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Angsts of High School Students on Test Paper: A Phenomenological Exploration

Charlie A. Dayon, Ph.D[1]. and Edmun Docena, MAEM[2]
[1] Faculty, Agusan Del Sur State College of Agriculture and Technology
Bunawan, Agusan Del Sur
[2] Faculty, Maragusan National High School, Department of Education, Davao Region

ABSTRACT

Students' anxiety in taking a test was the issue of this qualitative phenomenological exploration. Using this research design, the primary intention of describing the experiences of 10 selected high school students in taking a test in General Education Subjects was attained. The results depicted the experiences of student participants in taking a test. In the analysis of information drawn from the interview, some dominant themes emerged. As regards the test paper which they received from their teachers in General Education subjects, emerging themes were the proper construction of the test questions and the provision of choices. This suggested that the test papers as viewed by the participants were easy to answer. However, during the interview for the second question, they seemed to have opposing views. Some told about their anxiety of the results of the test while others were seemingly glad of their performance because they found some test items easy to answer. Moreover, several actions were suggested to the stakeholders of the school. The school head might consider the proposal of improving the quality teaching and learning of the school. The teachers might also improve their teaching styles, classroom management system, and test construction. They might adopt Constructivist theory to facilitate students during the teaching – learning process. The future researchers might finally conduct similar study in a different setting or locale. They might further use a combination of qualitative and quantitative research design in order to capture a clear picture of the phenomenon of test anxiety.

INTRODUCTION

How would one feel if the outfit which a tailor had prepared for him is out of shape? Would he be excited to wear it? In the same manner, how would a student feel if the test paper which his teacher had provided him is unfitting to him? Would he get inspired to take it?

In the global setting, Triplett and Barksdale (2005) discover that there is a prevailing negativity in students' responses and anxiety on test. In response to their findings, they advocate for changing the overall testing culture and the teacher's role in test preparation. In 2006, Cizek and Burg also find it worth advocating to change the testing culture as they discover the harmful effects of a badly constructed/prepared test questionnaire primarily on students. So, they believe that there is a great need to help educators, parents, and students in addressing test anxiety and the problems it causes.

In the national setting, Cuizon (2013) discovers that his participants manifest negative impression and perception on test papers. The results of the interview and focus group discussion reveal that the participants perceptually describe test paper as exhaustive and arduous. For them, it is tough and unlikable. They feel that by taking the test they are being punished rather than being assessed. Some of them open up that there are a lot of traditional and linguistically-oriented type of test papers.

Nevertheless, advocating for change in testing culture is a challenging effort. Once a change is applied, it can bring about favourable effect to the psychic and mental health and development of the learners among many others. The urgency of pursuing it lies on the fact that the test and evaluative situations are emerging as a potent class of stressors in Western society. It is frequently cited as a cause of poor cognitive performance, scholastic underachievement, psychological distress and ill health (Weidner, 1998 as cited by Zeidner, 2007). Zeidner adds that this stressor also jeopardizes test validity in the cognitive domain and constitutes a major source of construct irrelevant systematic variance in test score.

In Maragusan National High School, this phenomenon has seemingly been prevalent too. My co-researcher and I have observed in several occasions especially during the periodical examination that most of their high school students seem to manifest in their facial expression and bodily movement some clues of distress, anxiety, restlessness, and the like. When their test papers are checked by their subject teachers, we found out that some of them fail to get a passing score. This incident of getting a failing score in the examination does not only happen once but several times. As we find it alarming, we have taken the challenge of conducting a qualitative inquiry.

Research Objectives

In this qualitative phenomenological study, we primarily aimed to explore the experiences of selected student participants in taking a test in General Education Subjects in order to find emerging reasons which might be considered as the root causes of their poor test performance and psychological distress. The findings of this inquiry could be used as our bases in suggesting doable actions or activities which could somehow address test-related problems or issues. Additionally, the discussion of the results may espouse a new knowledge or confirm Constructivist theoretical lens.

1. How do the student participants describe the test papers which their teachers in General Education subjects have prepared?
2. How do they describe their experiences when taking the test?
3. From their experiences, what insights can be drawn?

METHODS

Qualitative – phenomenological study would be used for the purpose of exploring the experiences of selected students at Maragusan National High School. In attaining this purpose, we adhered to Creswell's guidelines (2012) in which 'open-ended' questions for interview was applied to get authentic understanding of people's experiences. Furthermore, through this interview approach, we encouraged our participants to offer their own definition or meaning of the phenomenon.

In adherence to Silverman's guidelines (2006) as cited in Bryman (2008) for purposeful sampling, we set a criterion for the selection of the 10 student participants to insure the authenticity of the information, and these included the three or four year of residence in school the Grade 9 and 10 in the Junior High School and Grade 11 and 12 in the Senior High School of Maragusan National High School.

To abide the research ethics, we considered the following issues. Prior to the undertaking of the study, we sought a research clearance permit from the Schools Division Superintendent of Davao de Oro Division, Nabunturan, Compostela Valley Province. Permission was also sought from the Principal of Maragusan National High School of the respective students and learners. Administrators of the respective schools were also asked for their permission. Since minors were involved in the study, permission of the parents was sought.

As qualitative researchers, we played some roles while conducting the study, such as interviewer and transcriber. As an interviewer, we gained first the trust of the informants before interviewing them. We assured them that their identity was hidden, and the information they disclosed with us was kept confidential. During the interview, we requested the assistance of a note-taker to note down their observation from the participants' actions or facial expressions. Likewise, when the informants did not understand some of our questions, we shifted to local language for their own understanding.

As a transcriber, we decoded the data from recorded form to another including those noted non-verbal cues such as, facial expressions, vocal tone and manner of reactions or responses of the informants. If some information was incomprehensible to us, we referred to the records of the note-taker.

To ascertain the credibility of the information, we did not rely only on one source of information, but also on the data from extensive forms such as interviews, related literatures and studies, and theories (Creswell, 2012).

Finally, in analyzing data, we adopted the process such as, data managing, reading, memoing, describing, classifying, interpreting, representing and visualizing (Glaser & Strauss, 1967; Goetz & LeCompte, 1984 as cited in Creswell, 2012).

RESULTS AND DISCUSSIONS

In this section, the emerging themes drawn from the angst of high students on test paper were presented in matrix and discussed in the light of Constructivist Theory espoused by Jean Piaget.

Students' Description of Test Papers

In pursuit of figuring out students' description of the test papers, this section presents and discusses the dominant themes. For better understanding, each of them is unpacked using Piaget's Constructivist theory.

The themes which emerge from the students' consolidated descriptions of their test papers are: (1.) The test questions in the test paper are properly constructed. (2.) The correct answers are found in the given choices.

Proper construction of the test questions. In this description, the student participants say that their test paper especially in General Education subject is constructed well by their subject teachers. When they are asked why, they seemingly point out that there is an existing mechanism to ensure the quality of test that is given to students. In this process, all test papers must pass through the office of the teachers' supervisor to check the content and structure of the test. After the scrutiny, these are endorsed for printing and production of copies. During the interview, the students disclose:

> *"Gi-preparar ug maayo sa mga titsers sa General Education subjects ang test" (The test prepared by our teachers for General Education subjects are properly made and prepared."(R-IDI-01)*
>
> "Gi-ribyo pud sa mga akademik titsers ug skul administrator ang test paper." *(The test paper is reviewed thoroughly by the concerned academic teachers and school administrator.) (R-IDI-02)*

Why is there a need to review the content and structure of the test paper? According to Weare (2004), one of the most important aspects of test construction is accuracy: that the tests produced are free of defects. At least two studies cite the presence of defects in the test as

particularly anxiety producing for students. Weare (2004) in her survey of adult learners returning to school, notes that "poor test construction ... coupled with poor scoring and grading practices, causes anxiety." Weare added poor test construction specifically due to vaguely worded essay questions and "items not used to measure understanding ... in which the emphasis is placed on small details which are trivia." Madsen and Murray (1984) likewise found their qualitative study of test anxiety in ESL students several exam defects which these students had cited as being anxiety producing for them. These included: unclear essay instructions, inadequate space to write responses, numbering errors on the test, and poor sound quality on audio tapes used on listening sections of language tests.

Provision of choices. In the test papers, the students find choices of answers. However, they cannot just simply pick out any answer to a question. They ought to recall their lessons and analyze the given contexts before picking out a chosen answer. What most of them say is that the test is both easy and difficult:

> *"Ang ubang pangutana sa test sayon ra, pero adunay uban nga lisud pud. Adunay test nga enumeration, true or false, ug multiple choice. Sa ilahang tanan, lisud ang modified true or false ug sayon ang multiple choice."* (Some test questions are easy while others are difficult. There are types of test: enumeration, true or false, and multiple choice. Among these, I find modified true or false as the most difficult while multiple choice is the easiest one.) (R-IDI-03)

Enumeration, Modified True or False, Multiple Choice and the like are types of examination which any teacher may prepare for his or her students. We argue that using a variety of test types can address the uniqueness of an individual learner. As long as the teacher knows of his or her students' diverse needs, he or she can use these types of test with a touch of creativity which stimulates students' interest, imagination, and critical thinking. Hence, this variety can be instrumental to activating the process of accommodation and assimilation which, for Piaget, enable the individuals to construct new knowledge from their experiences.

In the process of assimilation, the individuals incorporate new experience into an already existing framework without changing that framework. This may possibly occur when individuals' experiences are aligned with the internal representations of the world. However, this may also occur as a failure to change a faulty understanding. For instance, when they know that their answer in the test is incorrect, they come to realize that their understanding about the subject matter is faulty. Hence, such an experience serves as a lesson to them.

In contrast, when individuals' experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations. According to the theory, accommodation is the process of reframing one's mental representation of the external world to fit new experiences. Accommodation can be understood as the mechanism by which failure leads to learning: when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experiences of failure, or other's failure.

On the other hand, the theory of Social Constructivism explains that using a variety of test types does not only acknowledge the uniqueness and complexity of the learner, but encourages, utilizes, and rewards it as an integral part of the learning process (Wertsch, 1997). It seems that the test is motivating because the students, who are taking it, are caught smiling. When they are asked of the reason why they are happy, they say, *"Halos lahat ng pinag-aralan naming ay lumabas* (All those we studied came out.)." *(R-IDI-05)*

So, what do they suggest? These students suggest that the teacher has discussed the coverage of the examination. Or, during the session, the teacher facilitates the discussion of the lessons.

On this note, we argue that there is an interaction between the students and the teacher. We assert the point that through interaction, the learning capability of students is activated because they are given the opportunity to think, analyze, and assess whether their responses are right. However, while it is true that interaction takes place in the classroom, it cannot be denied that both the teacher and the students, who are equally involved in exchange of thoughts and opinions, learn from each other (Holt & Willard-Holt, 2000). Although in this learning experience they can be both subjective and objective of their ideas, what is essential is that the teacher's culture, values, and background interplay in shaping the facets of his or her students' cognition.

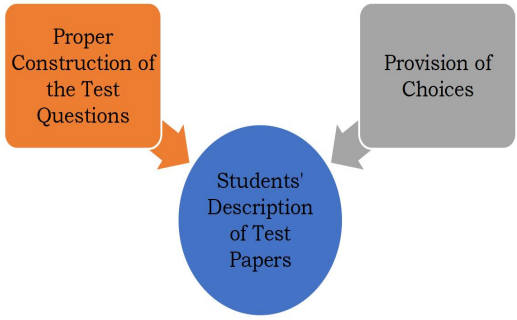

Figure 2. Emerging Themes of Students' Description of Test Papers

Description of Experiences in Taking the Test

As to the experiences of students when taking the test, the dominant themes which emerge are: (1.) anxiety and (2.) gladness.

Anxiety. During the interview, the students are asked of their experiences when they take the test. They say that they are worried of the results because there are some test questions which they can hardly answer. Although they study their lessons, those which come out in the test are not discussed nor taken up. They say:

> *"Gikul-baan ko kay akong gi-anseran ang ubang kwestiyon na dili part sa amohang diskasyon sa klase."* (I felt nervous because I answered some questions which were not part of our discussion in class.) *(R-IDI-07)*
>
> *"Ako ay naging kabado dahil hindi ko alam kung masasagutan ko ba lahat ng tama ang mga katanungan (I was nervous because I did not know if I could answer all the questions correctly.)" (R-IDI-08)*

There are many causes of test anxiety. It is revealed in this study that one of them is the lack of preparation. The students presume that only those which are discussed in class would come out in the test, so they do not mind reading textbooks or even those recommended references by their teacher. In consequence, there are test items which they fail to answer.

In this scenario, the students seemingly manifest their imperfection. They seem unaware of their responsibility as students. On Social Constructivism, the teacher must help develop the sense

of responsibility of his or her students. Likewise, he or she must have taught them how to construct their own understanding so that they do not simply mirror and reflect what they read. They must have helped them find meaning, regularity, and order in the events of the world even in the absence of full or complete information (Glasersfeld, 1989).

Gladness. Some students in this study show how happy they are because they find the test easy to answer. It may be true that the test is easy, but what makes it easy is the fact that they prepare for it by studying hard.

> *"Abi nako lisod, dili diay. Sayon lang diay anseran."* (I thought they were hard, but they were actually easy to answer.) *(R-IDI-09)*

Finding the test easy to answer is due to adequate preparation of the learners for the examination. Such preparation is however dependent on how engaging and challenging the activities are that can enhance learners' skills and knowledge. According to Brownstein (2001), learners should constantly be challenged with tasks that refer to skills and knowledge just beyond their current level of mastery. This captures their motivation and builds on previous successes to enhance learner confidence.

Vygotsky (1978) further claimed that instruction is good only when it proceeds ahead of development. Then, it awakens and rouses to life an entire set of functions in the stage of maturing, which lie in the zone of proximal development. It is in this way that instruction plays an extremely important role in development.

Moreover, Derry (1999) explained that to fully engage and challenge the learner, the task and learning environment should reflect the complexity of the environment that the learner should be able to function in at the end of learning. Learners must not only have ownership of the learning or problem-solving process, but of the problem itself.

Where the sequencing of subject matter is concerned, it is the constructivist viewpoint that the foundations of any subject may be taught to anybody at any stage in some form (Duffy & Jonassen, 1992). This means that instructors should first introduce the basic ideas that give life and form to any topic or subject area, and then revisit and build upon these repeatedly. This notion has been extensively used in curricula.

It is also important for instructors to realize that although a curriculum may be set down for them, it inevitably becomes shaped by them into something personal that reflects their own belief systems, their thoughts, and feelings about both the content of their instruction and their learners (Rhodes & Bellamy, 1999). Thus, the learning experience becomes a shared enterprise. The emotion and life contexts of those involved in the learning process must therefore be considered as an integral part of learning. The goal of the learner is central in considering what is learned (Brown et al., 1989; Ackerman, 1996).

