



A Relationship of Traffic Congestion and Class Attendance Motivation among College Students in Davao City, Philippines

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ABSTRACT

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Traffic congestion has been observed to be one of the biggest and most prevalent problems on the society. With the policies' implementation of face-to-face classes to the schools, numbers of college students frequently travel and mainly experience traffic congestion. Thus, transportation is one of many potential obstacles that students may experience when attempting to attend class particularly, students in Davao City as they are exposed to traffic and their classes need face-to-face interaction as a requirement to the institution. The study focuses on the significant relationship between traffic congestion and class attendance motivation. This study utilized a descriptive-correlational approach to research where it was used to describe the levels of traffic congestion and the levels of class attendance motivation, as well as to assess if there is a correlation between these variables. The 378 gathered results from one of the higher educational institutions in Davao City serves as respondents has indicated that the traffic congestion is highly observed, and class attendance motivation is manifested in high level. Furthermore, it was found in the study that motivation to attend class and traffic congestion are significantly and positively correlated. Hence, the study concluded that there is substantial proof that the motivation of students to attend class is significantly impacted by traffic congestion. The researcher recommend that future researchers widen the scope of the research and use this as a foundation and source of perspective leading as they explore possibilities for enhancing the study and to provide solution to alleviate this concern through implementation of various public and transportation regulations.

KEYWORDS:

Traffic Congestion, Class attendance Motivation, Descriptive, Correlation, Davao City

INTRODUCTION

Regular class attendance is a crucial factor in educational success, and to maintain good grades, students must abide by their school attendance rules which is common to encourage students to attend classes, so that they can learn more and gain better grades (Foldnes, 2018). However, if the difficulties of being a regular student were not enough, being in traffic congestion increases that burden. Due to their frequent tardiness, they miss a significant portion of their classes, which eventually has a negative impact on their motivation. They have less time to look over their lessons and complete projects when they arrive home late (Lamudi, 2019).

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In the case of students, meeting the time of their class may be difficult, especially if they are in the morning classes because they must get up very early to make it on time (Baustista et al. 2019). It would give additional stress for students because of delays caused by traffic which can make them late for attending classes. Hence, most people experience these delays since they are a common result of navigating congested highways (Cadaoas et al. 2019).

Traffic congestion on the roads has long been a complex issue and it appears that it will remain so. Due to the region's ongoing transportation system expansion, traffic congestion is a major issue for many students in the provinces and cities. It causes travel delays, wasted time, and increased stress, and it can cause people to be late or lose business (Cadaoas et al. 2019). Thus, transportation is one of many potential barriers that students may encounter while attempting to attend school (Stein et al. 2019). Traffic congestion causes significant delays in travel time, which has

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a negative impact on our daily travel experiences. Also, it is characterized by slow driving speed rather than free-flow speed, a phenomenon that has become common in urban transportation systems (Wang, 2022). Since students will be able to return to face-to-face classes, they must follow their schools' attendance policies, which bring back the fight against traffic congestion (Lamudi, 2019).

According to the Philippine Statistics Authority, billions of students use public transportation to get to school. To keep up with their classes, all students must adhere to their class attendance regulations (Philcare, 2020). Students must deal with the physical effects of traffic congestion. It is worth noting that traffic's negative effects in the Philippines extend to one's overall health and well-being (Lamudi, 2019). Above mention citation, it stated that traffic congestion has been a long-present complex problem in the Philippines towards class attendance motivation among students. Therefore, researchers would like to know the viewpoint of the college students' view of traffic congestion has a connection with regard to their class attendance motivation.

In line with this, the general objective of the study is to know if there is a relationship between traffic congestion and class attendance motivation among college student in Davao City. This answers three research questions, first is what is the level of traffic congestion among college student in Davao City. Second, what is the level of class attendance motivation among college student in Davao City. Lastly, is there any significant relationship between traffic congestion and class attendance motivation among college student in Davao City.

Furthermore, this research study is beneficial to the following: First is the students, since most of the students are experiencing traffic congestion which can affect their attendance, this study can give awareness and suggestions to them so that they can find better solutions with regard to this problem. Second is the Department of Transportation and Communication (DTC), this study can make the administration give more attention to traffic congestion and would able to find a better solution to lessen it through implementing different regulations of public and transportation services. Third to the Higher Education Institutions (HEI), which could help them implement extending drop-off and pick-up zones that may ease congestion at school sites and provides additional temporary parking spaces will also be created inside the school. Lastly, this study could pave way for more conduction of the studies by future researchers wherein this research will serve as a basis and a source of perspective leading to their exploration for the improvement of the study.

