Environmental Annoyance and Anxiety Among Residents of Dinagat Islands, Philippines: Input to Environmental Campaign

Xanleah L. Jumawan, RPm[1], Joel S. Pardillo, EnP[2]

[1]Student, Master in Environmental Planning, University of Mindanao, Davao City, Philippines
[2]Faculty, Environmental Planning, University of Mindanao, Davao City, Philippines
Corresponding Author: xl.xanleah@gmail.com

Abstract— This study was conducted to determine the relationship and influence of Environmental Annoyance (E.A.) and Anxiety from the three (3) Barangays, namely Matingbe, San Jose, and San Juan, San Jose, Province of Dinagat Islands. The results showed that women are more vulnerable to anxiety due to environmental annoyances. It has further revealed a significant relationship between the indicators of inconveniences on public transport, lack of control over time in relation to car use, lack of efficiency due to population density, and an insecure and run-down living environment at significant values of 0.033, 0.003, 0.001, and 0.005, respectively. Moreover, as to its influence between each other's variables, the results showed an F – value of 3.884, p<0.05 with an R2 value of 0.060, inferring that 6 percent of the overall anxiety of the respondents can be attributed to the seven (7) regressors which imply that predictors have a significant impact on the dependent variable even though the variance is relatively modest at 6 percent.

Index Terms—**Environmental annoyance, overall anxiety severity and impairment scale (oasis), good health and well–being, Philippines.**

1. Introduction

Urbanization is a global phenomenon that significantly changes the planet's landscape (Khan et al., 2012). It is the progressive concentration of population in an area where demographic, social, economic, technological, and environmental aspects change and influences economic growth (Narayan, 2014). The steady increase in the population is associated with challenges in maintaining environmental and public health (Samson, 2018).

WHO (2017) emphasizes that there is much concern for environmental health in the Philippines due to the limited resources and rapidly growing population. These can pose problems such as traffic congestion, pollution, increased crime rate, more devastation, and trouble facing and mitigating issues (Khan et al., 2012).

According to Healthy People (2020), the Philippines is one of the Asian nations with the highest percentage of urban slum dwellers. It contributes to increased food scarcity, resource shortages, and annoyances, which is consistent with Ursano's (2017) claim that people of color and those from lower socio-economic status are disproportionately affected by urbanization and climate change. Consequently, adverse environmental effects are getting worse and more dangerous (Obioha, 2024).

One's urban environment can cause annoyance or unpleasant sensations and feelings in a person, leading to experiences of minimal stress and distress symptoms (Clayton et al., 2021). Constant presence of other individuals can hamper the residents' daily lives and cause feelings of loss of control (Dominics et al., 2015). It has affected the environment and psychosocial well–being of communities, causing anxiety, insecurity, annoyance, and incivilities, among others, and many more. This causes degrees of stress and anxiety to individuals and communities, which may include cognitive, emotional, and behavioral responses Schwartz et al. (2023) and can lead to increased risk of developing varied severity of anxiety, impairment, or the defects observable in social contexts and behavioral disturbances (Ursano, 2017). These can manifest themselves in every stage of one's life, varying on the severity or level of anxiety that one has experienced, the impairment or diminished functioning in social situations, and one's tendency to act defensively or manifest behavioral avoidance (WHO, 2012).

This study is anchored on the behavioral change model, which established the relationship between environmental knowledge, environmental awareness, and attitudes, which can

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be translated into action or inaction (Akintunde, 2017). Human–caused environmental problems are rooted in human behavior, implying that their way of living has to be addressed in order to decrease environmental annoyances and anxiety (Malt, 2019). Considering the relationship of attitudes and behaviors, perceptions towards one's environment shape one's behaviors, leading to the idea that understanding the connection between humans and nature is vital in linking sustainability efforts (Di Fabio, 2018). One's behavior is the root of various environmental problems, which can be driven by human perceptions, attitudes, beliefs, and other factors (Malt, 2019). It also takes into account the theory of Environmentally Responsible Behavior (ERB), which is the impression that if individuals were better informed, this can lead to being more environmentally aware of the problems and, as a consequence, become more responsible to the environment. It is reasonable to anticipate and foster environmental preservation behaviors through education that alters individuals' awareness and attitudes towards the natural environment and initiates pro-environment mechanisms and attitudes (Akintunde, 2017).