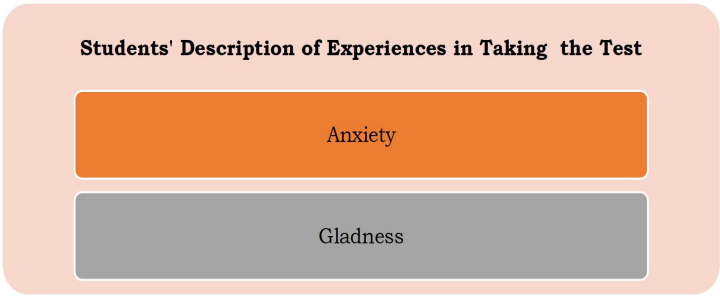

Figure 3. Emerging Themes of Students' Description of Experiences in Taking the Test

Insights from Experiences

The experiences of the students in taking the test somehow vary. However, despite this variation, these incidents become their turning points. Among these realizations include the learning of the English language through reading, the benefits of studying hard and following instructions:

> *"Napagtantoan ko sa aking sarili na dapat akong mabasa ng wikang Inglis at mag-aral ng maigi" (I realized that I should read in English and study well.) (R-IDI-11)*
>
> *"We need to study well for the exams so that we can answer the questions. And, we must follow the rules so that we can catch up the lessons." (R-IDI-12)*
>
> *"I must study even before the exam. I should also study some related information to our topics especially in Mathematics." (R-IDI-05)*

After experiencing difficulties in taking the test as there are some test items which are not discussed in the class, they see how important it is to prepare for it by developing their study habits and testing skills:

> *"Nituo ko nga ang ang senior high maga-preparar kanamo padulong sa sunod namong dyorni pinaagi sapag imprub sa amohang estudi habits ug testing skills."* (I believe that senior high school is preparing us to our next journey by improving our study habits and testing skills.) *(R-IDI-08)*
>
> *"Na-realaiz nako nga ang tama nga preparasyon bag-o mag exam makatabang gayod sa pag-tubag sa mga panguntana sa exam."* (I realized that proper preparation before the exam would help us answer the test questions.) *(R-IDI-9)*

Then, the other one is seeing the value of sacrifice, perseverance, and commitment to achieving success in life:

> *"Dahil mahirap lang ang aming buhay at maraming mga pagsubok na dumarating sa amin, ito ang aking naging daan. Hindi hadlang ang kahirapan upang susuko na tayo sa pagaaral.*

Bilang isang mag-aaral, magsakripisyo ako upang maabot ko ang aking mga pangarap at matulungan ko ang aking mga magulang balang araw." (Because we are poor and there is a lot challenges that came to our life, it is the only way. As a student, poverty is not the hindrance in achieving my goals and dreams in life in order to help my parents someday) (R-IDI-10)

"Kailangan kong seryosohin ang pagsagot sa mga pasulit dahil dito rin nakabase ang markang makukuha ko at sa markang iyon ang silbing kapalit sa mga paghihirap ng aking mga magulang sa pagpa-aral sa akin at kahit na may mga pagsubok mang dumating hindi rin iyon ang maging hadlang upang matupad ang aking mga pangarap na magsisilbing gabay at aahon sa amin balang araw." (I need to take it seriously in answering the test because it will be the bases of my grade and that grade will be the reward of the sacrifices of my parents. Even though there is lot of challenges that I face it will not be the hindrance to achieve my goals and my dreams in life. It will be my guide and it will lift up our life someday). *(R-IDI-02)*

And, above all these is that they see the importance of prayers in their studies for guidance:

"Palaging manalangin at di-gumawa ng mali at paghutihin ang pag-aaral. (Always pray, don't do anything wrong and study well) (R-IDI-07)

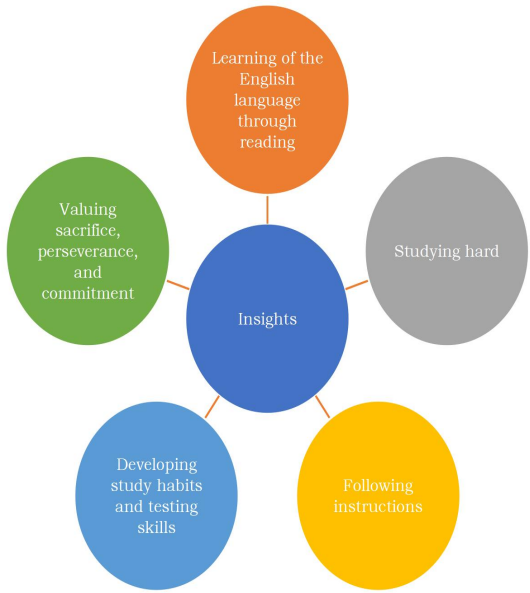

Figure 5: Insights drawn from Students' Experiences

References

Alpert, R., & Haber, R. (2000). Anxiety in academic achievement situations. Journal of Abnormal and Social Psychology, 61, 207-215.

Anderson, S. B., & Sauser, W. 1., Jr. (2005). Measurement ol test anxiety, an overview. In Spielberger. C. D. & Vagg, P. R. (eds.) Test Anxiety: Theory, Assessment, and Treatment (pp. 15-33). Washington, DC: Taylor and Francis.

Bandalos, D. L., Yates, K., & Thorndike-Christ, T. (2005). Effects of math self-concept, perceived self-efficacy, and attributions for failure and success on test anxiety. Journal of Educational Psychology 87(4).

Bander, R. S., & Betz. N. i:. (2001). The relationship of sex and sex role to trait and situationally specific anxiety types. Journal of Research in Personality, 15(3), 312-322.

Barkley, R. A. (2000). Attention deficit hyperactivity disorder: A handbook for diagnosis and treatment. New York: Guiford Press.

Bear, G. G., Clever, A., & Proctor, W. A. (2001). Self-perception of nonhandicapped children and children with learning disabilities in integrated classes. Journal of Special Education 24(4), 409-426.

Benson, J. & Bandalos, D. L. (2002). Second-order confirmatory factor analysis of the Reactions to fests scale with cross-validation. Multivariate Behavioral Research, 27(3) 459-487.

Benson, J. & El-Zahha, N (2004). Further refinement and validation of the Revised Test Anxiety Scale. Structural Equation Modeling, 1 (3). 203-221.

Bronzaft, A. I,., Murgatroyd, D., & McNeilly, R. A. (2004). Test anxiety among black college students: a cross cultural study. Journal of Negro Education 43(2). 190-193.

Brown, S. I., & Nelson, T. L. (2003). Beyond the uniformity myth; A comparison of academically successful and unsuccessful test anxious college students. Journal of Counseling Psychology 30(3), 367-374.

Bruck, M. (2006). Social and emotional adjustments of learning disabled chiklren: A review of the issues. In S. J. Ceci (Ed.). Handbook of cognitive. social. and neuropsychological aspects of Learning disabilities (pp.361-380). Hillsdale. NJ: Earlbaum.

Bryan, J. M., Sonnefeld, I. J., & Grabowski, B. (2003). The relationship between fear of failure and learning disabilities. Learning Disability (Quarterly. 217-222.

Cohen. J., & Cohen, P. (2005). Applied multiple regression/correlation analysis for the behavioral sciences. Hillsdale. NJ: Lawrence 1 Earlbaum.

Comunian, A. L. (2009). Some characteristics of relations among depression, anxiety, and sell-efficacy. Perceptual and Motor Skills 09(3), 755-764.

Cosden. M. A. & Macnamara, J. (2007). Self-concept and perceived social support among college students with and without learning disabilities. Learning Disability (Quarterly, 20 (1) 2-12.

Duffy, T.M. and Jonaseen, D. (Eds.). (1992). *Constructivism and the technology of instruction: A conversation.* Hillsdale NJ: Lawrence Erlbaum Assocates.

Gamoran, A., Secada, W.G., and Marrett, C.A. (1998). *The organizational context of teaching and learning: changing theoretical perspectives*, in Hallinan, .T. (Eds), Handbook of Sociology of Education.

Glasersfeld, E. (1989). Cognition, construction of knowledge, and teaching. Syntheses, 80(1), 1210140.

Holt, D.G. and Willard-Holt, C. (2000). "Lets get real – students solving authentic corporate problems". *Phi Delta Kappan*, 82(3).

Wertsch, J.V. (1997). "Vygotsky and the formation of the mind" Cambridge.

A Structural Model of the Work Performance of Teachers in Public Elementary Schools In Region XI

Catherine B. Flojo and Mona L. Laya[2]

[2] Faculty, College of Arts and Humanities
University of the Immaculate Conception, Philippines

ABSTRACT

Several factors affect work performance, especially for public elementary school teachers during this COVID-19 pandemic. Thus, this study was conducted to find the best fit model for work performance. Descriptive correlational research design using a total enumeration technique was used in determining the schools and purposive sampling in choosing the study respondents. Adapted survey questionnaires were used, which underwent reliability testing in the local context. Mean, standard deviation, and multiple linear regression were used in statistical analysis. Likewise, to generate the best fit model for work performance, structural equation modeling (SEM) was used. The results revealed that the level of school climate of schools and the level of conflict management styles of principals were high. Also, the level of emotional intelligence and work performance of teachers was very high. Furthermore, school climate, emotional intelligence, and conflict management styles were directly significant in predicting work performance. The best fit model is hypothesized model 5, which yielded good results as indicated by the indices of goodness fit.

KEYWORDS**:** Education, school climate, emotional intelligence, conflict management styles, work performance, structural equation model, Philippines

INTRODUCTION

Background of the study

To date, there were close to 85 million teachers worldwide: 9.4 million in pre-primary; 30.3 million in primary; 18.1 in lower secondary; 14.0 in upper secondary; and 12.5 in tertiary education (World Bank, 2021). Teachers played a critical role in achieving inclusive and quality education for all and yet their work performances were always evaluated and oftentimes criticized. Evaluation on work performances was conducted every end of the school year. Satisfactory or unsatisfactory work performances were affected by some factors. Some of the factors such as conflict (Paresashvili, 2021), working environment (Masoom, 2021) and management of school head (Hasbay, 2018) affect teachers' performance.

Studies were also conducted by Alonazi (2020) and Garrison (2021), exploring emotional intelligence and they reveal that to reduce stress employers should establish a school climate of acceptance, understanding, and an open communication to express their concerns. On the other hand, Saleem (2021), revealed that during pandemic, if the managers were not able to support the employees on their emotion and keep the working environment safe can led to poor work quality performances and errors. Likewise, Sadovy (2021) reveal that emotional intelligence had a direct

effect on workers' performances during pandemic, the higher the emotional intelligence the higher the performance.

More so, as the world combat against the COVID-19 pandemic, in the Philippines, the Department of Education (DepEd) implemented the Learning Continuity Plan to deliver education to learners. DepEd provided Self-Learning Modules (SLMs) with the alternative learning delivery modalities for various types of learners including modular, television-based, radio-based instruction, blended, and online. With this existing scenario, public school teachers need to adapt to this emerging shift with increasing demand of their workloads.

Using contingency management theory developed by Fred Fiedler (1960), the school heads approach this pandemic was based on how the situation in their schools turned out like collaboration among faculty and administrators to allow free flow of input and share their own ideas to explore optimal outcomes. The changing circumstances changed the school climate that required the school head to respond to the causes of individual problems of teachers, that also influenced their ability to solve problems and work performance; and other people within the organization rather than overreacting to the problem itself, such as conflict on health protocols and skeletal work schedules. Also based on the organizational conflict theory by Louis R. Pondy (1967), with the changes imposed as a result of the health protocol and the multifarious requirements as a result of the need for compliance, conflict management should be honed, leaders should possess, if possible, all types of leadership style to solve the problems that arose to ensure positive work performance of all the members in the organization.

Based on numerous varied results of the previous studies mentioned above on conflict management styles (Hasbay, 2018; Paresashvili, 2021) , school climate (Masoom, 2021; Garcia & Weiss, 2019) , emotional intelligence (Alonazi, 2020); Garrison, 2021; Saleem, 2021), these factors significantly predict negatively or positively teachers' work performance. Most of this studies are contextualized in other countries, quantitative in nature and have not explored yet modelling. Thus, this study is very timely for it measured again the changes of level: satisfactory or not satisfactory, of teachers' work performance during pandemic. A research-based model was proposed to improve teachers' work performance when there was an external stressor like COVID-19.

METHODS

Research Design. This quantitative study utilized a descriptive research design to attain its objectives. Descriptive research design describes the characteristics of a population. It collected data that were used to answer a wide range of questions pertaining to a particular population or group (Fluet, 2021). This methodology was used in this study to describe the levels of conflict management styles of school heads, school climate, emotional intelligence, and work performances of teachers.

In addition, the investigation used Structural Equation Modeling (SEM) to come up with a best fit model of work performance of teachers which can be a basis for planning and intervention programs among organizations. This design was used by the researcher because it estimated the multiple and interrelated dependence in a single analysis. In this analysis, two types of variables used: endogenous variables and exogenous variables. Endogenous variables were equivalent to dependent variables (work performance) and exogenous variables were equal to the independent variables (conflict management styles, school climate, and emotional intelligence).

Research Locale. The study was conducted in Region XI. Particularly, this involved the public elementary schools of different divisions. The participating divisions are Davao City, Davao de Oro, Davao del Norte, Davao del Sur, Davao Occidental, Davao Oriental, IGACOS, Mati City, Panabo City, and Tagum City. Specifically, the survey was done to public schools in Region XI.

This locale was selected because of some considerations, private schools were not included in the study due to the difference in administrative structure, fund support, number of teachers, school climate, class size and etcetera. This study focused on the similarity of school climate, and organizational hierarchy.

Research Respondents and Sampling . The respondents of this study were the 400 public elementary school teachers of the ten divisions in Region XI. The criteria for selection were that the respondents had served for at least one school year as permanent and must not have gone on leave for the past six months. These criteria assured that the respondents had an exposure and experience on the characteristics and leadership of their school head as well as the school climate.

The study only limits its respondents to public elementary school teachers to observe similarity. In reference to the sample size, an estimate non-response rate of 30 percent is considered. On one hand, a total enumeration technique was used in determining the schools. On the other hand, purposive sampling was used in choosing the teacher-respondents. This technique also think that these respondents fit the profile of the people that they need to reach (Alchemer, 2021).

Research Instruments . In this study, four research questionnaires were used to gather data from the respondents, namely: conflict management styles questionnaire, school climate, emotional intelligence questionnaire, and individual work performance questionnaire. To ensure that the questionnaires were aligned to the local context, these tools were subjected for content validity by five experts. For reliability test, a pilot testing was done, and the questionnaires were distributed to the teachers, who were not part of the actual respondents, using Google forms.

The adapted questionnaire on conflict management style is the Rahim Organizational Conflict Inventory–II (ROCI–II) 28-item questionnaire measuring conflict management styles. It was designed to measure five independent dimensions of the styles of handling interpersonal conflict: Collaborating style, Accommodating style, Competing style, Avoiding style, and Compromising style. The Cronbach alpha ranged from .72 to .77 of the individual scales of the ROCI – II were: Collaborating (.77), Accommodating (.72), Competing (.72), Avoiding (.75), and Compromising (.72).

For the assessment of the school climate, this study used the OCDQ – RE (Organizational Climate Descriptive Questionnaire – Elementary Schools) developed by Hoy and Tarter (1997). The instrument was a 42-item questions using Likert scale. The Cronbach alpha for supportive (.94), directive (.88), restrictive (.81), collegial (.87), intimate (.83), and disengaged (.78).

Emotional intelligence was measured with the Wong and Law Emotional Intelligence Scale WLEIS instrument, which contained 16 items grouped in four subscales as follows: (a) self-emotion appraisal, (b) emotion appraisal of others, (c) use of emotion, and (d) regulation of emotion. The Cronbach alpha of .91 for the overall scale, this meant that the scale was valid, reliable, and suitable measure of emotional intelligence (Park, 2021).

Individual work performance questionnaire (IWPQ) can be divided into three dimensions: task performance, contextual performance, and counterproductive work behavior. The Cronbach alpha on task performance is .79, on contextual performance was .83, and on counterproductive work behavior was .89.

Data Collection .In collecting the data, the following procedures were performed: The researcher sought an approval from the dean of the graduate school to conduct the study and gather data. Then, the researcher asked a permission through a letter from the Chair of the UIC REC (University of Immaculate Conception Research Ethics Committee) for Ethical Clearance. A letter of the same content was handed to Department of Education Regional Office and Division Offices. Finally, the letter was emailed to the School Principals asking for a permission. Copies of the approved letters were appended. Consent forms were also sent to the respondents together with the survey questionnaires online. Moreover, face to face distribution of the questionnaires was avoided in strict observance of the existing health protocols and safety measures to lessen or eliminate the spread of COVID-19.

The questionnaires were distributed to the respondents after having been validated by experts and reliability tested. These were encoded via google forms in which only the participants and the researcher can access. Then, collection of completed questionnaires was followed via online. This was done to adhere with the existing guidelines and protocols to mitigate the spread of COVID-19. The data then tallied and treated with appropriate statistical tools.

Also, data contamination was managed by keeping each response as highly confidential. This was expressed in the cover letter of the questionnaires. The researcher believed that if the respondents made to understand the confidentiality of their responses, then, they were able to answer the questionnaires with all sincerity. The cover letter of the questionnaires was sent online thru a google form link and the discussion was done by batch using online application via google meet, Zoom and the like.

Moreover, other factors that might affect the results of the study, such as the number of hours utilized by the respondents in answering the four sets of questionnaires, the condition of the room/area to which the questionnaires were answered and the physical condition of the respondents while answering was also considered by expressing these as reminders in the cover letter of the questionnaires.

RESULTS AND DISCUSSION

Level of Emotional Intelligence of Teachers

The overall mean for emotional intelligence of teachers comprised of public-school teachers in Region XI is 4.31 which is describes as very high. This implies that the emotional intelligence of teachers is always demonstrated. Apparently, teachers can appraise their own emotions and of their colleagues, they can regulate their emotions, and modestly use their emotions even during pandemic. The ability of the teachers to appraise their own emotion aligns with the study of Abiodullah et al., (2020) where teachers need to demonstrate a very high emotional intelligence because they need to be strong emotionally according to the demand of their work, responsibilities, and role in the academic field. The result also affirms the study of Theepa (2020) that teachers with high emotional.