The main theory that this study was use the Stress-and-coping Model theory that was developed by Lazaruset al. (1984),

which proposed that person variables (such as goals, beliefs, and personal resources) and environmental variables (including harm, threats, and challenge) interact to form a person-environment relationship. As applied in the study, this theory holds that we would expect that the independent variable which is traffic congestion falls under the environmental variable which can influence or explain the dependent variable, class attendance motivation. Through this, stress occurs when the students' perceptions of traffic congestion felt to be too great or burdensome which would affect their motivation and their coping responses become activated. It explains that when an individual is always actively seeking to improve and can generally be motivated by outside factors, they need to enhance their coping mechanisms when experiencing stressful situations.

Meanwhile, the supporting theory used the Social Dilemma System Model by Gifford (2008). This study revolves around explaining the influences of governance, interpersonal, decision-making, and social dilemma awareness that impact the type of strategies people use to make decisions. As applied to this study, this theory assumes that the social dilemma occurs when the members of a group or a society are in potential conflict over the use of public goods like public vehicles which if not used wisely can result in traffic congestion. Public goods involve the responsible use of resources that if it is properly used by the group as a whole will remain organized. However, if they are overused, it will cause disturbance and many will be affected especially the students as it can influence their decision-making when it comes to attending classes. Therefore, this study will assess how high or low traffic congestion influences the class attendance motivation of college students.

METHOD

A descriptive-correlational design was use in this study. This is to describe the relationship between traffic congestion and class attendance motivation among college students, as well as to, assess if there is a relationship between variables. Based on Ivy Panda (2022), descriptive-correlational design is primarily interested in describing the connection between existing variables without seeking to establish a causal connection. Since the descriptive-correlational design is a quantitative type of approach to research (Bandhari, 2021) stated that quantitative research uses numerical data for statistical analysis because a vast number of samples is required, and a numeral value with data is easier to interpret and analyze.

In application, the study's research design enabled to access solutions or answers the research questions that the study has. Implementing a descriptive-correlational design enabled the researchers to analyze data by categorizing the two variables and determining whether a relationship exists or not.

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Furthermore, this allowed the researchers to use survey questionnaires as the means of gathering a large set of data to assess and evaluate its numerical worth (Bandhari, 2021).

The respondents included in the study were college students aged 18 years old and above that are currently enrolled in the school year 2022-2023 from 1st year to 5th-year level and one of the bonafide students in one of the higher education institutions in Davao City. The number of research respondents that was selected for this study is 378 in total. The selection of the respondents from the whole population of students for this study were drawn up through stratified random sampling, a sampling wherein it divides the population into certain subgroups with no representation and bias involved. The research respondents answered the adapted questionnaires on traffic congestion and class attendance motivation. For the research respondents to be able to participate in the study's data collection, they must be college students and must also use private or public vehicles as a means of transportation to give their relevant responses.

The research instrument used a survey questionnaire wherein it gathered responses from the research participants by using a close-ended set of statements. The questionnaires are divided into two categories, the class attendance motivation questionnaire, and the traffic congestion questionnaire.

The first part is the traffic congestion questionnaire that was adapted by the researchers based on the obtained questionnaire from Roadway Congestion Index (RCI) by the Texas Transportation Institute by Hennessy and Wiesenthal (2007). This questionnaire measure how traffic congestion influence students in terms of construct and is divided into two factors, which are Readiness for traffic congestion and negative psychological consequences. There are 10 items questionnaire measured using the 5-point Likert scale.

The individual scores of the participants were interpreted using an Interval Scale made by the researchers to identify the level of traffic congestion among the participants.

Table 1. Rating Scale of Traffic Congestion

Range of Mean	Verbal Response	Descriptive Equivalent	Interpretation
4.20-5.00	Strongly Agree	Very High	The level of college students' awareness on traffic congestion is immensely observed
3.40-4.19	Agree	High	The level of college students' awareness on traffic congestion is highly observed
2.60-3.39	Neutral	Moderate	The level of college students' awareness on traffic congestion is observed.
1.80-2.59	Disagree	Low	The level of college students' awareness on traffic congestion is vaguely observed.
1.00-1.79	Strongly Disagree	Very Low	The level of college students' awareness on traffic congestion is not observed.

The second part which is the class attendance motivation questionnaire was adapted and modified by the researchers based on the obtained questionnaire from Des Moines Public School (DMPS). The factors affecting the student attendance

questionnaire has 32 items based on a 5-point Likert scale, which are strongly agree, agree, neutral, disagree, and strongly disagree.