The objective of the study was to determine the environmental annoyance and anxiety experienced by the residents of San Jose, Province of Dinagat Islands, Philippines. Specifically, it aimed to (a) determine the level of environmental annoyance in terms of feelings of insecurity, inconveniences related to using public transport, environmental annoyances, and global environmental concerns, lack of control over time in relation to car use, incivilities related to different users sharing public spaces, lack of efficiency due to population density, and, insecure and run-down living environment; (b) the level of anxiety in terms of severity; impairment (work and social); and, behavioral avoidance; (c) the significant relationship between environmental annoyance and anxiety, and (d) the significant influence of environmental Annoyance to anxiety among the residents of San Jose, Dinagat Islands and (e) develop an Information, Education, and Communication (IEC) plan for environmental annoyance and anxiety.

The study's independent variable is environmental annoyance, which was assessed in terms of the following: (1) insecurity feelings; (2) inconveniences associated with public transportation; (3) environmental annoyances and concerns about the environment globally; (4) lack of control over time regarding car use; (5) inconveniences associated with different users sharing public spaces; (6) inefficiency due to population density; and (7) an insecure and dilapidated living environment.

The study's dependent variable is Anxiety, as described in terms of the following: 1. Severity; 2. Impairment (work and social); and 3. Behavioral avoidance. Di Fabio and Kenny (2018), in relation to the Brundtland Report (1987), revealed that improving the quality of life as an aspect of sustainability together with the ecological and socio-economic environment can be sustained for some time with certainty. Thus, current aims can be balanced with future goals without putting the latter at risk. Schwartz (2023) pointed out that collective action can aid in managing one's fears and fostering hope and connectedness, specifically in young adults who are identified as major social change movers (Franklin, 2021).

2. Method

A. Study Participants

The study's participants were the residents of the three (3) urban barangays, namely, 1.) Matingbe, 2.) San Jose; and 3.) San Juan, all under the Municipality of San Jose, Province of Dinagat Islands, consisted of 433 respondents. These barangays were moderately to highly susceptible to floods as they are along the coast where wet markets, ports, and various dry goods stores are present. Only participants of legal age were selected regardless of the years they have been staying. Consequently, individuals residing outside the Barangays mentioned above and below 18 years of age are not part of the study. The respondents were informed of their rights and could return or withdraw from the research.

B. Materials/Instruments

The researcher used two (2) validated Likert–type questionnaires, namely, Environmental Annoyance (EA) and Anxiety, using the Overall Anxiety Severity and Impairment Scale (OASIS).

The Environmental Annoyance (EA) scale was utilized to determine how one feels, noting that the participants will rank the level of annoyance in given situations in a five (5) – point Likert format with indicators as 1 = this is not applicable to me, 2 = this does not disturb me at all, 3 = this disturbs me a bit, 4 = I am disturbed by this, 5 = this disturbs me a lot. The factors that the scale measures were the following: 1. Feelings of insecurity; 2. Inconveniences related to public transport; 3. Environmental annoyances and global environmental concerns; 4. Lack of control over time in relation to car use; 5. Incivilities related to different users sharing public spaces; 6. Lack of efficiency due to population density; 7. An insecure and run-down living environment.

The Overall Anxiety Severity and Impairment Scale (OASIS) is a brief continuous instrument that measures the overall anxiety severity and impairment of an individual. It is a five (5) – item measure that assesses the frequency of anxiety, its symptoms' intensity, behavioral avoidance, and associated functional impairment (Campbell-Sills et al., 2009). It also (1) assesses multiple domains of clinical severity, (2) effectively captures the severity of an anxiety disorder, and (3) is brief enough to be used in clinical settings (Hiller et al., 2023).

The demographic data gathered in the research, such as age and gender, were analyzed and graphed to show the characteristics of the sample. The mean and standard deviations for the two (2) scales were calculated to describe the data gathered in the research and determine its implications.

C. Design and Procedure

A descriptive correlational research design described the relationship between environmental annoyance and overall anxiety. This design describes the variables and measures the

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extent of the relationship between them (Gaygay et al., 2022). It helps describe how one phenomenon is related to the other. It is straightforward, usually inexpensive, and can be finished quickly.

The adopted scales were interpreted using pairwise and multiple regression. Pairwise correlation analysis provides insights into the relationships between characteristics. It uncovers potential relations of interest and will be used to determine whether there is a significant relationship between EA and OASIS among the research participants. Multiple regression is the most common technique to determine whether a relationship exists between a single variable and several variables. The scales were utilized to determine whether EA influences anxiety.