Table 1
Level of Emotional Intelligence of Teachers

Emotional Intelligence	Mean	SD	Description
Self-emotions Appraisal	4.49	.52	Very High
Regulation of Emotions	4.25	.58	Very High

Use of Emotions	4.34	.53	Very High
Emotion-appraisal of others	4.15	.60	High
Overall Mean	4.31	.45	Very High

Intelligence makes better decisions, they live with integrity, they use their emotions as a source of energy and direction, they are more effective in solving problems, they collaborate better and they are more effective leaders. The overall standard deviation is 0.45 which is less than 1.00 which represents uniformity of responses from the participants and the responses are not so dispersed from each other.

Level of School Climate of Schools

Table 2 presents the results of the study on the level of school climate of schools in terms of supportive principal behavior, directive principal behavior, restrictive principal behavior, and collegial teacher behavior. The overall mean for school climate of schools comprising public elementary school teachers in Region XI is 3.81 which is describes as a high level. This means that school climate of schools is oftentimes manifested. Evidently, the school head and teachers always worked towards the completion and success of the school's organizational objective/goals as well as the maintenance of good climate of the school even during pandemic yet, there were also circumstances that cannot be handled well by school heads and teachers. This conforms the study of Mandapat & Farin (2021) that school climate under pandemic was challenging especially their relationship with peers and student. Likewise, the result agrees with Zakariya (2020) that misunderstanding on the schedules, workloads are some of the challenges experienced by teachers but are eventually resolved through communication and planning.

Table 2
Level of School Climate of Schools

School Climate	Mean	SD	Description
Supportive Principal Behavior	4.33	.64	Very High
Directive Principal Behavior Category Mean	3.97	.73	High
Restrictive Principal Behavior	3.63	.86	High
Collegial Teacher Behavior	4.29	.46	Very High
Intimate Teacher Behavior	4.01	.66	High
Disengaged Teacher Behavior	2.62	1.10	Moderately High
Overall Mean	**3.81**	**.49**	**High**

The overall standard deviation is .49 less than 1.00 which represented uniformity of responses from the participants near the mean value and implies that the responses are not so dispersed from each other.

Level of Conflict Management Styles of School heads

Table 3 presents the results of the study on the level of conflict management styles of school heads in terms of collaborating style, accommodating style, competing style, avoiding style, and compromising style. The overall mean for conflict management styles of school heads is 3.85 which described as high. This means that the conflict management style of school heads is oftentimes evident. The result implies that the school heads' conflict management styles and strategies are appropriate in time of crisis like COVID-19 pandemic. However, the avoiding style has a moderately high result especially on *attempting to avoid being "put on the spot" and try to keep his/her conflict with his/her subordinates to himself/herself* and *usually avoiding open discussion of his/her differences with his/her subordinates.* These imply that some of the school heads avoid confrontations and open communication which lead to misunderstanding and conflicts. A study of Ayub et al. (2017) agrees that some people are sensitive about engaging in conflict and handling conflict differently because of their personality characteristics and/or Alhamali (2019) inability to find an appropriate solution to the conflict. The overall standard deviation is .57 is less than 1.00 which represented similarity of responses from the participants and the responses are not so dispersed from each other.

Table 3
Level of Conflict Management Styles of School heads

Conflict Management Styles	Mean	SD	Description
Collaborating Style	4.21	.63	Very High
Accommodating Style	4.09	.63	High
Competing Style	3.59	.92	High
Avoiding Style	3.46	.96	High
Compromising Style	3.92	.70	High
Overall Mean	**3.85**	**.57**	**High**

This finding is parallel with the study of Kiplagat et al. (2016) that collaboration is about exchanging alternative solutions together and when used by the school head be able to settle things and find solution acceptable to all.

Level of Work Performance of Teachers

Table 4 presents the results of the study on the level of work performance of teachers in terms of task performance, contextual performance, and counterproductive work behavior. The overall mean for work performance of teachers is 3.75 which is describes as high. This means that work performance of teachers is oftentimes observed. This result means that teachers plan their work to finish the workload and they set priorities. These suggest that teachers may find the situation

Table 4
Level of Work Performance of Teachers

Work Performance	Mean	SD	Description
Task Performance	4.47	.50	Very High
Contextual Performance	4.36	.48	Very High
Counterproductive Work Behavior	2.41	1.25	Low
Overall Mean	**3.75**	**.53**	**High**

difficult, yet they coped with the challenge. They are resilient, and they can face whatever challenges that they may encounter in the future. The result agrees with the study of Hasbay & Altindag (2018) that resilient teachers can still perform despite of the challenges. Also, the result aligns with the study of Wang (2021) that when teachers plan and set their goals, even if they encounter difficult times, they still have high work performance. The overall standard deviation is .53 less than 1.00 which represented similarity of responses from the participants and the responses are not so dispersed from each other.

Significance of the Influence of School Climate, Emotional Intelligence, Conflict Management Styles on Work Performance

The extent of influence of the three exogenous variables on the work performance of teachers is shown through the standardized beta values and their significance is determined through the p values.

Specifically, the standard coefficient of school climate has the highest beta value of 0.469. This implies that school climate has the highest degree of influence on work performance. As reflected by p-value of 0.000, the regression model is significant. Thus, it could be stated that the school climate, emotional intelligence, and conflict management have a significant influence on the work performance of teachers. Further, it could be specified that the school climate has a significant positive influence on the work performance of teachers, hence a change in the school climate could

Table 5
Significance of the Influence of School Climate, Emotional Intelligence, Conflict Management Styles on Work Performance

EXOGENOUS VARIABLES	Work Performance			
	Standardized Coefficients Beta	t	p-value	Interpretation
School Climate	.469	8.618	.000	Significant
Emotional Intelligence	.160	3.644	.000	Significant
Conflict Management	.110	2.088	.037	Significant
R = .641 R Square = .411 F = 92.051 p value = .000				

mean a change also in the work performance of teachers or when the school climate goes up the work performance of teachers also goes up. This result contradicted to study of Okeke-James et al. (2020) that school climate is not a significant predictor of work performance of secondary teachers in Anambra State, Nigeria. However, studies of Emu and Nwannunu (2018) and Akinnola and Oredein (2021) agree that school climate significantly influence teachers' work performance but, school heads must be liberal in their dealings with teachers to enhance teachers' work performance.

The standard coefficient beta of emotional intelligence is 0.160. This implies that emotional intelligence influences work performance. As reflected by the p-value of 0.000, the regression model is significant. This result affirms the study of Sanchez-Gomez et al. (2021) which concludes that emotional intelligence has a significant direct effect toward work performance in a demanding context such as COVID-19 pandemic. This entails enhancing emotional intelligence in a workplace to build healthy workplaces that may assist workers in achieving their peak performance. Moreover, in a study of Li et al. (2018) reveals that teachers' trait and emotional intelligence positively influence their work performance. Thus, it could be stated that the emotional intelligence of teachers has a singular significant influence on the work performance of teacher.

Further, the standard coefficient beta of conflict management style of school heads is 0.110. This implies that conflict management style of school heads influences work performance. As reflected by the p-value of 0.037, the regression model is significant and it could be stated that conflict management style of principals has positive significant influence on the work performance of teachers, hence a change in the conflict management style of principals could mean a change also in the work performance of teachers or when the conflict management style of principals goes up, the work performance of teachers also goes up. This result conforms with the study of Francis (2018) that conflict management styles have a significant relationship with work performance and thus, the latter is affected if conflicts are not managed.

Scrutinizing further the data in Table 5, it was found out that school climate, emotional intelligence, and conflict management style positively contribute to the variations in the level of work performance of teachers and are significant. Hence, increase in the school climate, emotional

intelligence, and conflict management style could mean an increase in the work performance of teachers or when these independent variables go up, the work performance of teachers also goes up. These are manifested in the results of the regression analysis where only 41.10 percent of the variance are explained by the three predictor variables as indicated by the R Square = 0.411. This also signifies that 58.9 percent of the variation of the display of performance is attributed to other factors.

Best Fit Model of Work Performance of Teachers

This part provides results on the interrelationships among the variables of the research study. Five hypothesized models were tested to obtain the best fit model of work performance of teachers. Each model had a framework that can be assessed and decomposed into two sub-models: a measurement model, and a structural model. A measurement model represented the measure loads on each factor to their latent constructs. While the structural model defined relations among the latent variables, the assessment of fit of each model became the consideration of accepting or rejecting the model.

The following indices are considered in coming up with the best fit model: The CMIN/df (Chi-Square/Degrees of Freedom) is an index of how much the fit of data to model has been reduced by dropping one or more paths. The NFI (Normed Fit Index) is the difference between the two models' Chi-squares divided by the Chi-square for the independence model. The TLI (Tucker Lewis Index), which resolves some of the issues of negative bias between the Chi-squared value of the hypothesized model and the Chi-squared value of the null model. The CFI (Comparative Fit Index, which analyzes the model fit by examining the discrepancy between the data and the hypothesized model, while adjusting for the issues of sample size inherent in the Chi-squared test of model fit and the normed fit index. The GFI (Goodness of Fit Index), which is a measure of fit between the hypothesized model and the observed covariance matrix that is accounted for by the tested model. The RMSEA (Root Mean Square of Error Estimation), which estimates a lack of fit compared to the saturated model. And the P-close (P-Value for Test of Close Fit). Each of these indices has a criterion set. Thus, a structural equation model is said to be the best fit model if it satisfies all the indices.

Furthermore, standardized factor loading is printed in the arrows stating the measurement of the latent variables within the structural model in which a significance level of 0.95 is adopted throughout the model testing phase. In drawing and analyzing the fitness of the structural model, it involved four latent variables and eighteen observed variables. The researcher presents the results of the standardized path estimates between hypothesized relationships with corresponding estimates, standard errors, critical ratios, and significance values.

In addition, regression weights are estimated to determine the effects between measured and latent variables. This is done to significantly predict the influence of the exogenous variables, school climate, conflict management style, and emotional intelligence to the endogenous variable, work performance. The researcher also emphasizes the cross-loading of observed variables across alternate latent constructs. As the structured model come up with an acceptable fit, one which meet the criterion set, the consistency of the empirical relationships among variables is established. Both measures are considered, leaning towards the acceptable fit indices for evaluation.

Table 6.1
Best Fit Model of Work Performance of Teachers

INDEX	CRITERION	MODEL				
		Model 1	Model 2	Model 3	Model 4	Model 5
CMIN/df	<3	10.975	8.213	8.213	8.213	2.299
NFI	≥0.90	.611	.715	.715	.715	.962
TLI	≥0.90	.573	.691	.691	.691	.968
CFI	≥0.90	.631	.739	.739	.739	.978
GFI	≥0.90	.515	.532	.705	.705	.961
RMSEA	≤0.08	.158	.134	.134	.134	.057
p-CLOSE	>0.05	.000	.000	.000	.000	.216

The RMSEA value of 0.08 indicates a good fit model (Browne & Cudeck, 2019). Other values of the indices also indicate the goodness of fit of the best fit model (Tucker & Lewis, 2016). Scrutinizing the data on table 6.1, Models 1, 2, 3, and 4 have not met all the criterion values for goodness-of-fit indices making these models not the best fit model for work performance of teachers while Model 5 has met all the criterion values for goodness-of-fit indices making these model the best fit model for work performance of teachers of Region XI among the five generated models.

Model 1 has the following criterion values for goodness-of-fit indices: The CMIN/df is equal to 10.975. This value is greater than 3 and not within the acceptable range. The NFI is equal to 0.611. This value is less than 0.90 and not within the acceptable range. The TLI is equal to 0.573. This value is less than 0.90 and not within the acceptable range. The CFI is equal to 0.631. This value is less than 0.90 and not within the acceptable range. The GFI is equal to 0.515. This value is less than 0.90 and not within the acceptable range. The RMSEA is equal to 0.158. This value is greater than 0.08 and not within the acceptable range. And the p-close is equal to 0.000. This value less than 0.05 and not within the acceptable range. Thus, Model 1 is not the best fit model for the work performance of teachers since all the criterion values were not met. The analysis illustrated that not all exogenous variables; school climate, conflict management style, and emotional intelligence with its indicators have direct relationships to work performance. Further, not all of these exogenous variables with their indicators could significantly influence and predict work performance without influencing and predicting each other.

In addition, model 2 has the criterion values for good-of fit indices as follows: The CMIN/df is equal to 8.213. This value is greater than 3 and not within the acceptable range. The NFI is equal to 0.715. This value is less than 0.90 and not within the acceptable range. The TLI is equal to 0.691. This value is less than 0.90 and not within the acceptable range. The CFI is equal to 0.739. This value is lesser than 0.90 and not within the acceptable range. The GFI is equal to 0.532. This value is less than 0.90 and not within the acceptable range. The RMSEA is equal to 0.134. This

value is greater than 0.08 and not within the acceptable range. And the p-close is equal to 0.000. This value less than 0.05 and not within the acceptable range. Thus, Model 2 is not the best fit model for the work performance of teachers since not all the criterion values were met. The analysis illustrates that not all of exogenous variables; school climate, conflict management style, and emotional intelligence with its indicators could have a direct significant influence and predict work performance while influencing and predicting each other.

Likewise, model 3 has the criterion values for good-of fit indices as follows: The CMIN/df is equal to 8.213. This value is greater than 3 and not within the acceptable range. The NFI is equal to 0.715. This value is less than 0.90 and not within the acceptable range. The TLI is equal to 0.691. This value is less than 0.90 and not within the acceptable range. The CFI is equal to 0.739. This value is less than 0.90 and within the acceptable range. The GFI is equal to 0.705. This value is less than 0.90 and not within the acceptable range. The RMSEA is equal to 0.134. This value is greater than 0.08 and not within the acceptable range. And the p-close is equal to 0.000. This value less than 0.05 and not within the acceptable range. Thus, Model 3 is not the best fit model for the work performance of teachers since not all the criterion values were met. The analysis illustrated that not all exogenous variables; school climate, conflict management style, and emotional intelligence with its indicators could have a direct significant influence and predict work performance while influencing and predicting each other.

More so, model 4 has the following criterion values for good-of-fit indices: The CMIN/df is equal to 8.213. This value is greater than 3 and not within the acceptable range. The NFI is equal to 0.715. This value is lesser than 0.90 and not within the acceptable range. The TLI is equal to 0.691. This value is lesser than 0.90 and not within the acceptable range. The CFI is equal to 0.739. This value is lesser than 0.90 and not within the acceptable range. The GFI is equal to 0.705. This value is lesser than 0.90 and not within the acceptable range. The RMSEA is equal to 0.134. This value is greater than 0.05 and not within the acceptable range. The p-close is equal to 0.000. This value is lesser than 0.05 and not within the acceptable range. Thus, Model 4 is not the best fit model for the work performance of teachers since not all the criterion values are met. The analysis illustrates that not all exogenous variables; school climate, conflict management style, and emotional intelligence with its indicators could have a direct significant influence and predict work performance while influencing and predicting each other.

Also, model 5 as shown in figure 7 has the following criterion values for good-of-fit indices: The CMIN/df is equal to 2.299. This value is less than 3 and within the acceptable range. The NFI is equal to 0.962. This value is greater than 0.90 and within the acceptable range. The TLI is equal to 0.968. This value is greater than 0.90 and within the acceptable range. The CFI is equal to 0.978. This value is greater than 0.90 and within the acceptable range. The GFI is equal to 0.961. This value is greater than 0.90 and within the acceptable range. The RMSEA is equal to 0.057. This value is less than 0.057 and indicates a good fit. The p-close is equal to 0.216. This value is greater than 0.05 and within the acceptable range. Thus, Model 5 yields the acceptable goodness-of-fit index for the work performance of teachers making it the best fit model. Furthermore, based on Figure 7, work performance is directly influence by school climate, conflict management style, and emotional intelligence.

As shown in Figure 7, the indicators for school climate have two indicators, namely: supportive principal behavior and collegial teacher behavior. This is done also to the indicators of conflict management style, there are three indicators, namely, collaborating style, accommodating style and compromising style. The other independent variable, emotional intelligence with four indicators, namely, self-emotion appraisal, emotion-appraisal of others, use of emotion, and regulation of emotion. Lastly, the indicators of work performance with two indicators namely, task performance and contextual performance.

Employee's ability to perceive his and other's emotions, to understand the implications of such emotions, and the ability to regulate and manage emotion as described by emotional intelligence have a direct impact on job performance (Bailey, 2015). Subsequently, when the school and physical environments are not safe, the principal leadership is not appropriate, this can affect teacher's job performance. Therefore, the need for effective management of school climate becomes imperative (Brookshile, 2016). Finally, competent leaders should lead, inspire, and identify the appropriate conflict management strategy, qualities, and skills most suitable for each situation. (Chandolia & Anastasiou, 2020).

