alliance. (2008). *Litter statistics fact sheet.* https://www.litter.vic.gov.au/resources

Wei, C., Shuib, A., Ramachand, S., & Herman, S. (2013). Applicability of economic models in estimating tourism impacts. Journal of Applied Economics and Business, 1(4), 5-16.

World Wildlife Fund. (2019). *No plastic in nature: A practical guide for business engagement.* https://www.worldwildlife.org/publications/no-plastic-in-nature

Yongsi, H. N. (2008). Pathogenic microorganisms associated with childhood diarrhea in Low-and-middle income countries: Case study of Yaoundé–Cameroon. International journal of environmental research and public health, 5(4), 213-229.

Zaei, M. E., & Zaei, M. E. (2013). The impacts of tourism industry on host community. European journal of tourism hospitality and research, 1(2), 12-21.