Under Republic Act No. 10173, otherwise known as the "Data Privacy Act of 2012," the researcher only collected accurate, relevant, and necessary data that was only needed by the study. The researcher took steps to minimize potential risks to the participants. To ensure that the research did not harm the participants, the researcher continually monitored their progress and reminded them of their right to withdraw from the study at any given time. The researcher also communicated the confidentiality of research records, the risks and benefits of their participation, and the individuals' right to participate or discontinue without any penalty.

3. Result And Discussion

A. Demographic Profile of Respondents

The study gathered 433 respondents, of which 51% were female, 43% were male, and 6% had no gender identity. Women were more vulnerable to anxiety than men, as women tended to bear heavier stress. The study of Bilodeau et al. (2020) and Viertiö et al. (2021) validated that the prevalence of anxiety is higher in women compared to men due to various contributors. Women have shown that they are twice as likely to experience anxiety and be diagnosed with anxiety disorders. It is consistent with gender-based research, which supports the belief that it has heightened sensitivity to disturbances of daily life (Catuzzi & Beck, 2014). They had a specific way of perceiving their urban environments.
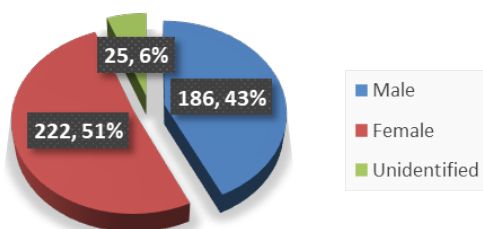

Figure 1. Gender of the respondents of the study

The study participants ranged from 18 – to 29 years old 127; 193 respondents fell under 30 – to 49 years old, 93 participants were aged 50 and above, and 20 individuals did not specify their current age. As mentioned in the study of Zhi et al. (2024), aging may contribute to poor mental health and is a risk factor. Bandelow and Michaelis (2022) mention that anxiety disorders tend to start in childhood, adolescence, or early adulthood and peak in middle age and decrease as they grow older.
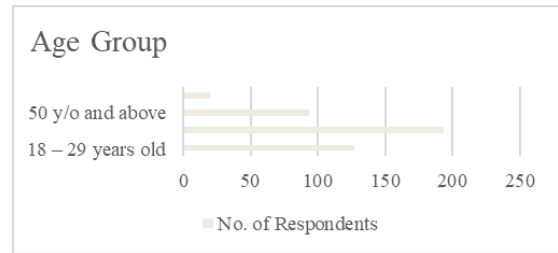

Fig.2. Age group of respondents residing in the Municipality of San Jose

B. Level of Environmental Annoyance

- Feelings of Insecurity. The result showed that the respondents experienced insecurity at a mean level of 2.98 and a standard deviation of 0.519. The data shows that the feelings of insecurity are close to the average, and the data points fall around the mean described as moderate. When experiencing annoyance at a moderate level, it is indicative that they are, to some degree, unsettled or bothered by some stimuli. It may stem from insecurity, where they may feel uneasy about their surroundings due to perceptions of crime and violence (Barker & Crawford, 2011). Certain physical environmental conditions can induce stress on an individual and negatively impact their health, performance, and well–being (Yaakov, 2022). Individuals differ in their sensitivity to their environments (Baryła-Matejczuk et al., 2022), with some being more sensitive than others in their perceived social risks, such as being aggressive in public. It can also cause paranoia in an individual when going or returning from their homes or going out to public areas.

- Inconveniences related to using public transport. Results for this indicator revealed that respondents answered with a mean level of 3.14 and a standard deviation of 0.431. It suggests that residents perceived a moderate level of inconvenience with using public transport and that there is a consensus among their responses. Traffic noise has received attention as an environmental pollution (Lakes et al., 2016). It has received more attention than other forms of environmental pollution. Wong et al. (2018) mentioned that increasing the duration of traffic. Congestion greatly intensifies pollution from vehicular traffic, exposing residents to it during their commute and leading to feelings of discomfort. In the Philippines, motor vehicle utilization increases and reduces air quality, and pollutants in the atmosphere

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provide the most substantial source of public concern (Samson, 2018). Noise pollution, air pollution, increased travel time, and increased fuel consumption are some inconveniences residents feel while using public transport (Fattah et al., 2022). Road traffic is considered an environmental health concern with ecological noise and indicates the need to reduce its exposure (Argaláŝová et al., 2014).