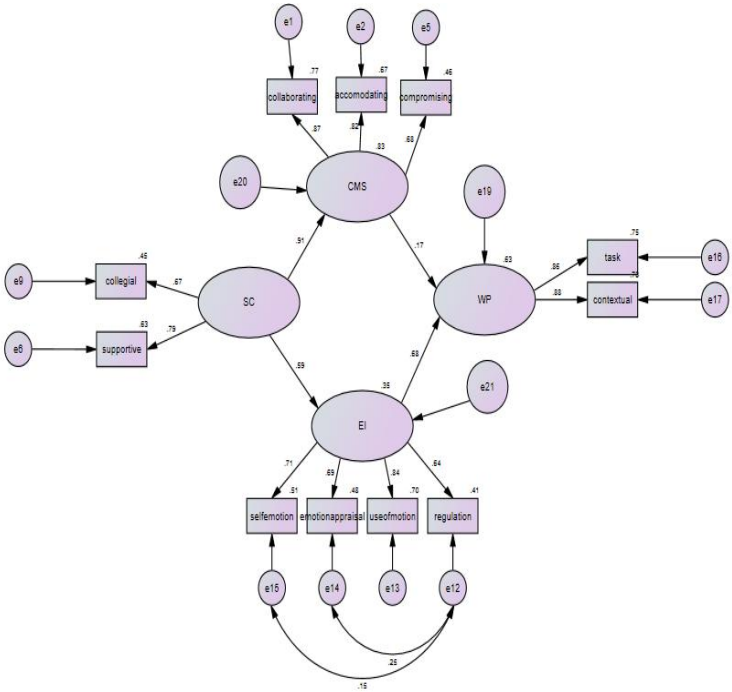

Figure 7. The Best Fit Model of Work Performance of Teachers

Legend:

CMS	=	Conflict Management Style	SC	=	School Climate
Collaborating	=	Collaborating style	collegial	=	Collegial teacher behavior
Accommodating	=	Accommodating style	supportive	=	Supportive principal behavior
Compromising	=	Compromising style			
EI	=	Emotional Intelligence	WP	=	Work Performance
Self-emotion	=	Self-emotions appraisal	task	=	Task performance
Emotion appraisal	=	Emotion-appraisal of others	contextual	=	Contextual performance
Use of emotion	=	Use of emotions			
Regulation	=	Regulation of emotions			

The analysis further illustrates that school climate in terms of supportive principal behavior and collegial teacher behavior; conflict management style in terms of collaborating style, accommodating style and compromising style; and emotional intelligence in terms of self-emotion appraisal, emotion-appraisal of others, use of emotion, and regulation of emotion are significantly influence and predict work performance in terms of task performance and contextual performance Table 6.2 presents the standardized path estimates of the of model 5. It shows the standardized path estimates between the latent variables and between latent and observed variables of the best fit model of work performance of teachers in Region XI.

Scrutinizing the data in Table 6.2, it could be observed that all path estimates are significant at $p<.05$. It could be interpreted that the influence of all measured and latent variables is significant. Further, the path that exists between school climate and conflict management style is significant as reflected by the estimate value of .981 with corresponding p-value of 0.000. This means that school climate significantly predicts conflict management style. Hence, when school climate goes up by 1, conflict management style goes up by .981. The path that exists between school climate and emotional intelligence is significant as reflected by the estimate value of .427 with corresponding p-value of 0.000. This means that school climate significantly predicts emotional intelligence. Hence, when school climate goes up by 1, emotional intelligence goes up by .427. The path that exists between conflict management style and work performance is significant as reflected by the estimate value of .137 with corresponding p-value of 0.001. This means that conflict management style significantly predicts work performance. Hence, when conflict management style goes up by 1, work performance goes up by .137.

Table 6.2
Standardized Path Estimates of the Best Fit Model

			Estimate	S.E.	C.R.	P	Interpretation
CMS	<---	SC	.981	.070	14.112	.000	Significant
EI	<---	SC	.427	.050	8.464	.000	Significant
WP	<---	CMS	.137	.043	3.190	.001	Significant
WP	<---	EI	.799	.087	9.187	.000	Significant
Compromising	<---	CMS	.865	.059	14.755	.000	Significant
Supportive	<---	SC	1.000			.000	Significant
Collegial	<---	SC	.600	.047	12.786	.000	Significant
regulation	<---	EI	1.000			.000	Significant
Use of emotion	<---	EI	1.208	.098	12.311	.000	Significant
emotionappraisal	<---	EI	1.121	.087	12.839	.000	Significant
selfemotion	<---	EI	1.010	.082	12.382	.000	Significant
Task	<---	WP	1.000			.000	Significant
contextual	<---	WP	.986	.053	18.694	.000	Significant
accommodating	<---	CMS	.943	.050	19.005	.000	Significant
collaborating	<---	CMS	1.000			.000	Significant

Legend:

CMS	= Conflict Management Style	SC	= School Climate
Collaborating	= Collaborating style	collegial	= Collegial teacher behavior

Accommodating	= Accommodating style	=	Supportive principal behavior
Compromising	= Compromising style		
EI	= Emotional Intelligence	=	Work Performance
Self-emotion	= Self-emotions appraisal	=	Task performance
Emotion appraisal	= Emotion-appraisal of others	=	Contextual performance
Use of emotion	= Use of emotions		
Regulation	= Regulation of emotions		

Referring to the observed variables; supportive, and collegial behavior significantly predict school climate as reflected by the estimate values of 1.000 and .600 respectively with the corresponding p-value of 0.000. Hence, when school climate goes up by 1 supportive behavior goes up by 1, collegial behavior goes up by .600. Regulation of emotions, use of emotions, emotion appraisal of others, and self-emotions appraisal significantly predict emotional intelligence as reflected by the estimate values of 1, 1.208, 1.121 and 1.010 respectively with the corresponding p-value of 0.000. Hence, when emotional intelligence goes up by 1 regulation of emotions goes up by 1, use of emotions goes up by 1.208, emotion appraisal of others goes up by 1.121 and self-emotions appraisal goes up by 1.10. Compromising style, accommodating style, collaborating style significantly predicted conflict management style as reflected by the estimate values of .865, .943, and 1 respectively with the corresponding p-value of 0.000. Hence, when conflict management style goes up by 1 compromising style goes up by .865, accommodating style group goes up by .943 and collaborating style goes up by 1.

Further, the best fit model displays three indicators for conflict management style namely: collaborating style, accommodating style and compromising style; two indicators for school climate namely, collegial teacher behavior and supportive principal behavior. Four indicators for emotional intelligence namely, self-emotions appraisal, emotion-appraisal of others, use of emotions, and regulation of emotions. These variables and variable-indicators are believed to be directly influence the work performance of teachers. Thus, an increase or decrease in the levels of these variables and variable indicators could mean an increase or decrease also of the work performance of teachers. The other independent variable-indicators are removed. Thus, any change on the level of these indicators could not significantly influenced the work performance of teachers. While the indicators of the dependent variable, work performance is reduced to two indicators namely, task performance and contextual performance. This further entails that an increase or decrease in these indicators shall mean an increase or decrease of the work performance of teachers.

REFERENCES

Abiodullah, M., Dur-e-Sameen, & Aslam, M. (2020, April). Emotional Intelligence as a Predictor of Teacher Engagement in Classroom. https://files.eric.ed.gov/fulltext/EJ1258049.pdf

Akinnola, I. & Oredein, A. (2021, May 21). *School Climate Indices as Predictors of Teacher Job Satisfaction and Performance in Oyo State, Nigeria.* Teacher Education and Curriculum Studies. Volume 6, Issue 2, pp. 51-60. https://doi.org/10.11648/j.tecs.20210602.12

Alhamali, R. (2019). *Impact of Conflict Management Styles on Team Performance on Supervisors of Teams in Universities*. https://doi.org/10.34257/GJMBRAVOL19IS3PG1

Ayub, N., AlQurashi, S., Al-Yafi, W., & Jehn, K. (2017, October 9). *Personality traits and conflict management styles in predicting job performance and conflict.* https://doi.org/10.1108/IJCMA-12-2016-0105

Bailey, S. (2015, March 5). *Emotional Intelligence Predicts Job Performance: The 7 Traits That Help Managers Relate*. https://www.forbes.com/sites/ sebastianbailey/2015/03/05/emotional-intelligence-predicts-job-performance-the-7-traits-that-help-managers-relate/?sh=67a610894124

Brookshile, A.N. (2016). *The impact of school uniform on school climate*. http://www.sholarworks.waldenu.edu

Browne, M. & Cudeck, R. (2019). *Alternative ways of assessing model fit. In Bollen, K. A.; Long, J. S. Testing structural equation models*. Newbury Park, CA: Sage.

Emu, W. & Nwannunu, B. (2019, January 10). *Management of school climate and teachers' job performance in secondary schools in Calabar Education Zone, Cross River State.* https://doi.org/10.4314/gjedr.v17i2.5

Francis, J. S. (2018, July). *Conflict Management Styles and Employee Performance in Public Hospitals in Nyeri County, Kenya*. http://ir-library.ku.ac.ke/handle/123456789/18709

Hasbay, D. & Altindag, E. (2018). *Factors that affect the performance of teachers working in secondary-level education.* https://www.abacademies.org/articles/Factors-that-affect-the-performance-of-teachers-working-in-secondary-level-education-1528-2643-22-1-113.pdf

Kiplagat, P., Atieno, M., & Yegoh, E. (2016). *Collaboration Conflict Management Strategy: A Solution to Secondary Schools" Unrest's in Kenya.* https://www.researchgate.net/publication/313523032_Collaboration_ Conflict_Management_Strategy_A_Solution_to_Secondary_Schools_Unrest's_in_Kenya

Li, M., Perez-Diaz, P., Mao, Y., & Petrides, K. (2018, November 30). *A Multilevel Model of Teachers' Job Performance: Understanding the Effects of Trait Emotional Intelligence, Job Satisfaction, and Organizational Trust*. https://doi.org/10.3389/fpsyg.2018.02420

Mandapat, A. & Farin, E. (2021, May). *School Climate and Work from Home Challenges of Teachers during the COVID 19 Pandemic in Secondary Schools in the Division of Zambales, Philippines.* http://dx.doi.org/110.9734/jesbs/2021/v34i230309

Sanchez-Gomez, M., Sadovvy, M., & Breso, E. (2021, September 9). *Health-Care Professionals Amid the COVID-19 Pandemic: How Emotional Intelligence May Enhance Work Performance Traversing the Mediating Role of Work Engagement.* https://doi.org/10.3390/jcm10184077

Theepa, A. (2020, June 11). *Emotional Intelligence of Teachers Working in Higher Secondary Schools.* http://dx.doi.org/10.2139/ssrn.3604032

Tucker, L., & Lewis, C. (2016). *A reliability coefficient for maximum likelihood factor analysis.* Psychometrika, 38, 1-10. https://link.springer.com/article/10.1007/BF02291170

Wang, Y. (2021, August 12). *Building Teachers' Resilience: Practical Applications for Teacher Education of China.* https://doi.org/10.3389/fpsyg.2021.738606

Zakariya, Y. (2020 Mach 9). *Effects of school climate and teacher self-efficacy on job satisfaction of mostly STEM teachers: a structural multigroup invariance approach.* https://doi.org/10.1186/s40594-020-00209-4.

Reading Culture and Reading Motivation as Correlates of Reading Comprehension among Grade 5 Students in Davao City

Marie Gabrielle R. Ba-ang and Ma. Christa G. Montebon[2]

[2]*University of the Immaculate Conception, Davao City, Philippines*
Corresponding authors' email address: cmontebon@uic.edu.ph

ABSTRACT

This descriptive-correlation study aimed to determine the significant influence of *RCu* and *RM* on the *RC* of Grade 5 elementary students in Davao City, Philippines. The results from the *Reading Culture Scale* revealed that the level of *RCu* is moderate while the level of *RM* is high, indicating that the variables in the study were evident. Moreover, the overall level of *RC* among the Grade 5 students was at the Frustration Level implying that there were existing issues with student comprehension at different levels. Pearson-r correlation analysis results showed that only *RM* has a significant relationship with students' *RC*. However, calculating the combined influence of *RCu* and *RM* on *RC* yielded an r^2*-value* at ~6.9% indicative of considerable influence. Thus, it is recommended that both *RC* and *RM* be strengthened in Davao-based elementary schools to help improve *RC* among the students.

KEYWORDS: Education, English, reading culture, reading motivation, reading comprehension, Pearson correlation, Linear Regression Analysis, Grade 5 students, Philippines

INTRODUCTION

Reading comprehension (*RC*) is one of the most critical academic skills that students need to develop in school since it enhances one's acquiring knowledge at all levels of learning (Awolere, 2020; Hijazi, 2018). Several researchers confirm that the lack of reading comprehension exists in schools and that this concern impacts school performance (Awolere, 2020; Fraumeni-McBride, 2017). In fact, studies show that one of the factors of poor performance of students in English is connected to problems and difficulties with reading comprehension (Awolere, 2016; Duping & Montajes, 2019; Tomas et al., 2021).

In Turkey, the study of Sağirli and Ateş (2015) revealed that only 24.41% of the 50 respondents from Grade 5 level correctly answered the 10-item close-ended *RC* questions and only 43.6% correctly answered the open-ended *RC* questions which suggested that generally, *RC* is considered to be a problem. In USA, Dawkins (2017), and in Ghana, Nyarko et al. (2018), found out that students have low level in *RC* based on the annual standardized achievement test conducted in English.

In the Philippines, the same issue on *RC* is evident. According to the results released in 2019 in the OECD Program for International Student Assessment (PISA) 2018 for 15-year-old students, Philippines ranked the lowest in *RC* with only 340 score points, which is 100 points less than the OECD average. On the other hand, in the Southeast Asia Primary Learning Metrics (SEA-PLM) in 2019 conducted for Grade 5 students, Philippines got the lowest score points and was noted to be one of the worst performing countries in reading. In Baler, Auror, Tomas et al. (2021) found that out of the 4,216 Grades 1-7 students they tested, 73.24% were at the Frustration Level.

With the aforementioned issues, researchers explored variables that have a possible relationship to *RC*. Reading culture (*RCu*), which is focused on an individual's habitual reading beyond school purpose, is one factor that could influence *RC* (Akbaşlı et al., 2016; Dawkins, 2017; Ho & Lau, 2018) while reading motivations (*RM*) that readers have when engaging in a reading activity is another factor which has been considered to affect *RC* (Fraumeni-McBride, 2017; Guthrie, et al., 2000; Marinak & Gambrell, 2008; Smith et al., 2021). In the same vein, Ahmadi et al. (2013) and Guthrie et al. (2006) concluded in their studies that *RM* had a significantly positive effect on the English *RC*.

In Davao Region, although varied reading literacy programs have been implemented such as Project Parent's Assistance in Improving Reading (PAIR) and Drop Everything And Read (DEAR), students' difficulties in reading still exist such as poor semantic word knowledge and low level of comprehension in full context (Duping & Montajes, 2019). In a study conducted by Cabardo (2015) among high school students in Hagonoy, Davao del Sur, 50% of students tested belonged to Frustration Level for silent reading and 45% belonged to the Instructional Level for oral reading. Moreover, Vasay et al. (2016) emphasized that there is still a need to provide a reading program to reach the maximum level of *RC* of students.

The above-mentioned studies are separate studies of the three variables: *RCu*, *RM*, and *RC*. Although there are already existing literature on the association between *RCu* and *RC* and *RM* and *RC*, those studies dealt only with bivariate relationships and did not cover the three variables in a single study. This study deemed the researcher to probe whether one's *RCu* and *RM* are predictors of *RC* in English.

Objectives of the Study

The study aimed to determine the significant influence of *RCu* and *RM* on the *RC* of Grade 5 students in Davao City. Specifically, the study sought to assess the respondents' level of *RCu* in terms of their individual development reading relationship, basic reading skills, visual reading, and book selection; their level of reading motivation in terms of their social and learning environment, external motivation, mastery orientation, pressure, performance orientation, and familiarity with the content and format; and their level of *RC* in terms of the literal, inferential, and critical comprehensions. Further, the study aimed to determine the significant relationship and significant influence between *RCu - RC* and *RM - RC*.

The findings of this study may serve as a basis in addressing the possible gaps in *RC* of students in relation to their current *RCu* and *RM*. Specifically, these findings may help in raising awareness in the chosen locality and thereby in empowering these students to become better at *RC*.