Table 2. Rating of Class Attendance Motivation

Range of Mean	Verbal Response	Descriptive Equivalent	Interpretation
4.20-5.00	Strongly Agree	Very High	The level of college students' motivation on class attendance is observed at a very high level.
3.40-4.19	Agree	High	The level of college students' motivation on class attendance is observed at a high level.

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2.60-3.39	Neutral	Moderate	The level of college students' motivation on class attendance is observed at a moderate level.
1.80-2.59	Disagree	Low	The level of college students' motivation on class attendance is observed at a low level.
1.00-1.79	Strongly Disagree	Very Low	The level of college students' motivation on class attendance is observed at a very low level.

Data Collection Procedure

The following steps observed in terms of gathering data from the participants.

Asking for permission from the authorities. The researchers addressed a letter of approval for permission in conducting the study to the college students of the Higher Educational Institution of this study.

Making of Inform Consent. The researchers make informed consent which follows and uphold the ethical principles for the research participants and the researchers. Also, the informed consent will be verified by the authorities.

Selecting of Participants. The researchers selected participants who are currently enrolled as 1st to 5th-year college students in Davao City for the school year 2022-2023. The study has 378 participants to agree to take part in survey questionnaire

Distribution of informed consent and questionnaires. The researchers formally distributed the informed consent to ask for the permission of the respondents to be included in the survey by different departments. The respondents must be willing to participate according to the conditions of the consent. After confirming, the participants answered the class attendance motivation and traffic congestion questionnaires given by the researcher.

Retrieval of data. The researcher collected and saved their responses for scaling purposes of tabulating the gathered data using SPSS for statistical analysis.

Tabulation of Data. A statistician computed and tabulated all of the gathered data to create concrete evidence and results regarding what the study investigates.

Interpretation of Finding. The researchers interpreted the tabulated data to create a conclusion for the study.

Statistical Tools

The following tools are used to measure the independent variable and dependent variable.

Mean. This statistical tool is used to get the average score or central value, particularly in determining the average score of the independent variable and dependent variable (Wei, 2021). This tool was used to get the overall average score of the traffic congestion and class attendance motivation among college students in Davao City.

Pearson-Correlation Coefficient. This statistical tool used to determine and measure the degree of relationship between the independent and dependent variables (Rousseau, 2018). This tool was used to measure the association between the average score of traffic congestion and class attendance motivation among college students in Davao City.

DISCUSSION

This section covers all the findings drawn from the study. Analyses were appropriately interpreted, results were effectively reported, and recommendation is also provided from the data that the researchers acquired in the study. The result presented is illustrated through tables showing the level and correlational analysis of Traffic Congestion and Class Attendance Motivation

Table 3. Profile of Respondents

Department	Population	Size	Participants
College of Accounting Education (CAE)	2241	37	37
College of Architecture and Fine Arts Education (CAFAE)	1670	27	27
College of Arts and Sciences Education (CASE)	2336	37	37
College of Computing Education (CCE)	1619	26	26
College of Criminal Justice Education (CCJE)	3097	50	50

College of Engineering Education (CEE)	4996	79	79
College of Hospitality Education (CHE)	1659	27	27
College of Health Sciences Education (CHSE)	1529	25	25
College of Teacher Education (CTE)	2052	33	33
College of Business Administration Education (CBAE)	319	37	37
TOTAL	23518	378	378

The profiles of the research participants are presented in this section. This is a list of the research participants, organized by the inclusion of the study's criteria. Table 3 shows the college departments that the respondents belong. Based on their population, sample size, and overall response rate, the following college departments were categorized and separated. There is a total of 378 responses from the student

population as a whole were gathered to establish the reliability of the study.

Level of Traffic Congestion among College Students

Table 4 presents the findings of the research respondents in terms of the level of traffic congestion which examines two factors, readiness for traffic congestion and negative psychological consequences.

Table 4. Level of Traffic Congestion among College Students

Variable	Mean	StDev
Readiness of Traffic Congestion	3.66	0.796
Negative Psychological Consequences	3.22	0.828
Overall Traffic Congestion	3.69	0.815

As indicated on the table above, the student's overall mean score is 3.69 and have a standard deviation of 0.815 which described at a high level. Which means that college student's awareness of traffic congestion was considered in a high level. This signifies that even if they leave their home residence early in the morning and leave the school too late to avoid traffic congestion but they still have a negative experiences of traffic congestion that adds up to their health emotional effects such as stress, anxiety and frustration. Furthermore, college students found to have significant levels of two factors which measured: readiness for traffic congestion and negative psychological consequences.