- Environmental annoyances and global environmental concerns. Results of the research revealed that the respondents felt a lack of control related to car use in the locality only moderately, as suggested, with a mean of 3.05 and a standard deviation of 0.619, indicating low variability in their responses. Residents felt moderately disturbed not being in control over their time in relation to car use.

o Traffic congestion in ports and other industrial areas had social and economic impacts. It increases traveling costs and reduces accessibility because of increased travel time (Fattah et al., 2022) and the deteriorating transportation system, which has led to traffic jams (Aljoufie, 2021). Environmental factors that are perceivable by an individual that they cannot alter might impact their behavior and health (Lakes et al., 2016). No proper implementation of the zoning ordinance leads to a lack of parking space for large vehicles and causes traffic when it becomes congested in the locality. Lack of parking space and proper transportation system were also observed to be an issues.

- Lack of control over time in relation to car use. Results of the research revealed that the respondents felt a lack of control related to car use in the locality only moderately, as suggested, with a mean of 3.05 and a standard deviation of 0.619, indicating low variability in their responses. Residents felt moderately disturbed not being in control over their time in relation to car use. Traffic congestion in ports and other industrial areas had social and economic impacts. These increased traveling costs and accessibility have been reduced because of increasing travel time (Fattah et al., 2022) and the deteriorating transportation system, which led to traffic jams (Aljoufie, 2021). Environmental factors that are perceivable by an individual that they cannot alter might impact their behavior and health (Lakes et al., 2016). Lack of parking space and proper transportation system were also observed to be an issues.

- Incivilities related to different users sharing public spaces. Results of the study showed that incivilities related to different users sharing public spaces have a mean of 3.23 and a standard deviation of 0.476. This suggests that respondents are moderately troubled by incivility related to different users sharing public

spaces, which may have arisen from sharing public spaces, and that there is a consensus in their experiences. Road congestion-induced driver stress decreased mental satisfaction and increased passenger time pressure (Fattah et al., 2022). The lack of streetlights have put vulnerable people at risk for any accident that may occur. Urban areas must also support the physical, mental, and social well–being of their citizens (Lakes et al., 2016). Ensuring the actual safety of the residents is as important as its perceived safety, which is the sense of security and absence of anxiety about being victimized in a public area (Abed & Aljibarat, 2023).

- Lack of efficiency due to population density. The study revealed that lack of efficiency due to population density has a mean of 3.10 and a standard deviation of 0.643. It shows that the residents have felt a sense of inefficiency attributed to population density experienced in the locality, with some variability in their answers. The urban population is rapidly growing at an alarming rate (Khan et al., 2012). As a result, economic inefficiency and water sources are rampant in urban areas. Excessive commuting time has been part of their daily lives (He et al., 2022), leading to late or interfering with their daily activities and being late for scheduled activities. Insufficient infrastructure and growing population density can negatively affect the residents, leading to them getting stuck in crowded areas and having long queuing lines for various services (Aljoufie, 2021). It gives the residents a feeling of losing control over their time and hampers their schedules.

- Insecure and run-down living environment. The study uncovered that the residents moderately felt insecure about their poor living environment, indicated in the mean of 3.20 and standard deviation of 0.462, showing little variability in the participants' answers and generally felt similar. This shows that they are bothered by their living environment, which may be due to run–down and environmental exposures that can affect the mental health of individuals. The most prevalent mental health conditions seen were symptoms of depression and anxiety (Xu et al., 2015). The physical conditions of the built environments of neighborhood residents can impact their sense of safety. This includes street littering, lack of order in the neighborhood, vandalism, and others (Abed & Aljibarat, 2023).

The indicators with the highest mean were environmental annoyances and global environmental concerns, an insecure run-down living environment, and inconveniences with using public transport, with 3.22, 3.20, and 3.14 mean, respectively. The indicators with the highest standard deviation among the other indicators were lack of efficiency due to population density, lack of control over time about car use, and feelings of

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insecurity, with results of 0.643, 0.619, and 0.519, respectively. These indicators are considered to be at a moderate level.