METHODS

Research Design. This study utilized a descriptive-correlational approach since the research questions determined to identify associations between the variables. With the descriptive-correlational design, the level of *RCu*, *RM*, and *RC* in English among Grade 5 students were examined. Specifically, the relationship between the *RCu – RC* and *RM – RC* were correlated and the influence of the independent variables to the dependent variable was identified.

Research Respondents. The respondents of this study were the four selected public schools in San Roque District (District 2) in Davao City. To observe anonymity, the schools were coded school A, B, C, and D. These public schools had been chosen since they offer elementary education specifically for Grade 5 students. Since these schools also offer special reading programs

in English such as San Roque District's Holistic and Anabatic Reading Remediation (Project SHARP) and San Roque District Program in Advancing Reading Among Children (Project SPARC), they were suited for this study.

The 203 respondents from Grade 5 Elementary Students for the School Year 2021-2022 were selected using the stratified random sampling, following the inclusion criteria set. First, the respondents have been exposed to English and reading in English in the current school year; second, the school districts chosen currently implement reading programs with which students can avail; and last, the school, where the students are currently enrolled are willing to take part in the study. On the other hand, all other students who do not belong to the identified grade level were excluded from the study. Moreover, participation in this study was voluntary and respondents could also voluntarily withdraw their participation at any point of the study.

Research Instrument. To measure the respondents' level of *RCu*, the researcher adapted and translated Reading Culture Scale (RCS) developed by Turkel et al. (2017). The RCS was validated by three experts and was subjected to Cronbach reliability test. It revealed a reliability coefficient of 0.80 suggesting an acceptable level of reliability.

On the other hand, to measure the level of *RM*, the Dimensions of Bilinguals' Motivation to Read in English Questionnaire developed by Mante-Estacio (2012) was adapted and validated to ensure internal consistency. It was found that the questionnaire had a reliability coefficient of 0.84 suggesting an acceptable level of reliability.

Moreover, the last questionnaire utilized in this study was the Reading Comprehension Test adapted from the Philippine Informal Reading Inventory (Phil-IRI) 2018. This was used to determine the level of reading comprehension of the respondents, specifically their literal, inferential, and critical comprehension. For computing student's comprehension of the passages used for the questionnaire, the formula below was used. In addition, the respondents' level of comprehension per indicator and overall, *RC* were also identified as *Independent, Instructional*, or *Frustration.*

RESULTS AND DISCUSSION

Table 1
Level of Reading Culture of Grade 5 Students

INDICATORS	MEAN	SD	DESCRIPTION
Individual Development Reading Relationship	3.19	0.63	Moderate
Basic Reading Skills	3.52	0.67	High
Visual Reading	3.08	0.89	Moderate
Book Selection	3.12	0.85	Moderate
Overall Mean	**3.23**	**0.61**	**Moderate**

Legend: 1.00 – 1.79 (Very Low); 1.80 – 2.59 (Low); 2.60 – 3.39 (Moderate); 3.40 – 4.19 (High); 4.20 – 5.00 (Very High)

As reflected in the table, the overall mean of the level of *RC* is 3.23, described as Moderate. The category mean value of all indicators under the level of *RC* ranges from 3.08 to 3.52 which connotes moderate to high result. This supports the findings of Ailakhu and Unegbu (2017) since

the respondents read for the sake of reading and not just for school purposes. Moreover, the standard deviation (SD) ranges from 0.63 to 0.89, indicating a small range of dispersion. Thus, there is homogeneity in their self-assessment.

From the results, it can be inferred that the level of *RC* of the Grade 5 students is evident in reading in English. Further, it is noted that among the four indicators, Basic Reading Skills is extensive among the Grade 5 students, which means that the students utilize their reading skills and strategies when reading. On the other hand, the three indicators are fairly extensive, which indicated that students' *RCu* also varies from one to another. The results agree with Kamalova and Koletvinova (2015) highlighting that there is a personal component to developing one's *RCu* such as having a motive, finding the need to read, and giving meaning or value for any reading activity.

In addition, the results further agree to the claims of Kamalova and Koletvinova (2015), which they emphasized that individuals expose themselves to reading as anchored to the purpose and motives they attach to the reading activity per se such as viewing reading to be rational or viewing reading to be creative. With this, having reading culture would mean that so long there are reading opportunities made available for students, *RCu* may thrive.

Table 2
Level of Reading Motivation of Grade 5 Students

INDICATORS	MEAN	SD	DESCRIPTION
Social and Learning Environment	3.95	0.71	High
External Motivation	3.50	0.66	High
Mastery Orientation	3.58	0.70	High
Pressure	3.15	0.96	Moderate
Performance Orientation	3.68	0.80	High
Familiarity with the Content and Format of the Text	3.88	0.84	High
Overall Mean	**3.62**	**0.59**	**High**

Legend: 1.00 – 1.79 (Very Low); 1.80 – 2.59 (Low); 2.60 – 3.39 (Moderate); 3.40 – 4.19 (High); 4.20 – 5.00 (Very High)

The results revealed that the overall mean of the level of *RM* is 3.62, described as High. The category mean value of all indicators under the level of *RM* ranges from 3.15 to 3.95 which connotes moderate to high result. This encapsulates the idea that motivations do exist at the level of the Grade 5 students and that these are evident when they are reading in English. Moreover, the standard deviation (SD) ranges from 0.66 to 0.96 indicating a slight dispersion of answers in the survey. This means that there is homogeneity in their self-assessment.

Further, the result also corroborates with the study of Mante-Estacio (2012) where she highlighted that *RM* is not boxed to intrinsic and extrinsic factors; that there are also text-based *RM* in play. Moreover, the claims link to the study of Guthrie et al. (2000) and Marinak and Gambrell (2008) where they posited that the strength of motivation pushes one either to engage or to avoid reading. In other words, *RM* plays a crucial role especially in studying how students manage or ignore reading activities may it be at home or in school.

Table 3.
Level of Reading Comprehension of Grade 5 Students

INDICATORS	MEAN	SD	DESCRIPTION
Literal Comprehension	57.34	25.87	Moderate
Inferential Comprehension	50.04	21.53	Moderate
Critical Comprehension	38.08	17.72	Low
Overall Mean	51.04	20.23	Moderate

Legend: 0-19 (Very Low); 20-39 (Low); 40-59 (Moderate); 60-79 (High); 80-100 (Very high)

The overall mean of the level of *RC* is 51.04, described as fair. The category mean value of all indicators under the level of *RC* ranges from 38.04 to 57.34 which connotes poor to fair result. The results confirm the findings of Pardo (2004) as cited in Hijazi (2018) where some of the problems and challenges that students face in reading may be about accessing which level of comprehension may be used to effectively comprehend texts.

Notably, among the three reading levels of comprehension tested, *Literal Comprehension* drew the highest comprehension score (M= 57.34), described as Moderate; while *Critical Comprehension* drew the lowest comprehension score (M= 38.04), described as Low. This implies that the Grade 5 students are at the level where they find reading materials difficult that cannot successfully respond to what they read (Phil-IRI, 2018).

Consequently, the scores in the Literal Comprehension revealed that the Grade 5 students are at the Independent Level, while in the Critical Comprehension, they are at the Frustration Level as based on the Phil-IRI Scale (2018). These results implied that although the Grade 5 students scored the most in the Literal Comprehension questions, they still lacked in Critical Comprehension which is the highest among the three levels of comprehension in English.

Additionally, these results confirm the study of Labarrete (2019) and Paz (2018) where it was revealed that majority of the respondents' literal comprehension (M= 4.07) and (M= 7.66) were noted to be very good and very satisfactory respectively. Moreover, this suggests that the respondents were able to locate answers directly for the given text with little to no difficulty and were able to comprehend explicit information from the text read. However, it is still evident that since Literal Comprehension is the most basic level of reading comprehension, the result of the study affirms the finding of Ouellete and Beers (2010) as cited in Srisang and Everatt (2021) that having high decoding ability and even word recognition draws a small line in predicting reading comprehension.

Notably, the Critical Comprehension score of the Grade 5 students revealed that they continue to face challenges and difficulties in using their critical thinking skills in reading. This finding agrees with the study of Zhou et al. (2015) where the critical thinking ability of the respondents was generally weak (M= 2.67). In the same vein, the finding aligns with Velayati et al. (2017), which explains that the Grade 5 students encounter various difficulties and challenges such as lack mastery of the language, lack of practice, implied meaning, background knowledge, and even vocabulary.

Table 4
Correlation of Variables

Variables paired with Reading Comprehension	r	p-value	Remarks
Reading Culture	0.31	0.663	Not Significant
Reading Motivation	.636	0.000	Significant

*p<0.05

The results revealed that only *RM* is significantly correlated with *RC* (p< .05). With the correlation coefficient (*r value)* of 0.636, the result connotes that any improvement in *RM* could improve *RC* of the Grade 5 students.

The significant relationship between *RM* and *RM* corroborates with the claims of Larson et al. (2016) that students' valuing of reading may be anchored to various intrinsic and extrinsic factors, and these can be nurtured in varied reading environments especially in the school. Specifically, the Grade 5 students rely on their reading skills and strategies, enjoy reading for their own benefit, and even read for their personal development. In the same light, the result also agrees with Larson et al. (2016) that teachers served as the greatest motivator among all individuals in the school where 37% of the respondents agreed to the statement measured. In addition, the result also affirms the claims of Fitri et al. (2019) about the significance of reading self-efficacy, as a facet of mastery orientation in reading motivation. Specifically, the result indicates that readers having high reading self-efficacy is needed to succeed in any reading activity (Solheim, 2011).

Meanwhile, since there is no significant relationship between *RCu* and *RC*, the result negates the study of Fraumeni-McBride (2017) stating that children who were given a choice in reading materials scored higher in *RC* with their test score of 90.38 compared to those who were assigned reading materials with their test score of 86.06. Further, although the respondents have a Moderate level of *RCu*, the result of their *RC* scores negate the findings in the study of Koosha et al. (2016), where it was revealed a high correlation of 0.91 between self-learning and *RC*. Note that self-learning, such as the awareness and use of reading strategies when reading, was found to be a predictor of *RC* in the aforementioned study. However, although in the current study there is no significant relationship between *RCu* and *RC*, it can be noted that extremely limited exposure to books and limited time dedicated to learning to read in English may be issues those educational institutions still experience until today (Friendlander, 2015).

Table 5
Influencers of Reading Comprehension

Variables	Standard Coefficient Beta	p-value	t	Remarks
Reading Culture	-0.179	0.042*	-2.044	Significant
Reading Motivation	0.334	0.000*	3.813	Significant
r^2= 0.069 F=7.371 p=0.000				

The data revealed that the two independent variables, *RC* and *RM*, could significantly influence *RC* ($p < 0.05$). However, it can be noted that *RCu* functions as a suppressor variable (considering that it has no significant relationship in the Pearson r result), which means that *RM* needs the sense of *RCu* since it has the capacity to strengthen the relationship and influence of *RM* on *RC* in English. Thus, it negates the argument of Ihedioha (2021) that the difficulties in *RC* in English and the insufficient knowledge in understanding English words is only anchored in poor *RCu*. Furthermore, the results direct to the fact that *RCu* may have played a crucial role in the result of this study.

More evidently, the beta coefficient of 0.334 signifies that every one unit increase in *RM* could lead to 33.40% improvement in *RC* in English. It implies that when an individual's reading motivations are developed and sustained, their reading comprehension may increase through time with continued development of reading interest, curiosity, and even engagement.

Additionally, the result validates the study of Larson et al. (2016) and Solheim (2011) indicating that when students become more self-motivated, their *RC* skills improve. Hence, this current study supports the idea that *RM* can significantly influence how the Grade 5 students comprehend English texts.

Meanwhile, for the overall regression model, the r^2 of 0.069 implies that with every unit increase in the combination of the independent variables could contribute to only 6.9% of the variation of *RC*. Hence, looking at the holistic model, though the *RCu* and *RM* have combined influence on the *RC*, this percentage accounts for only a small part of influence. Thus, it infers that there are other factors equivalent to 93.10% that could significantly influence *RC* that is not covered in this study.

With the foregoing results presented, this study generally confirms the proposition of Davis et al. (2018), who believed that *RM* are linked to reading skills, specifically, *RC*; and that there is a significant relationship between *RM* and *RC*. This further suggests that how *RM* are nurtured and maintained in social and learning environments such as the school through creating and sustaining a positive *RCu* may help improve the current level of *RC* of Grade 5 students in the context.

REFERENCES

Ahmadi, R. A., Ismail, H. N., & Abdullah, M. K. (2013). The relationship between students' reading motivation and reading comprehension. *Journal of Education and Practice*, *4*(18), 8-17.

Ailakhu, U.V & Unegbu, V.E. (2017). Librarians' promotion of reading culture and student's responsiveness in selected secondary schools in Lagos State, Nigeria. Ebonyi Journal of Library and Information Science, 4(1) 30-42.

Akbaşlı, S., Şahin, M., & Yaykiran, Z. (2016). The effect of reading comprehension on the performance in Science and Mathematics. *Journal of Education and Practice*, *7*(16), 108-119.

Awolere, O.O. (2016). Effects of differentiated and scaffolding instructional strategies on students learning outcomes in reading comprehension in Oyo Township, Nigeria. Ph.D. Thesis. University of Ibadan

Awolere, O.O. (2020). Solving reading comprehension difficulties among English as a second language learners in Nigeria: An experience in differentiated instruction. *International Journal of Arts and Social Sciences Education, 5*(2), 92–97.

Cabardo, J. (2015). Reading proficiency level of students: basis for reading Intervention program. http://dx.doi.org/10.2139/ssrn.2712237

Leahcris B. Tuco[1] and Lolly Jean C. Simbulas[2], PhD

1 Mintal Comprehensive High School, Mintal Davao City
2 University of the Immaculate Conception

reading.

A. (2018). A review of reading https://doi.org/10.1080/02702711.2017.1400482

Duping, A. & Montajes, R. (2019) Students' reading comprehension difficulties through the lens of reading mentors. *Social Science Research Network*.

Fitri, D., Sofyan, D., & Jayanti, F. (2019). The correlation between reading self-efficacy and reading comprehension. *Journal of English Education and Teaching, 3*(1), 1–13.

Fraumeni-McBride, J. (2017) The effects of choice on reading engagement and comprehension for second- and third-grade students: an action research report. *Journal of Montessori Research*, *3*(2), 20-38.

Friedlander, E. (2015). Towards Learning for All: Understanding the Literacy Ecology in Rural Rwanda. Dissertation. Stanford, CA: Stanford University.

Guthrie, J. T., Wigfield, A., Humerick, N. M., Perencevich, K. C., Taboada, A., & Barbosa, P. (2006). Influences of stimulating tasks on reading motivation and comprehension. *The Journal of Educational Research, 99*(4), 232-245. http://dx.doi.org/10.3200/JOER.99.4.232-246

Hijazi, D. (2018). The relationship between students' reading comprehension and their achievement in English. *US-China Foreign Language*, *16*(3), 141–153. doi:10.17265/1539-8080/2018.03.002

Ho, E. S. C., & Lau, K. (2018) Reading engagement and reading literacy performance: effective policy and practices at home and in school. *Journal of Research in Reading, 41,* 657– 679. https://doi.org/10.1111/1467-9817.12246.

Ihedioha, L. N. (2021). Effects of poor reading culture on the academic performance of secondary school students in Aba Education Zone, Abia State, Nigeria. *Equatorial Journal of Education and Curriculum Studies,* 3 (2): 44 – 49.

Kamalova, L., & Koletvinova, N. (2016). The problem of reading and reading culture improvement of students-bachelors of elementary education in modern high institution. *International Journal of Environmental & Science Education, 11*(4), 473–484. doi:10.12973/ijese.2016.318a

Koosha, M., Abdollahi, A., & Karimi, F. (2016). The Relationship among EFL learners' self-esteem, autonomy, and reading comprehension. *Theory and Practice in Language Studies*, *6*(1), 68-78. http://dx.doi.org/10.17507/tpls.0601.09

Labarrete, R. (2017). Reading comprehension level and study skills competence of the alternative learning system (ALS) clientele. *PUPIL: International Journal of Teaching, Education and Learning, 3*(1), 220–229. doi: https://dx.doi.org/10.20319/pijtel.2019.31.220229

Mante-Estacio, M. (2012). Dimensions of reading motivation among Filipino bilinguals. *TESOL International Journal, 7*, 20–29.