The computed mean score and standard deviation are the results of two existing factors: readiness for traffic congestion with a means score of 3.66 and a standard deviation of 0.796. This signifies that they have a high level of adoption and awareness of the condition of traffic congestion occurring in Davao City. It means that college students in Davao City are well aware that there is traffic congestion so they leave early on their home due to traffic congestion that they may face everyday morning and even stay at school late just to avoid traffic congestion.

Consequently, the student's negative psychological consequences obtained a mean of 3.22, and a standard deviation of 0.815, indicating that they have a moderate level of emotional health effects that cause anxiety, frustration, and stress. This signifies that when travelling to school students feels stressed and frustrated when stuck in the road traffic congestion. Thus, the results provided evidence to the theoretical assumption of Gifford (2008) Social Dilemma System Model, which stated that the influences of governance, interpersonal, decision-making, and social dilemma awareness that impact the type of strategies people use to make decisions. When students face social dilemma over the use of public goods like public vehicles it will cause disturbance and many will be affected especially the students as it can influence their decision-making when it comes to attending classes. This is evident in the results of the two sub-indicators of traffic congestion, namely, readiness for traffic congestion and negative psychological consequences, which garnered an overall high level of awareness and adoption towards traffic congestion.

In general, by considering the two indicators—readiness for traffic congestion and negative psychological effects—it has

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been determined that exposure to traffic congestion must be regarded as a substantial predictor of the negative psychological effects among students. This was supported based on the study conducted by Reddy et al. (2021), who found that there a significant positive correlation between traffic congestion and commute stress towards college students. According to the findings that traffic congestion has a mental health effect such as stress, anxiety and frustration of the college students. It was also stated in the study that government involvement specifically the department that handles public transportation to abate the said negative experiences and consequences of traffic congestion. Another study conducted by Cerdas et al. (2021) according to the findings that ninety percent of the college students expressed that they experience stress and frustrations as traffic congestions occurs. It mentioned that due to traffic congestions students' level of stress increases as they took public transportation and this eventually adds up a negative

impact towards their academic performances including the attendance.

Furthermore, based on the study conducted by Castulo et al. (2019) which stated that student lives are greatly impacted by traffic congestion. It is one of the most important issues that student face in major cities on a daily basis. Because most individuals have to deal with it on a regular basis, they may suffer psychologically and has a detrimental impact on their work, education, and personal lives.

Level of Class Attendance Motivation among College Students

Table 5 shows the findings of the research respondents in terms of their level of class attendance motivation. It examines three factors: classroom learning, student social and emotional support, as well as the student-teacher and teacher-family relationship, along with the context of the findings and whether there is a significant relationship between the variables.

Table 5. Level of Class Attendance Motivation

Variable	Mean	StDev
Classroom Learning	3.79	0.576
Student Social and Emotional Support	3.50	0.641
Student-Teacher and Teacher-Family Relationship	4.07	0.767
Overall Class Attendance Motivation	3.78	0.561

Based on the table above, the student comes with an overall mean score of 3.78 and a standard deviation of 0.561 in terms of class attendance motivation. The findings suggest a high level of class attendance motivation among college students in Davao City. It means that student motivation about attendance is highly observed when they feel comfortable, connected and belong to their class and also when teachers provide opportunities, challenged them and encourages them to succeed academically. In addition, students are motivated to attend classes if there is a social and emotional support coming from their teacher and family like supporting and letting them express their feelings, showing respect, encouragement and letting them participate in school activities.

Furthermore, college students were found to have a significant level of all three factors of class attendance motivation which measured: Classroom learning, student social and emotional support, and student-teacher and teacher-family relationships. The computed mean scores and standard deviation are the results of three factors: classroom learning, with a mean level of 3.79, and a standard deviation of 0.576, described as high level. This means that college students have the motivation to attend classes to learn in a classroom setting if the teachers provide opportunities for students to participate in any activities held inside the school,

also supporting and taking care of their learning and making them feel belong and comfortable inside the classroom setting.

Consequently, student social and emotional support garnered a mean level of 3.49 and a standard deviation of 0.641, showing that students have received a high level of motivation to attend classes when they can feel togetherness. In addition, students are motivated to attend classes if teachers are showing cares toward them, provide opportunities throughout the school day and letting them identify and express their feelings. Having teachers who supports and cares about their students can positively impacts attendance.

Lastly, the student-teacher and teacher-family relationship is described as a high level and the highest level among the three factors. It explains that students are more likely to attend classes if they feel respected, being encouragement to participate in any activities in a school and being supported by their teachers at the same time showing interest on things they love to do.