The overall mean and standard deviation of the indicators for environmental annoyance experienced by San Jose and Dinagat Islands residents are 3.13 and 0.295, respectively. It indicates an average level of environmental annoyance reported by the participants, with less variability demonstrating a consistent perception of annoyance among them. Most of the felt fell within roughly 0.295 units above or below the mean, suggesting more consistency in the respondents' answers. Confirming the observation by Khan et al. (2021) and Bollettino et al. (2020) that various factors can affect an individual's day–to–day living, and annoyances are known to have behavioral responses or reactions in urban inhabitants which affect their physical and mental health. Lu et al. (2023) explains that changes in the global environment, heightened pollution, resource depletion, and environmental decline can be seen, and it can lead to problems such as traffic congestion, pollution, loitering, and others that can hinder sustainable development, which affects the quality of life of various individuals. Di Fabio and Kenny (2018) correlated the Brundtland Report (1987) that the quality of life can be sustained by improving the ecological and socio-economic environment sustainability.

Table.1. Level of Environmental Annoyance Among Residents of Dinagat Islands

Indicators	Mean	SD	Descriptive Level
Feelings of insecurity	2.98	0.519	Moderate
Inconveniences related to using public transport	3.14	0.431	Moderate
Environmental annoyances and global environmental concerns	3.22	0.473	Moderate
Lack of control over time in relation to car use	3.05	0.619	Moderate
Incivilities related to different users sharing public spaces	3.23	0.476	Moderate
Lack of efficiency due to population density	3.10	0.643	Moderate
An insecure and run-down living environment	3.20	0.462	Moderate
Overall	**3.13**	**0.295**	**Moderate**

C. Level of Anxiety

- Severity. The study results indicated that severity had a mean of 2.96, indicating moderate anxiety among the participants, with scores relatively clustered around its mean, as implied by a standard deviation of 0.433. A moderate severity level significantly impacts the respondent's daily life and functioning. It is indicative of a notable impact on one's daily functioning and emotional well–being. Anxiety disorders are receiving more attention due to their high incidence, early onset,

tendency to relapse, and disabling nature (Yang et al., 2021). The intensity and frequency of the occurrence of anxiety can reduce the quality of life and increase economic costs for people. It is related to functional impairments that can hamper the daily lives of affected individuals (Hiller et al., 2023) and changes in normal behavior. Jimenez et al. (2021) examined that exposure to natural environments is associated with improved attention and functioning compared to urban environments and living conditions. In contrast, poorer conditions tend to be associated with higher chances of depression or anxiety (Xu et al., 2023).

- Impairment. The study found that this indicator's mean and standard deviation were 2.85 and 0.380, respectively. It indicates a moderate level of overall impairment, with most of their impairment scores being close to the mean and having less variability, indicating a consensus in their answers. This shows that the respondents experienced some degree of impairment. Exposure to stressors can enhance the risk of undesirable effects such as sleep loss or elevated blood pressure and mood disturbances (Lakes et al., 2016). People experiencing anxiety can usually experience excessive fear, dizziness, insomnia, and nervousness (Yang et al., 2021). Negative emotional responses to environmental concerns can produce physiological and behavioral effects in an individual (Cantuaria et al., 2023).

- Behavioral avoidance. Results have shown that behavioral avoidance has a mean of 2.85 and a standard deviation of 1.052 with a descriptive level of moderate. There is more variability in the participants' responses, implying that subgroups in the sample experience significant differences in levels of behavioral avoidance. Urban living environments influence human well–being and health (Lakes et al., 2016). Nyback (2023) found that severe environmental annoyance was likely to impact one's daily life, specifically affective and behavioral disruptions, and can cause social withdrawal (Cantuaria et al., 2023) and avoidance of possible threats (Yang et al., 2021). Behavioral avoidance is consistent consequence of experiencing fear or threat (Chu & Skriner, 2013).

The study revealed that the overall anxiety experienced by the residents has a mean of 2.89, indicating a moderate level of anxiety, and a standard deviation of 0.620, implying that there is a notable amount of variability in anxiety levels of the participants, showing a significant difference in the experiences of anxiety in the study group. It is indicative of the noteworthy impact on the functioning and mental well–being of an individual. Lekaviciute, Argalasova-Sobotova (2013), and Paunovic (2018) explained that various factors can affect the well–being, quality of life, and mental health of individuals. Craske et al. (2017) mentioned that a vast majority of anxiety

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disorders remain undetected and untreated in various healthcare systems, leading to impairments with role functioning limitations to severe disabilities such as being unable to leave their homes. The increasing amount of evidence implies that personal financial circumstances can also determine health (Oskrochi et al., 2018) and that various indirect mechanisms and influences can also be considered, such as income inequality, deprivation, and others. Bollettino et al. (2020) mentioned that greater exposure to stressors and lesser access to resources can lead to anxiety.