Marinak, B. A., & Gambrell, L. B. (2008). Intrinsic motivation and rewards: What sustains young children's engagement with text? *Literacy Research and Instruction*, *47*(1), 9-26. doi:10.1080/19388070701749546

Nyarko, K., Kugbey, N., Kofi, C., Cole, Y. & Adentwi, K. (2018). English proficiency and academic performance among lower primary school children in Ghana. *SAGE Open Journal*, *8*(3), 1 – 10. doi: 10.1177/2158244018797019

OECD (2019). OECD PISA 2018 Results Volume I. https://www.oecd.org/pisa/Combined_Executive_Summaries_PISA_2018.pdf

Paz, A. (2018) Reading Comprehension Levels in English among Grade 7 Students in Caraga State University, Philippines, *Education*, *8*(1), 5-8. doi: 10.5923/j.edu.20180801.02.

Sağirli, M. & Ateş, H. A research on reading comprehension levels of fifth-grade students who learned to read and write for the first time with sound-based sentence method. *Journal of Education and Training Studies*, *4*(3), 63-69.

Smith, R., Snow, P., Serry, T., & Hammond, L. (2021) The role of background knowledge in reading comprehension: a critical review. *Reading Psychology*, *42*(3), 214-240. doi: 10.1080/02702711.2021.1888348

Solheim, O. (2011). The impact of reading self-efficacy and task value on reading comprehension scores in different item formats. *Reading Psychology*, *32*, 1–27. doi: 0.1080/02702710903256601

Srisang, P., & Everatt, J. (2021). Lower and higher level comprehension skills of undergraduate EFL learners and their reading comprehension. *LEARN Journal: Language Education and Acquisition Research Network*, *14*(1), 427–454.

Tomas, M. J. L., Villaros, E. T., & Galman, S. M. A. (2021). The Perceived Challenges in Reading of Learners: Basis for School Reading Programs. *Open Journal of Social Sciences*, *9*, 107-122. https://doi.org/10.4236/jss.2021.95009

Turkel, A., Ozdemir, E., & Akbulut, S. (2017). Validity and reliability study of reading culture scale. *International Periodical for the Language, Literature and History of Turkish or Tukic, 12*(14), 465–490. http://dx.doi.org/10.7827/TurkishStudies.11620

Vasay, M.J., Bilbao, M.E., & Donguila, C.L. (2016). Level of Reading Comprehension of the Education Students. *Areté, 4*, 1-1.

Zhou, J., Jiang, Y., & Yao, Y. (2015). The Investigation on Critical Thinking Ability in EFL Reading Class. *English Language Teaching*, *8*(1), 83–94. doi: 10.5539/elt.v8n1p83

Student Engagement and Academic Performance in Mathematics: Basis for an Enhancement Program

Leahcris B. Tuco and Lolly Jean C. Simbulas[2]

[2] Dean, College of Teacher Education
University of the Immaculate Conception, Philippines

ABSTRACT

This study determined the relationship between students' engagement and academic performance in mathematics of Grade 7 students from the selected public junior high schools in Cluster 6, Division of Davao City, Philippines. Cluster sampling was used in selecting the respondents from the participating schools. An adopted questionnaire for the students' engagement was used, while the grade point average (GPA) in mathematics was used to measure the students' academic performance. Also, a quantitative research design using the descriptive-correlational method was employed. The statistical tools used in analyzing the data were mean, standard deviation, and Pearson-r. Results showed that the students' engagement is high. In the interim, students' academic performance in mathematics is high. The findings also revealed that there was no significant relationship between student engagement and academic performance in mathematics. Consequently, a program to reinforce and enhance junior high students' engagement and academic performance was proposed based on the study's findings.

KEYWORDS*:* Education, student engagement, academic performance, enhancement program, descriptive-correlation, Philippines

INTRODUCTION

Everyday math demonstrates how interrelated the world is. According to Tshabalala and Ncube (2013), mathematics is an important aspect of human logic and thought, and an integral part of understanding the world and people. In addition, mathematics aids students' understanding of other subjects and their ability to think rationally, analytically, systematically, critically, and creatively (Ajisuksmo & Saputri, 2017). Hence, the increasing interest in studying mathematical success is motivated by the relevance of mathematics in both formal education and people's daily lives (Jansen et al., 2013; Namkung et al., 2019). Moreover, well-being, satisfaction with life, health, income, employability, and longevity are closely related to success in mathematics (Lipnevich et al., 2016). Despite its relevant purpose and uses, most of the students if not all continue to believe otherwise. They consider mathematics to be a complex subject that requires a lot of work to learn (homework.sg., 2019). With this, mathematics has been identified as a difficult subject (Okafor & Anaduaka, 2013).

Worldwide, studies have been reporting poor performances of students. In the United States, the achievement of American students in Mathematics fell again for the second time in 2015 on a significant international benchmark, as detailed in the Program for International Student Assessment (PISA) (Kelly et al., 2013).

In the Philippines, the low performance of students in this discipline is also evident despite the efforts of the educational system to encourage understudies to hone consistent numerical and conceptual abilities in mathematics. In addition, the Trend International Mathematical Science Study Advanced (TIMSS) confirmed this appalling result from their study conducted in 2013, Filipino students in surveys on mathematical competencies lag behind its neighboring countries specifically Hongkong, Singapore, Japan, and South Korea (Care et al., 2015). Similarly, Program for International Student Assessment (PISA) 2018 result stated that the Philippines' fifteen-year-old children scored lower in math than students in most of the countries and economies that took part in PISA 2018 (Bernardo, 2020).

Different factors that significantly influenced students' performance have been the subject of numerous studies. Specifically, student communication, learning facilities, proper guidance, family stress (Mushtaq & Khan, 2012); professional development of educational board (Robert & Sampson, 2011); interest in learning, home environment (Dev, 2016); optimal health barriers (Kernan et al., 2011); and academic engagement (Urquijo & Extremera, 2017; & Gunuc, 2014).

The growing importance of understanding the relationship of student engagement and academic performance, specifically considering the current educational situation public school students are in today, provides the salience to conduct of this study. It is in this premise that this study aims to find the relationship between students' engagement and academic performance among the Grade 7 students which will be the basis in proposing an enhancement program. Furthermore, it is one of the researcher's hopes that the enhancement program that will be developed in this study will become one of the educational programs that will help improve students' love of learning and the knowledge and skills which will prevent early dropouts and support long-term career success (Oak Crest Academy, 2017)

Although existing research had addressed the association among and between these variables, there is still a paucity of published papers regarding the current influence of students' engagement and academic performance in mathematics, specifically among grade 7 students of Cluster 6 in Davao City. Adding on, most of their studies focused on the general association between aspects of students' engagement and academic performance. Many of them are mainly descriptive of the existing relationship among variables which do not offer any enhancement program to address the existing problematic issue. Moreover, most of their respondents had focused on elementary students and only a few were conducted among mathematics students in public junior high schools. It is in this context that the researcher felt compelled to fill the identified research gap

Theoretical Framework

This study was anchored on the theories **Expectancy-Value Theory** by Eccles et al**.** (1983) and **Self-determination Theory** of Deci and Ryan (1985). One of the prominent theories in

different areas of study is the Expectancy-value theory (EVT). It was recorded to have been utilized by a number of developmental researchers who studied the development of achievement motivation (Weiner, 1992; Wigfield & Eccles, 1992; Schunk & Meece, 2006). Expectancy-value theory (EVT) discusses the psychological processes that predict achievement-related behaviors and decisions. It has become a salient motivation framework to understand how young people's beliefs predict educational choices (Jacobs & Simpkins 2005). Values and expectancies are assumed to directly influence achievement choices. They also influence performance, effort, and persistence. Expectancies and values are assumed to be influenced by task-specific beliefs such as ability beliefs (Eccles et al.,1983). Another theory that this study was anchored to is Self-determination Theory (SDT) proposed by Deci and Ryan (1985). Self-determination Theory aims to explicate the undercurrents of motivation, human need, and well-being within a social context. The theory proposes that all individuals hold three universal and psychological needs specifically autonomy, competence, and relatedness, that push them to act or not to act. In a study conducted by González and Paoloni (2014), they found that the structural equation models corroborated the hypotheses specifically, the types of self-determination differentially impacted engagement and disaffection, also seen as progressively more adaptive the higher the autonomy. Consequently, behavioral engagement, self-determination, and disaffection predicted performance.

METHODS

Research Design

The study employed a quantitative research method using the descriptive-correlation design. Bhandari (2020) described quantitative research as the process of collecting and analyzing numerical data. In addition, the investigator in quantitative research identifies a research problem based on field trends or the requirement to explain why something occurs (Creswell, 2012). In addition, descriptive correlational analysis, according to Curtis et. al (2016), is a quantitative method for describing the relationship between two or more variables. This was supported by Creswell (2002) cited by Davis (2021), according to him, descriptive correlational studies describe the variables and the relationships that occur naturally between and among them. Therefore, it is appropriate for this study to use the quantitative type of research particularly the descriptive-correlational design. In the context of this study, it was apt to utilize the descriptive-correlational design because the researcher sought to determine the relationship between students' engagement (independent variable) and academic performance in mathematics (dependent variable) among junior high school students enrolled in the School Year 2021-2022.

Place of the Study

The study was conducted in the three public high schools of Cluster 6 in the Davao City Division located at Tugbok District. Tugbok District has a total land area of 15,391 km^2 with 18 barangays. According to the National Statistics Office of the Philippines, Tugbok District has a total population of 150,621 as of May 1, 2020. Additionally, it also consists of different schools in elementary and secondary both public and private institutions. The research location's anonymity is crucial to ethical research. As a result, Schools A, B, and C were the names of the three participating

schools. The researcher purposively chose schools in Davao City not only for their accessibility but also for the urgency to conduct studies on the impact of students' engagement on their academic performance in mathematics. These schools consist of a large number of students which is one of the important considerations since it catered to Grade 7 students. Moreover, these schools were chosen because of the availability of the target respondents and the locality of the researcher. Further, the aforementioned schools are part of the same cluster as the researcher's present teaching assignment.

Respondents

The study was conducted among 187 Grade 7 students of the three chosen schools located in Tugbok District, Davao City. The researcher used cluster random sampling to determine the respondents for this study. Cluster random sampling is a probability sampling technique for research where the population is divided into smaller groups known as clusters (Thomas, 2020). In addition, Sedgwick (2014) stated that cluster sampling entails selecting a random sample of clusters from the population and inviting all members of each cluster to take part. As a result, independent of the other members of the population, each individual has a fixed chance of being chosen to be a respondent of the study. The researcher utilized the Raosoft Sample Size Calculator to determine the needed number of respondents for the study. With this, the number of sections used in each school was identified. The class selection from the participating schools was done using a cluster sampling method in which each Grade 7 class had an equal chance of being chosen as respondents.

Statistical tools

In this study, the following statistical tools were used. **Mean** was used to find the average responses and determine the level of the students' engagement and the level of academic performance of the respondents. **Standard Deviation** was employed to identify how the data for a group were spread out from the average or expected value. A low standard deviation indicates that the majority of the data points are close to the average. A large standard deviation indicates that the data is dispersed. **Pearson Product-Moment Correlation** was used to determine the relationship between two variables, namely: student engagement (independent variable) and academic performance (dependent variable).

RESULTS AND DISCUSSION

Level of Students' Engagement

Table 1 shows the level of students' engagement manifested by 187 Grade 7 respondents in the selected junior high schools of Cluster 6, Davao City Division. The results show that the cognitive, affective, and behavioral aspects inherent in student engagement have an overall mean level of 3.89, which is described as high. This points out that student engagement in mathematics is oftentimes manifested. Also, this further describes that the psychological investment and efforts of the students have highly directed toward learning, understanding, or mastering the necessary

knowledge and skills that mathematical tasks are intended to promote. Furthermore, the overall standard deviation is 0.37 which indicates homogeneity of responses among the respondents.

Table 1

Level of Students' Engagement

Indicators	Mean	SD	Description
Cognitive Engagement	3.97	0.41	High
Affective Engagement	3.65	0.40	High
Behavioral Engagement	4.04	0.49	High
Overall Mean	**3.39**	**0.37**	**High**

The indicator with the highest mean is behavioral engagement. The mean scores of the inventory items vary within a range of 3.80 to 4.14. Consequently, the findings showed that the behavioral engagement of Grade 7 students is also high, with an average category mean of 4.04, indicating that this category of the students' engagement is oftentimes manifested. These results also point out that the respondents have significant level of engagement in classroom activities, conduct, and participation in mathematics class-related tasks. These outcomes align with the conclusions of Abd-Wahid and Shahrill (2014), who suggest that behavioral engagement is influenced by factors such as perseverance, attentiveness, and time spent on completing tasks. Meanwhile the indicator with lowest mean is affective engagement. The mean scores of the inventory items vary within a range of 2.11 to 4.26. The results showed that the affective engagement of the Grade 7 students is also high with the average category mean of 3.65 which means that this category of the students' engagement is oftentimes manifested. This further explains that students' own interest in, pleasure with, and enjoyment of mathematics, as well as their response to external incentives, are strong. These findings are parallel to the conclusions of Arias et al. (2014), who posit that attitudes towards a certain subject often indicate the enjoyment, importance given, and impression of the said subject. The Self-determination Theory (SDT) which clearly identified that individuals hold three universal and psychological needs namely autonomy, competence, and relatedness, that motivates them to act or not to act is supported by the findings of this study. This implies that as students pursue better academic performance, they tend to improve the school engagement they exert (Deci & Ryan, 1985).

Level of Students' Academic Performance in Mathematics

Table 2 presents the level of academic performance in Mathematics as reported by 187 Grade 7 respondents in selected junior high schools of Cluster 6, Davao City Division. The data is measured in terms of quarterly grades for the first to second quarter in the School Year 2021-2022. The results revealed an overall mean of 87.26, which is a high rating. This indicates that the academic performance in Mathematics of Grade 7 learners is very satisfactory. The respondents exhibit a strong commitment to learning, flexibility and sense of responsibility in mathematics, enabling them to tasks independently in a distance learning modality during the COVID-19 pandemic. Furthermore, the overall standard deviation is 3.84 which indicates homogeneity of responses among the respondents.

Table 2
The Level of Students' Academic Performance in Mathematics

	Mean	SD	Description
Average Grade	87.26	3.84	High

These findings are partially congruent to the conclusions of a study by Arcadio et al. (2020), who report in their findings that, out of 183 respondents in Cebu, Philippines, 53.01 percent or 93 of them had a reasonably satisfactory level of academic performance in Mathematics. Another study by Almerino et al. (2020) noted that, at an average, students get a GPA of 83 in Mathematics, which is rather close to the reported grades of this study's respondents. Moreover, the result above is in consonance to the statement of Biswas (2015) where he indicated that students' performance in mathematics, as indicated by the grades they achieved, is affected by various factors. Among the various factors, one is students' affective characteristics which focus on study habits and study attitudes, which are then further referred to as study orientations.

Significance of the Relationship between Students' Engagement and Academic Performance of Mathematics 7 Students

Table 3 shows the relationship between students' engagement and academic performance of mathematics Grade 7 students. It reveals the generated r-value of .033 with a p-value of .651 which is greater than .05 level of significance indicating no significant relationship. The results describe that the strength of the overall relationship of the students' engagement and academic performance is very low positive correlation. This means that as one variable increases, the other variable also increases. Additionally, two of the student engagement indicators, cognitive and affective engagement, had negative r-values ranging from -0.001 to -0.047, indicating a very low negative correlation, implying that while one variable increases, the other decreases. On the other hand, only the behavioral engagement indicator garnered a positive yet very low correlation with students' academic performance, which indicates that as one variable increases, the other variable also increases. Furthermore, this means that there is no significant relationship between students' engagement and academic performance in mathematics of Grade 7 students in the selected junior high schools in Cluster 6, Davao City Division.

Table 3
Significance of the Relationship between Students' Engagement and Academic Performance of Mathematics 7 Students

Students' Engagement Indicators	Academic Performance		
	R	p-value	Remarks
Cognitive Engagement	-0.047	0.525	Not Significant
Affective Engagement	-0.001	0.989	Not Significant
Behavioral Engagement	0.114	0.119	Not Significant
Overall Students' Engagement	0.033	0.651	Not Significant

The conclusion that student engagement and academic performance do not have any significant relationship contradicts the study by Lee (2014), which notes that student engagement, particularly its behavioral and affective aspects, have a significant impact on academic performance. Granted, however, that this data is in relation to linguistic academic performance rather than mathematical. A more similar comparison can be made through the study of Hofkens et al. (2020), which purports that student engagement and academic performance do not significantly influence each other, although they have a predictor in common which is classroom quality.