Thus, the results provided evidence to the theoretical assumption of Lazarus& Folkman (1984) Stress-and-coping Model theory, which person variables like goals, beliefs,

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motivation and personal resources interact to form a person-environment relationship. This means that the environment itself of a student whether it is in home or school setting which include the person around the students could have an impact or influence towards their motivation to attend classes. This is evident in the results of the three sub-indicators of class attendance motivation, namely, classroom learning, student social and emotional support, and student-teacher and teacher-family relationships, which garnered an overall high level of high level of motivation on class attendance.

In general, it supported the assertion conducted by Fong (2022) where students arrive at college with identities, upbringing, relationships, accomplishments, and disappointments that have molded them. Student motivation in college is influenced by their sense of agency, their ability

to apply their assets to the academic setting, the personal and collective worth of what they are learning, and their sense of belonging. Students are also thinking about their learning in terms of their future personal and familial aspirations, their sense of purpose, and their understanding of what is achievable for them given the reality of uneven opportunity structures. Alvarez (2018) mentioned that motivation is often seen as being related with human needs, which in turn stimulates learning behavior, which may lead to quality education.

Correlation of Traffic Congestion and Class Attendance Motivation among College Students

Table 6 shows the relationship between the research respondents' level of traffic congestion and classroom attendance motivation among college students.

Table 6. Significant Relationship Between Traffic Congestion and Class Attendance Motivation among College Students

CORRELATIONS		
	Overall Traffic Congestion	Overall Class Attendance Motivation
Person Correlation	-	0.472*
Sig. (2-Tailed)	-	0.000
N	378	378

*p-value < 0.05

The primary goal of the study was to determine if the level of traffic congestion have a relationship to the level of class attendance motivation among college students in Davao City. According to the correlation analysis, the p-value acquired is 0.000, which is less than the 0.05 level of significance. This implies that there is a significant relationship between the independent variable; traffic congestion and the dependent variable which is class attendance motivation among college students in Davao City. As a result, it can be interpreted that college students are aware of negative psychological consequences of traffic congestion such as stress, frustration and anxiety. This signifies if college students' level of awareness towards traffic congestion is highly observed that would likely have an influence to their level of motivation to attend classes all throughout. Thus, the results provided evidence to the theoretical assumption of Lazarus & Folkman (1984) Stress-and-coping Model theory, which stated that the person variables such as goals, beliefs, motivation and personal resources and environmental variables including harm, threats, and challenges (traffic congestion) interact to form a person-environment relationship. This means that stress occurs when the students' perceptions of traffic congestion felt to be too great or burdensome which would affect their motivation to attend classes.

This is evident in the results of the two variables which is of traffic congestion which have two factors, namely, readiness of traffic congestion and negative psychological

consequences, and the class attendance motivation which have three factors, namely, classroom learning, student social and emotional support, and student-teacher and teacher-family relationships which garnered an overall high level of awareness on traffic congestion and a high level of motivation on class attendance.

This notion is similar to the study of Lamudi (2019), which claims that there is a statistically significant association between traffic congestion and class attendance motivation. It states that due to traffic congestion students miss a significant portion of their lesson which only adds up and has a negative impact of on their motivation throughout the time. Mugoro (2018) also stated that transportation has significant influence to school attendance of students. Some students missed their first class in the morning and even escaped afternoon sessions as they look for transportation and lastly skip school due to traffic congestion.

Lastly, the researchers started their research with the assumption that traffic congestion has no effect on students' motivation to attend class. Nonetheless, the data revealed a significant relationship between traffic congestion and students' motivation to attend class.

CONCLUSION

Traffic congestion is a situation that affects college students in Davao City. The study indicates that the level of traffic

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congestion is highly observed. It influences on the time period chosen for student's transportation and found that it can negatively affect emotional state relatively. An outcome that are significantly correlated of the student's motivation to attend classes.

The study concludes that the level of class attendance motivation among college students is at high level. It means that the students have a good viewpoint when it comes to attending classes. Students that are motivated to attend classes are considerably more likely to succeed and fulfill their potential. In order for learning to be effective, motivation must be present. Students exhibit more positive behavior as a result of it, and it also increases their sense of well-being.

There is significant relationship between traffic congestion and class attendance motivation among college students in Davao City. This means that if college students negatively experienced traffic congestion along their way to go to school like they feel such as stress, frustration and anxiety that would eventually impact their level of motivation to attend classes all throughout the time. Thus, the correlational analysis garnered sufficient evidence to reject the null hypothesis.

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