Table.2. Level of Anxiety among Residents of Dinagat Islands

Indicators	Mean	SD	Descriptive Level
Severity	2.96	0.433	Moderate
Impairment (Work and Social)	2.85	0.380	Moderate
Behavioral Avoidance	2.85	1.052	Moderate
Overall Anxiety	**2.89**	**0.620**	**Moderate**

D. Significance of the Relationship

Table 3 shows the pairwise correlation analysis results of environmental annoyance indicators and overall anxiety experienced by the study respondents. The figures indicate that there is a weak positive correlation between the environmental annoyance indicators and anxiety, implying that as the various indicators increase, anxiety may also increase. It also revealed that inconveniences related to using public transport, lack of control over time in relation to car use, and insecure and run-down living environment indicators have a statistically significant relationship with anxiety. It proves that the relationship did not occur by chance and may have some meaningful association.

The feeling of insecurity has an r-value of 0.089, indicating a weak linear relationship against anxiety. It means that as the feelings of insecurity change, anxiety also tends to increase, but the relationship is fragile. Dey (2018) described people with insecurities as perceiving the world as threatening and seeing themselves as insecure, which influences the anxiety that they feel. The significance value of 0.063 provides a 6.3% chance that the relationship between feelings of insecurity and anxiety occurred by random chance alone.

The r-value and significance of inconveniences related to using public transport are 0.103 and 0.033, respectively. They show that there is a weak positive linear relationship between inconveniences about public transport and anxiety, indicating that as it increases, anxiety also increases. However, the relationship is weak but significant enough. The significance level means a higher confidence level in the observed relationship, implying that it is less likely to have occurred due to random variability in the data.

Environmental annoyances and global environmental concerns had an r-value of 0.016 and a significance of 0.0740, indicating a weak linear relationship between anxiety. The study shows a weak positive linear relationship between the variables, and 74% occurred by random chance alone.

Testing for the significance of the relationship between lack of control over time in relation to car use and anxiety revealed that it has a weak positive linear relationship. However, the significance value of 0.003 indicates this weak relationship is statistically significant. It rejects the null hypothesis that there is no relationship between environmental annoyance and its indicators and anxiety. The observed indicator is likely not due to random chance and may have some meaningful association.

The r-value and significance of the indicator incivilities related to different users sharing public spaces are 0.071 and 0.141, respectively. This shows a weak positive linear relationship between the variables; however, it is not statistically significant, and there is a 14.1% chance that the observed relationship occurred by random chance alone rather than a meaningful association.

The indicator lack of efficiency due to population density and anxiety was revealed to have an r-value of 0.199 and a significance value of 0.001. It indicates that it is not strongly related linearly and is statistically significant enough to reject the null hypothesis, stating there is no relationship between the variables. Results showed a high confidence level in the relationship, indicating that it is less likely due to random variability in the data.

An insecure and run-down living environment and anxiety resulted in an r-value of 0.136 and a significance value of 0.005. This relationship reveals a weak positive relationship among the two (2) variables, suggesting that individuals living in insecure and run-down living environments may experience slightly higher levels of anxiety. It is statistically significant and likely did not occur due to random chance, but it could have some meaningful association. However, it has a weak relationship.

The overall result of environmental annoyance and anxiety revealed an r-value of 0.198 and a significance value of 0.001. The r-value indicated a weak positive linear relationship between the variables, suggesting that people who experience a higher level of annoyance may also tend to experience slightly higher levels of anxiety. Its significance value showed that this is statistically significant, implying that there may be some meaningful association.

In the same way, anxiety levels will be further affected by uncleanliness, dirty things, and the unlikely demeanor or behavior of other people in public; more people using public transport can lead to increased waiting time and long lines, which in turn can cause anxiety, heightened sensitivity, and stress.

It can also be found that there is a significant relationship between the indicators of inconveniences with using public transport, lack of control over time in relation to car use, lack of efficiency due to population density, and an insecure and run-down living environment with significant value of 0.033, 0.003, 0.001, and 0.005, respectively. This implies a high confidence level that it did not occur by chance alone. It rejects the null hypothesis, stating that no significant relationship exists

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between environmental annoyance and anxiety.