Proposed Enhancement Program for Mathematics

Based on the findings of this study, an Enhancement Program for the Mathematics 7 Students was proposed. The results revealed that cognitive, affective, and behavioral aspects essential in student engagement have a high overall mean.

There is mathematics everywhere. It is part of everybody's life in this world. As dwellers and stewards of the earth, it is everybody's responsibility and accountability to be engaged in learning mathematics and taking good care of it. In this light, improving students' mathematical engagement and performance while letting them take good care of the earth is vital to students' lives. It is a prerequisite in living. It is in the hope of this proposed program that the students will find their personal interest, satisfaction, and enjoyment in mathematics, as well as response to external incentives. Herewith, the growing importance of helping the learners provisions the salience to make a conducive learning environment that will provide them the opportunity to learn and enjoy mathematical concepts, skills and values that will hopefully develop their love in learning mathematics. Furthermore, teachers are also given the opportunity to extend help and assistance to struggling students and fast learners. In light of this context, a proposed enhancement program—which teachers and administrators may use as part of their classroom and school-related activities—was specifically designed to address the needs of the mathematics students who participated in this study, the MATH-tanim Tayo: Plant-Care-Share Program.

The MATH-tanim Tayo: Plant-Care-Share Program will require students to plant vegetables and/or fruit bearing trees. For vegetables, they are required to use recyclable materials as their containers. For the fruit bearing trees, they are encouraged to plant them in big recyclable containers. These plants and containers will be identified and noted for their future reference in making things meaningful in relation to their current lesson/s in mathematics. In addition, the students will be required to take note of the time they plant, care and harvest with documentation and narratives. These will be used for the completion of their portfolios. The students will be tasked to plant, care, harvest and share using their chosen recyclable containers individually. Each of them will prepare their own documentation with narratives of their project before, during and after moments in their journey. With this, they will be grouped together to compile their works and share their learnings as they make their portfolio as a group. The following is the detailed matrix of the proposed program.

Engagement Domain	Objectives	Strategies	Success Indicator	Time Frame	Persons Involved
Cognitive	Choose the right plant with the right recyclable containers as they grow their plant applying the right way of taking good care of it	Individual and group conference	Well planted, maintained and productive plant	Year Round	Students and teachers
	Choose the right current topic that is applicable in the given task	Focus group discussion/ Group meetings	Well-constructed, solved and presented word problems		
	Create and solve word problem/s connecting their learning task in relation to their mathematics lesson/s at hand	Group and Work Management			
	Create an enjoyable and comprehensive portfolio	Creative, meaningful, and comprehensive portfolio	Cooperation and trust shall have been applied and shared		
Affective	Discover their love for planting, caring and sharing as they recognize and appreciate the use of mathematics	Planting harvestable plants that they can take care of, eat and share the harvest to others	Well planted, maintained and productive plant	Year Round	Students and teachers
	Create an enjoyable, meaningful and reflective portfolio	Reflective Portfolio	Enjoyable, meaningful and reflective portfolio		
			Cooperation and trust shall have been applied and shared		
	Participate in academic and environmental activities that promote love for mathematics and care for earth	Individual and group conference	Well planted, maintained and productive plant	Year Round	Students and teachers
		Plant, Care and Share Tasks	Creative and reflective portfolio		
		Creative, meaningful and reflective portfolio	Cooperation and trust shall have been applied and shared		

CONCLUSIONS

Based on the findings of this study, the researcher came up with the following conclusions: The level of engagement among Grade 7 students was often manifested which implies that there is still room for improvement in terms of students' engagement in mathematics. This further explains that students' psychological investments and efforts are highly focused on learning, comprehending, or mastering the requisite knowledge and skills that mathematical assignments are designed to promote. The level of Grade 7 students' academic performance was very satisfactory which suggests that there are still improvements that can be done to enhance the students' academic performance in learning mathematics. Furthermore, this implies that the respondents have high level of commitment to learning persistence to learning, flexibility and sense of responsibility in learning mathematics wherein he/she can perform the tasks on his/her own despite the distance learning modality approach during the COVID-19 pandemic. The students' engagement has no significant influence on academic performance in mathematics. In addition, this points out that engagement does not mainly affect the academic performance of the students in learning mathematics. As an output of this study, an enhancement program in mathematics was designed to reinforce and improve the level of engagement and performance of the students, especially in terms of applying mathematical concepts in environmental concerns.

REFERENCES

Abd Wahid, N, & Shahrill, M. (2014). *Pre-university students' engagement towards the learning of mathematics*. Proceeding of the Social Sciences Research ICSSR, Malaysia, 379-388.

Abín, A., Núñez, J. C., Rodríguez, C., Cueli, M., García, T., and Rosário, P. (2020). Predicting mathematics achievement in secondary education: the role of cognitive, motivational, and emotional variables. *Front. Psychol.* 11:876. doi: 10.3389/fpsyg.2020.00876

Afriyanti, F., & Kusdiyati, S. 2015. Studi deskriprif school engagement siswa kelas x, xi, dan xii ips sma mutiara 2 bandung. *Prosiding Psikologi Seminar Penelitian Sivitas Akademika* (pp 460-467). Bandung: Universitas Islam Bandung.

Aisyah, N., Akib, I., & Syamsuddin, A. (2020). Identifying the influence of Anxiety and Self-Reliance in Learning Towards Mathematics Learning Performance of Elementary School's Students Grade V. *International Journal of Scientific & Technology Research*, 9(2), 3238-3242.

Ajisuksmo, C., & Saputri, G. (2017). The Influence of Attitudes towards Mathematics, and Metacognitive Awareness on Mathematics Achievements. *Creative Education*, *8*, 486–497. https://doi.org/10.4236/ce.2017.83037

Creswell, J. W. (2012). *Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4th ed.). Pearson Education, Inc.

Dangle, Y. R. P., & Sumaoang, J. D. (2020). The implementation of modular distance learning in the Philippine secondary public schools. In *3rd International Conference on Advanced Research in Teaching and Education (November 27-29), Dublin, Ireland. Retrieved from https://www. dpublication. com/wp-content/uploads/2020/11/27-427. pdf*

Davis, B. (2021). *What is descriptive research design according to Creswell?.*

Retrieved on September 19, 2021 from https://www.mvorganizing.org/what-is-descriptive-research-design-according-tocreswell/#:~:text=What%20is%20descriptive%20correlational%20research%20design%20according%20to%20authors%3F,-Descriptive%20Correlational%20Designs&text=Descriptive%20correlational%20studies%20describe%20the,)%20and%20dependent%20(outcome). Retrieved on: September 18, 2021.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum

Dev, M. (2016). Factors Affecting the Academic Achievement: A Study of Elementary School Students of NCR Delhi, India. *Journal of Education and Practice*, *7*(4), 70-74.

Dianito, A. J., Espinosa, J., Duran, J., & Tus, J. (2021). A glimpse into the lived experiences and challenges faced of PWD students towards online learning in the Philippines amidst COVID-19 pandemic. *International Journal Of Advance Research And Innovative Ideas In Education*, *7*(1), 1206-1230.

Dixson, M. D. (2010). Creating Effective Student Engagement in Online Courses: What Do Students Find Engaging?. *Journal of the Scholarship of Teaching and Learning*, *10*(2), 1-13.

Eccles [Parsons], J. S., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., & Midgley, C. (1983). Expectations, values and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motivation* (pp. 75–146). San Francisco: W. H. Freeman

Eriana, E., Kartono, K., & Sugianto, S. (2019). Understanding Ability of Mathematical Concepts and Students' Self-reliance towards Learning by Implementing Manipulative Props (APM) on Jigsaw Technique. *Journal of Primary Education*, *8*(2), 176-183.

Evanovich, L., Harbour, K., Hughes, L., & Sweigart, C. (2015). A Brief Review of Effective Teaching Practices That Maximize Student Engagement. Preventing School Failure, 59(1): 5-13. doi: https://dx.doi.org/10.1080/1045988X.2014.919136

Fernandez, E., Fuchs, L., Gersten, R., Hansen, N., Jordan, N., Micklos, D., & Siegler, R. (2015). General and math-specific predictors of sixth-graders' knowledge of fractions. *Cognitive Development*, 35, 34-49. https://doi.org/10.1016/j.cogdev.2015.02.001

Fung, F., Tan, C. Y., & Chen, G. (2018). Student engagement and mathematics achievement: Unraveling main and interactive effects. *Psychology in the Schools*, *55*(7), 815-831.

Fredricks, J. (2013). Behavioral engagement in learning. In J. Hattie & E. M. Anderman (Eds.), *International guide to student achievement* (pp. 42–44). Routledge/Taylor & Francis Group.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2014). School engagement: Potential of the concept, state of the evidence. Review of educational research, 74(1), 59-109. Retrieved on October 21, 2021 from https://doi.org/10.3102%2F00346543074001059

Victoria T. Nollora[1] and Lolly Jean C. Simbulas[2], PhD

1 Lapu-Lapu Elementary School, Davao City
2 University of the Immaculate Conception

ent engagement: A comparative
ts. In *Handbook of research on*

Galabo, N. R., Abellanosa, G. G., & Gempes, G. P. (2018). The Level of Readiness in Mathematics of First Year High School Students of Cluster 6 Tugbok Secondary Schools: Basis for Intervention Program. *International Journal of Humanities, Arts and Social Sciences*, *4*(1), 47-59.

García, T., Rodríguez, C., González-Castro, P., González-Pienda, J. A., & Torrance, M. (2016). Elementary students' metacognitive processes and post-performance calibration on mathematical problem-solving tasks. *Metacognition and Learning*, *11*(2), 139-170.

Gerber, C., Mans-Kemp, N., & Schlechter, A. (2013). Investigating the moderating effect of student engagement on academic performance. *Acta Academica*, *45*(4), 256-274.

Gettinger, M., & Walter, M. J. (2012). Classroom strategies to enhance academic engaged time. In *Handbook of research on student engagement* (pp. 653-673). Springer, Boston, MA.

Goldin, G. A., Epstein, Y. M., Schorr, R. Y., & Warner, L. B. (2011). Beliefs and engagement structures: Behind the affective dimension of mathematical learning. *ZDM*, *43*(4), 547.

Gonzalez, M. (2005). *Map of the Davao del Sur showing the location of Davao City* [Illustration]. Https://En.Wikipedia.Org/Wiki/Davao_City#/Media/File:Ph_locator_davao_del_sur_davao.Png.https://en.wikipedia.org/wiki/Davao_City#/media/File:Ph_locator_davao_del_sur_davao.png

Gonzales, E. (2019, December). *YEAR-END REPORT: DepEd in 2019: The quest for quality education continues.* Manila Bulletin. https://mb.com.ph/2019/12/29/year-end-report-deped-in-2019-the-quest-for-quality-education-continues/

González, A., & Paoloni, P. V. (2014). Self-determination, behavioral engagement, disaffection, and academic performance: A mediational analysis. *The Spanish journal of psychology*, *17*.

Gunuc, S. (2014). The relationships between student engagement and their academic achievement. *International Journal on New Trends in Education and their implications*, *5*(4), 216-231.

Hofkens, T., Wang, M., & Ye, F. (2020). Classroom Quality and Adolescent Student Engagement and Performance in Mathematics: A Multi-Method and Multi-Informant Approach. Journal of Youth and Adolescence, 49, 1987-2002.

Hoy, A. W. (2004). Self-efficacy in college teaching. *Essays on teaching excellence: Toward the best in the academy*, *15*(7), 8-11.

homework.sg. (2019, September 2). *6 Reasons Why Mathematics is a Powerful Tool in Life.* Retrieved December 22, 2021, from https://homework.sg/blog/reasons-why-mathematics-is-a-powerful-tool-in-life/

Hsieh, P. H. P., & Schallert, D. L. (2008). Implications from self-efficacy and attribution theories for an understanding of undergraduates' motivation in a foreign language course. *Contemporary Educational Psychology*, *33*(4), 513-532.

Iddrisu, W., Kessie, J., Larbi, E., & Otoo, D. (2018). Structural Model of Students' Interest and Self-Motivation to Learning Mathematics. *Education Research International*, 2018, 1-10

Iksan, Z. & Sengodan, V. (2012). Students' Learning Styles and Intrinsic Motivation in *Learning Mathematics. Asian Social Science*, 8(16), 17-23.

Iksan, Z., Maamin, M., & Maat, S. (2021). The Influence of Student Engagement on Mathematical Achievement among Secondary School Students. *Mathematics 2022*, 10, 41. https://doi.org/10.3390/math10010041

Ilhan, A., Gemcioglu, M., & Pocan, S. (2021). The Effect of Mathematics Class Commitment and Anxiety on Mathematics Success: A Path Analysis Study. https://doi.org/10.1177/00131245211028621

Jacobs, J. E., & Simpkins, S. D. (2005). Mapping leaks in the math, science, and technology pipeline.

Jansen, B. R. J., Louwerse, J., Straatemeier, M., Van der Ven, S. H. G., Klinkenberg, S., and Van der Maas, H. L. J. (2013). The influence of experiencing success in math on math anxiety, perceived math competence, and math performance. *Learn. Individ. Differ.* 24, 190–197. doi: 10.1016/j.lindif.2012.12.014

Jasni, A. & Zulikha, J. (2013). Utilizing Wayang Kulit for Deep-Learning in Mathematics. *Proceedings of the World Congress on Engineering,* 2, 1-6.

Jena, P. K. (2020). Impact of pandemic COVID-19 on education in India. *International journal of current research (IJCR)*, *12*.

Jones, R. D. (2008). Strengthening student engagement. *international Center for Leadership in Education*, *1*, 10.

Kraav, T., Mikkor, K., Orav-Puurand, K., Rozgonjuk, D., & Taht, K. (2020). Mathematics anxiety among STEM and social sciences students: the roles of mathematics self-efficacy, and deep and surface approach to learning. *International Journal of STEM Education*, 7(46), 1-11. https://doi.org/10.1186/s40594-020-00246-z

Kelly, D., Nord, C. W., Jenkins, F., Chan, J. Y., & Kastberg, D. (2013). Performance of US 15-Year-Old Students in Mathematics, Science, and Reading Literacy in an International Context. First Look at PISA 2012. NCES 2014-024. *National Bureau of Economic Research.*

Kernan, Willium, Bogart, Jane & Wheat, Mary E. (2011). *Health related Barriers to learning among graduate student, Health Education*, vol. 11,NO. 5, pp.425-455.

Wang, M. T., Willett, J. B., & Eccles, J. S. (2011). The assessment of school engagement: Examining dimensionality and measurement invariance by gender and race/ethnicity. *Journal of School Psychology*, *49*(4), 465-480.

Attitudes Towards Mathematics and Academic Self-Concept as Determinants to the Mathematics Achievement of Grade 10 Learners

Victoria T. Nollora[1] and Lolly Jean C. Simbulas[2]
[2] Dean, College of Teacher Education,
University of the Immaculate Conception, Philippines

ABSTRACT

This study determined the relationship of Grade 10 students' attitude towards Mathematics and their academic self-concept towards their achievement in mathematics. In particular, it investigated the impact of positive attitudes towards mathematics and academic self-concept as means to improve the academic achievement of the respondents and to contribute to additional knowledge, specifically in the local setting. The researcher used an adopted questionnaire to determine the attitudes towards mathematics and academic self-concept. A quantitative research design using the descriptive-correlation method was employed. The data were collected among Grade 10 students from the private schools in the Division of Davao City. Data were treated utilizing the mean, standard deviation, and linear regression analysis. Findings revealed that attitudes towards mathematics and academic self-concept were high, while the mathematics achievement was moderately high. Between the two independent variable, attitudes towards mathematics yielded significant influence towards mathematics achievement while academic self-concept does not significantly predict mathematics achievement. In other words, attitudes towards mathematics as perceived by the Grade 10 learners influenced the process of improving their academic achievement in mathematics.

KEYWORDS: Education, attitudes towards mathematics, academic self-concept, academic achievement, Grade 10 learners, descriptive-correlation, Philippines

INTRODUCTION

Students' learning and performance in mathematics are affected by several factors, including students' attitudes toward the subject, teachers' instructional practices, and the school environment (Manzana et al., 2019). Based on the recent Program for International Student Assessment (PISA) 2018, around 60 percent of participating countries, including the Philippines, mean scores fall below the passing score set by the Organization of Economic Co-operation and Development (OECD).