Table.3. Significance of the Relationship between Environmental Annoyance and Anxiety among Residents of Dinagat Islands

Environmental Annoyance	Severity of Anxiety and Impairment	
	r-value	Sig.
Feelings of insecurity	0.089	0.063
Inconveniences related to using public transport	0.103	0.033*
Environmental annoyances and global environmental concerns	0.016	0.740
Lack of control over time in relation to car use	0.140	0.003*
Incivilities related to different users sharing public spaces	0.071	0.141
Lack of efficiency due to population density	0.199	0.001*
An insecure and run-down living environment	0.136	0.005*
Overall	**0.198**	**0.001***

E. Influence of Environmental Annoyance and Anxiety

Through the conduct of multiple regression, results indicated an F – value of 3.884, p<0.05, with an R2 value of 0.060, implying that 6 percent of the overall anxiety of the respondents can be attributed to the seven (7) regressors. It showed that some predictors significantly impact the dependent variable, although the variance is relatively modest at 6 percent. Although the study has statistical significance, other factors not involved in the parameters may contribute to the dependent variable's variability.

The results of the multiple regression analysis revealed that the indicator feelings of insecurity and anxiety have a coefficient (B) of 0.067, suggesting that for every unit of increase in anxiety, the predicted growth is 0.067. The standard error of 0.059 is relatively close to the coefficient, indicating a lower precision, which shows uncertainty in the results. Anxiety has a coefficient of 0.056, indicating that an increase would also lead the other variable to increase in 0.056 units. The t-value for this predictor is 1.133, signifying that anxiety is 1.133, which is a standard error away from zero. This indicator's p-value is 0.258, which is not statistically significant because it is higher than 0.005.

Testing the relationship between inconveniences related to using public transport and anxiety has resulted in a coefficient of 0.036, suggesting that an increase for every – unit will also result in a rise of 0.036 for anxiety. The standard error of 0.076 is larger than the coefficient, indicating some uncertainty. The coefficient of 0.025 shows that for every unit increase in anxiety, there is also a 0.025 increase in inconveniences related to using public transport. A t-value of 0.471 indicates the coefficient's significance. However, the coefficient for anxiety is not statistically significant, with a p-value of 0.638. It shows a slightly more substantial but uncertain relationship with inconveniences related to public transport.

The indicator environmental annoyances and global environmental concerns were tested against anxiety, which resulted in a coefficient of -0.057, indicating that for every unit increase in environmental annoyances, there is also a 0.057 decrease in anxiety experienced by the respondents. A coefficient of -0.044 demonstrates a reduction of 0.044 in the other variable. They have a t – t-value of -0.876, showing an inverse relationship among the variables; however, the p-value of 0.381 indicates that it is not statistically significant.

The predictor variables' lack of control over time in relation to car use and anxiety revealed that lack of control over time concerning car use has a coefficient of 0.079, suggesting that for every unit of increase, there is also a 0.079 increase in the other. The standard error of 0.052 is considered to be the precision of this estimate. The variable anxiety has a coefficient of 0.079, indicating that there is also a 0.079 increase in the other variable in every unit increase. The t – t-value of 1.532 is associated with the significance of the coefficient. Results revealed that a p-value of 0.126 indicates that it is not statistically significant at the typical significance level of 0.05.

The indicator incivilities related to different users sharing public spaces has a coefficient of -0.041, showing that for every unit increase in this variable, there is a decrease in anxiety of 0.041, and the standard error of 0.068 indicates the precision of this estimate. On the other hand, anxiety has a coefficient of -0.031, indicating a decrease in the other variable by 0.031. The significance of the coefficient is associated with t–the value of -0.599, indicating that this coefficient is not statistically significant. This suggests that the relationship between incivilities related to different users sharing public spaces and anxiety may not be reliably different from zero.

Among the indicators, lack of efficiency due to population density has a beta coefficient of 0.156, suggesting a per unit increase of 0.156 units in anxiety. The standard error of 0.050 indicates the precision of this estimate. Anxiety has a coefficient of 0.162, implying that for every unit increase in anxiety, there is also a 0.162 increase in the other variable. The t – t-value of 3.144 is associated with the significance of the p-value of 0.002, which is statistically significant at the typical level of 0.05. Crowded public services can cause delayed transactions due to several clients, and lesser access to commodities due to the high demand for products can cause anxiety to various individuals to some degree.

Following this indicator is an insecure and run-down living environment with a coefficient of 0.120, and as it increases by one point, anxiety also tends to increase by 0.120. The standard error of 0.068 is indicative of the precision of this estimate. Anxiety has a coefficient of 0.089, implying that as it increases by one point, the other variable also increases by 0.089. The t-value of 1.762 is associated with the significance of the coefficient. The result of 0.079 for the p-value indicates that the coefficient is insignificant at the significance level of 0.05.

The multiple regression model's intercept of 1.784 is statistically significant, with a p-value of 0.001, indicating that it is unlikely to be zero. This means that when the independent

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variable is zero, the expected value of the dependent variable is 1.784. The significant error estimate of .327 is fairly precise, and the high p–value of 5.460 further supports the significance of the intercept.

The analysis rejects the null hypothesis, stating no significant influence exists between environmental annoyance and overall anxiety among San Jose, Dinagat Islands residents.

neighborhoods are sources of vulnerability and pathogeny, with crowding, pollution, and other factors exacerbating these conditions (He et al., 2022).

Findings are also suggestive of the need for improvement and renovation of run-down establishments or buildings, as well as strengthening ordinances that help maintain the cleanliness and traffic of the locality. Policies that improve the residents' quality

Table 4

Significance on the Influence of Environmental Annoyance to Anxiety among Residents of Dinagat Islands

	Model	B	S.E	B	T	p
1	(Indicators)	1.784	0.327		5.460	.001
	x_1: Feelings of insecurity	0.067	0.059	0.056	1.133	0.258
	x_2: Inconveniences related to using public transport	0.036	0.076	0.025	0.471	0.638
	x_3: Environmental annoyances and global environmental concerns	-0.057	0.065	-0.044	-0.876	0.381
	x_4: Lack of control over time in relation to car use	0.079	0.052	0.079	1.532	0.126
	x_5: Incivilities related to different users sharing public spaces	-0.041	0.068	-0.031	-0.599	0.549
	x_6: Lack of efficiency due to population density	0.156	0.050	0.162	3.144	0.002*
	x_7: An insecure and run-down living environment	0.120	0.068	0.089	1.762	0.079

=3.884, p<0.05
R^2=0.060
ΔR^2=0.045

4. Conclusions And Recommendations

The study revealed weak correlation between the seven (7) factors of environmental annoyance and the overall anxiety that the respondents felt; however, there is a specific relationship between lack of efficiency due to population density and run–down living environment and overall anxiety. The demographic data in this study shows that women are more vulnerable to stress and anxiety brought about by their environment, indicative of the need to craft measures to address and alleviate their vulnerability. Hystad et al. (2019) and Azizabadi et al. (2022) revealed that a strong association between residential greenspace and mental health outcomes was more apparent in lower socio-economic groups which may differ from those living in highly urbanized and long-standing cities.

The study found a significant relationship between anxiety and lack of efficiency due to population density as explained by Xu et al. (2023) that poorer socio-economic conditions are linked with higher chances of depression and anxiety, indicating that as lack of efficiency increases, anxiety also increases. Rapid population growth exacerbates other conditions that affect the environment, such as bad governance, civil conflicts, pollution, and others. Some research indicated that urban living can cause social withdrawal behavior, destroy civility among residents, and reduce the helping behavior of various individuals.

Saturated public transport networks can be seen in urban areas, causing constraints in individuals' day-to-day activities and travel time. The inability to control time wasted on long traveling times and crowded places affects mental health. Crowds, traffic jams, and overcrowding of public transportation cause ambient stress and anxiety in large cities, leading to feelings of powerlessness when traveling. High-stress

of life in urban areas or areas transitioning to urban areas may be addressed and considered to promote the community's welfare and economic growth (Chen, 2015). An important risk factor for depression and anxiety is the social and physical environment (Walters et al., 2004). Social disorder in a community is tangible and easily observed by individuals, such as the status of their area, homes, and the general environment of their living place. It is mainly associated with disadvantaged neighborhoods, unhealthy housing, and incivilities among residents. Green spaces buffer the impacts of stressful and anxiety-inducing life events, enhance satisfaction in the neighborhood, and reduce anxiety and depression (Lakes et al., 2016).

The findings of this study can help address concerns about climate change, other environmental issues, and its interference with an individual's work, school, and other relationships (Clayton & Karazia, 2020). The province is relatively new and still developing, which is a consideration in the study's overall result. Activities catered towards establishing better and more conscious individuals in society are encouraged for self–awareness, and regulation of stressors that may affect them. Implying the need to refurbish, renovate, and redesign neighborhood parks could improve psychosocial and mental health and community well–being (Krefis et al., 2018).

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