According to the country report of the Program for International Student Assessment (PISA), the mathematics literacy result is very alarming for the Department of Education (DepEd). The Philippines ranked second from the bottom among the participating countries in the recent assessment. This further revealed that Filipino students recorded a mean score of 353 points in Mathematics Literacy, significantly lower than the OECD mean of 489 points. Furthermore, it is also reported that only one out of every five Filipino students, or approximately 19.7 percent attained at least the minimum proficiency level (Level 2) in Mathematics Literacy. However, on National

Achievement Test (NAT), result shows that while the Filipino learner's NAT mean percentage score (MPS) has increased over the eight years (2005-2013), it has not yet reached the 75 percent MPS target and secondary level NAT is 23.59 percent points away from the target (Report on the Philippine Education, 2015).

In Davao City, students' performance in Mathematics is very low as presented in the ranking of all the Schools Divisions in Region XI. This confirms that math teachers, through the cooperation of the students, shall do something to attain the objective of mastery level, especially in Mathematics achievement (DepEd Advisory, 2011). Various educational research cited variables that affect student learning and achievement in mathematics; among those are attitude towards mathematics and non-cognitive factors in academic success such as academic self-concept. Researchers Attard (2012); Monteiro and Peixoto (2012) have identified important factors contributing to students' attitudes towards mathematics. These include the students, the school, the teachers' beliefs and attitudes, and teaching methods. In addition, students' positive attitudes are said to improve their willingness to learn, while their negative attitudes may cause resistance (Attard, 2012). Additionally, the study by Mohammadpour (2012) concluded that students' attitudes towards mathematics could also be affected by whether or not they find mathematics enjoyable, valuable, and essential to success in school and future career goals.

Contrary to the numerous studies exploring the connection between students' attitudes towards mathematics and mathematical achievement, this study will also investigate how academic self-concept interplays with the student's attitude towards mathematics. This approach is surprisingly rare as most studies mainly focused on overall achievement scores and not on understanding students' internal processes, as reflected in the academic self-concept (Fadillah & Saputro, 2017).

Over the years, scholars explored variables that have a possible relationship to mathematics achievement. Attitudes toward mathematics are one factor that could affect the achievement in mathematics (Davadas & Lay, 2020), while academic self-concept is another human affective factor that has been considered to play a paramount role in the acquisition of basic mathematics skills (Peteros et al., 2020). Meanwhile, attitudes towards mathematics, self-concept, and mathematics academic achievement are common variables that have been widely studied back-to-back in educational settings since research has shown that they interact with each other. A study by Hansen and Henderson (2019) investigated the relationship between academic self-concept and academic achievement in mathematics of the purposively high and low achievers with low and high academic self-concept groups, respectively. The study concluded that there was a high correlation between the participants' self-concept and their achievement. Further, Singh (2015) explored college students' academic self-concept concerning academic achievement in mathematics, which yielded a positive correlation.

The studies mentioned above are separate studies of the two variables: attitudes toward mathematics and students' academic self-concept. Correlating these variables into academic achievement in mathematics inspired the researcher since limited studies are available in exploring such Grade 10 learners where they are expected to develop creativity, reasoning, and problem-solving skills that align with the goals of STEM programs. Marsh et al. (2011) reminded that understanding students' attitudes is vital, especially when looking at issues that influence academic

success. In like manner, Tan (2019) argued that achievement depends not only on the students' attitudes but also on their self-concept academically.

Lenderman's (2017) work recognized the difference in the achievement of learners enrolled in face-to-face instruction versus online learning instruction and found that achievement in traditional teaching is more evident than in virtual instruction. Given the current situation brought by the Covid-19 pandemic, the researcher's urgency to undertake this study, which focuses on mathematical achievement as indicated by students' attitudes and academic self-concept, stems primarily from this premise.

On the one hand, this study would focus on the combined influence of attitudes toward mathematics and academic self-concept on academic achievement in Mathematics. Hence, the researcher finds the urgency of conducting the study having the hopes in mind that it would be an avenue for mathematics teachers to find an answer, based on the results of the study, to the long-standing question of whether learning math is attitudinal or perceptional as confirmed by Showalter (2021) most specifically during traditional and non-traditional classes.

Theoretical Framework

The study was anchored on the **Cognitive Theory of Psychopathology** of Beck (2011) and **Shavelson Model** by Shavelson et al., (1976). These two theories provided the structure to define how to approach the study. Accordingly, Beck (2011) developed a comprehensive theoretical model called the Cognitive Model. This model describes how people's thoughts and perceptions influence their lives. It explains individuals' emotional, physiological, and behavioral responses as mediated by their perceptions of experience, which are influenced by their beliefs and distinct ways of interacting with the world and their experience. In this study, the cognitive model comprises the students' attitude towards mathematics and its influence in mathematics achievement. One of the main reasons for this phenomenon is students' attitudes toward mathematics; positive or negative attitudes have a clear impact on the students' performance and grades in the subject specifically in mathematics. Another theory is the Shavelson Model developed by Shavelson et al. (1976). It comprised of a global self-concept, which is divided into academic (e.g., math, verbal, science) and non-academic (e.g., social, physical, emotional) components, suggesting that self-concept is multifaceted, hierarchically organized, and becomes increasingly differentiated with age. Recently, Guay et al. (2013) corroborated that as children become older, the rating of academic self-concept becomes more reliable and more stable.

METHODS

Research Design

This quantitative study utilized a descriptive-correlational design. As Creswell (2013) puts it, a quantitative research method emphasizes objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. It focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon. Furthermore, a descriptive approach describes the variables and the relationships that occur naturally between and among them. According to Aggarwal (2019), descriptive research focuses on gathering information

about prevailing conditions or situations for the purpose of description and interpretation. This type of research involved proper analyses, interpretation, comparisons, identification of trends and relationships. Given these definitions and framework, a combination of descriptive correlational research design is most suitable as the researcher investigated the relationship between mathematics achievement towards learners' attitude toward mathematics and their academic self-concept of the Grade 10 learners.

Place of the Study

The study was conducted in Davao City which is highly urbanized city with total population of 1.7 million based on 2020 population census, is the center of Metro Davao and the third most populous metro in the Philippines. It has at least 40 colleges and caters to nearby provinces and regions. Particularly, the study chose School A, B, and C. The choice of these schools is prompted by the fact that they have large number of Junior High School student population. These schools are private institutions that offer all level of educational programs, from nursery to graduate studies. In like manner, they employ completely online learning modality to cope during the current COVID-19 pandemic.

Respondents

This study targeted 150 Grade 10 learners in School A, B, and C under Schools Division of Davao City. According to the K to 12 guidelines, Junior High School are those in Grades 7 to 10. The said number of respondents served as the respondents of the study in determining the correlations of the two independent variables and one dependent variable. In the conduct of this study, respondents were selected based on the following inclusion criteria. First, all respondents are registered as Grade 10 students of a Junior High School Program of these schools for the School Year 2021 - 2022. Second, since participation in this study is voluntary, learners who submitted their signed Assent Parent's Consent Form and Informed Consent Form (ICF) were chosen to participate in this study. Third and most importantly, each student should have an access to the internet using either a working desktop computer/laptop or a smartphone to access the online survey questionnaires and participated in this study.

Statistical tools

The collected data were treated using both descriptive and inferential statistical tools, among others, mean, standard deviation, and linear regression analysis. **Mean**, was used to measure the levels of the students' academic achievement in mathematics, attitude towards mathematics, and academic self-concept. **Standard Deviation** was used to determine how spread out, how far or how close the students' academic achievement, attitude, and academic self-concept from their mean. **Coefficient of Variation** was used to characterize the dispersion of the determined mean results in the Mathematics Achievement Test. **Linear Regression Analysis** was utilized to determine which of the following variables: attitudes toward mathematics and academic self-concept score determined Grade 10 learners' academic achievement in Math.

RESULTS AND DISCUSSION

Level of Attitudes towards Mathematics

Table 1 reveals the level of attitudes towards Mathematics of the Grade 10 students. Three indicators of attitudes towards Mathematics are presented on the table with corresponding mean and standard deviation; these indicators include liking mathematics, valuing mathematics, and confidence in mathematics. Results show that the overall mean is 3.54 which is described as high indicating that positive attitude towards mathematics of the Grade 10 students is oftentimes demonstrated. This denotes that the Grade 10 students express liking, valuing, and having confidence in learning mathematics. The overall standard deviation measures at 0.45 indicating that the learners' level of attitudes towards the course is consistent.

Table 1
Level of Attitudes towards Mathematics

Indicators	Mean	SD	Description
Liking Mathematics	3.59	0.63	High
Valuing Mathematics	3.86	0.70	High
Confidence in Mathematics	3.17	0.48	Moderate
Overall Mean	**3.54**	**0.45**	**HIGH**

The indicator with the highest mean is valuing mathematics. The means of this indicator valuing mathematics ranged from 3.01 to 4.20. The category mean is 3.86 described as high which means valuing mathematics is oftentimes demonstrated. This means that the respondents appreciate the value and importance of learning the subject especially its impact in choosing a possible career in the near future. Such findings concur with the conclusions of Cerbito (2020) that valuing the academic tasks in mathematics will more likely predict that a student exhibits a positive attitude towards the subject. This implies that learners who look forward to accomplishment of a task are perceived to be more motivated individuals, compared to those who gets anxious when presented with mathematics tests, and are consequently perceived to value the subject more. Meanwhile the indicator with lowest mean is confidence in mathematics. The means of this indicator valuing mathematics ranged from 2.69 to 3.58. The category mean is 3.17 described as moderately high which means confidence in mathematics is sometimes demonstrated. This finding supports the narration of Hwang et al. (2021) that students who have a greater degree of "value of," "enjoyment of," and "confidence in" mathematics are more likely to study mathematics and persevere in the face of hardship, and they are more likely to attain better mathematics achievement. But it is also important to note that mathematics problem solving, especially in junior high school, remained to be a back log in mathematics curriculum (Lein et al., 2016).

Level of Academic Self-Concept

Table 2 presents the level of academic self-concept of the Grade 10 students. Four indicators of academic self-concept are depicted on the table with corresponding mean and standard deviation;

these indicators include motivation, persistence, and ability. Results show that the overall mean is 3.62 which is described as high indicating that academic self-concept of the Grade 10 students is oftentimes manifested. This signifies that the learners were motivated, persistent, and able to grasp their personal view of themselves inside their learning environment. This said view influences their academic career. The overall standard deviation measure at 0.43, this implies that learners' level of academic self-concept is homogenous.

Table 2
Level of Academic Self-Concept

Indicator	Mean	SD	Description
Motivation	4.00	0.58	High
Persistence	3.53	0.54	High
Ability	3.32	0.48	High
Overall Mean	**3.62**	**0.43**	**High**

The indicator with the highest mean is motivation. The means of this indicator motivation ranged from 3.51 to 4.56. The category mean is 4.00 described as high which means motivation is oftentimes manifested. This means that working hard and putting in a lot of time and effort indicates that a learner tries to do well in his subject by keeping the motivation in learning the subject. This is similar with the findings of Villa et al. (2021), their investigation shown that if students received the appropriate remediation, their accomplishment drive would increase. As a result, strong achievement motivation can predict good mathematics success. They also emphasized that motivation is an effective tool to enhance mathematics achievements among Junior High School learners (Villa, et al., 2021). Meanwhile, the indicator with the lowest mean is ability. The means of this indicator ability ranged from 2.46 to 4.12. The category mean is 3.32 described as moderately high which means ability is sometimes manifested. This means that one's capacity to is shown when a student completes his tasks and at the same time, doing good in all his subjects. The findings of this study support Campbell's (2021) research that a teacher's evaluation of a student's math activities is indicative of the fact that these evaluations do not necessarily reflect the student in a concrete sense. Regardless of a child's gender or age, Campbell (2015) emphasized that these judgments had an impact on the mathematical self-concept of children older than seven. Moreover, Campbell (2021) noted that a teacher's cognitive learnings are reflected in their assessments of a child's arithmetic ability.

Level of Students' Mathematics Academic Achievement

Table 3 presents the level of Mathematics Academic Achievement of Grade 10 learners. Results show that the overall percentage mean is 46.20 percent which is described as moderately high. This shows that the Grade 10 learners have an average level of achievement based on the mean score and its percentage. Al-Mutawah and Fateel (2018) discovered that factors such as students' attitudes towards other pre-requisite courses contribute to anxiety and consequently, to average and normal achievement. This means that performing students are usually anxious due to their schema

and experiences that led to being academically mediocre in school. The standard deviation of its rating measures 18.24. The coefficient of variation of the percentage of correct answers measures 39.48 percent described as not acceptable. This implies that the Grade 10 learners' responses in the achievement test obtained a very low degree of consistency. This is a common criterion for mathematics test questionnaires, as it remains difficult to reduce the scope of testable abilities. These indicate a wide range of comparable grades from responders.

Table 3
Level of Mathematics Academic Achievement

	Mean	SD	Description	Coefficient of Variation	Description
Percentage of Correct Answers	46.20	18.24	Moderately High	39.48%	Not acceptable

The transmutation of the raw scores of the academic achievement of the learners was based on the Department of Education's Memorandum Order No. 08, series of 2015 known as the Policy Guidelines on Classroom Assessment on the K to 12 Basic Education Program. This implies that the classroom teachers will be able to assess their teaching efficacy while ensuring that learners will meet the learning objectives set by the Department of Education as reflected on the list of competencies in their curriculum guides and list of Most Essential Learning Competencies (MELCs). In like manner, the Department of Education will be able to modify their approaches and plan of action, as well as providing meaningful indications in the school community and its stakeholders. In the study of Mabena et al. (2021), their investigation has found out that factors such as student's discipline, language difficulties, and student attitudes influences average mathematics achievement. This finding runs parallel to the conclusions of Malik et al. (2018) students' mediocre accomplishment in mathematics is mostly attributable to their attitude toward the subject, attitudes toward their mathematics teacher, lack of parental support and supervision, and inadequate teaching methods, especially for the present generation of students. In a classroom set-up, factors such as classroom climate, peer support and proper reinforcement is said to influence the mathematics achievement of Junior High School learners (Khadka, 2017). However, Mutisya et al. (2019) argued that despite the fact that many mathematics teachers acquired basic training on how to employ the reinforcement techniques to teach mathematics, student achievement has not intensified

Significance of the influence Attitudes towards Mathematics and Academic Self-Concept on Mathematics Achievement of Grade 10 Learners

Table 4 presents the linear regression analysis to determine the significance on the combined influence of attitudes towards mathematics and academic self-concept on mathematics academic

achievement of Grade 10 learners. As gleaned in the table, the overall computed r^2 value of 0.05 indicates that the combined influence of attitudes towards mathematics and academic self-concept have contributed significantly to the variability of students' mathematics academic achievement by 5.00 percent from the total variability. Therefore, the difference of 95.00 percent can be attributed to other variables or factors not covered in this study.

Table 4
Significant Influence of Attitudes towards Mathematics and Academic Self-concept on Mathematics Achievement of Grade 10 Learners

	Mathematics Academic Achievement			
Variables	**β**	**t**	**p-value**	**Remarks**
Attitudes towards Mathematics	0.191	2.002	0.050	Significant
Academic Self-Concept	0.014	0.152	0.880	Not Significant
Holistic Model				
R^2	0.040			
F-value	3.179			
P-value	0.044			
Remarks	Significant			

*Significant at $p<0.05$

As studied by Enu et al. (2015), they attributed the successfulness of learning mathematics in categories such as of students' factors, socio-economic factors, and school-based factors. These classifications include behavior, motivation, and mental viewpoint; educational attainment of parents and of guardians and their economic status; and availability and usage of learning materials, school type, and teacher characteristics respectively. To add, Maamin et al. (2021) have explored various factors that impacts academic achievement in Mathematics among ASEAN Countries. Among of these factors include families, students, teachers, policy makers, and school environment. Their study has further found out that achievement, especially in Mathematics, does not exclusively revolve in students' abilities.

Further, results in Table 4 indicate that attitudes towards mathematics significantly predict the academic achievement in mathematics of Grade 10 learners as evident on the regression coefficient value of 0.191 with $p<0.05$. This means that for every unit increase in attitudes towards mathematics there would be a 0.191 increase in mathematics academic achievement of Grade 10 learners.

This denotes that attitude towards mathematics have a positive contribution to academic achievement in mathematics. This finding conforms to the conclusions of Hwang et al. (2021) that

emphasizes that students who appreciate math, who believe it will help them choose a job, and who trust their math skills will more likely attain high mathematics achievement.

Moreover, findings support the view of Devadas et al. (2020) that a student's attitude in mathematics is a very significant predictor of success and achievement. They have evaluated factors that contribute to the attitude of learners in learning mathematics in a classroom set-up and have found out that Classroom Instruction is the most common contributor or improving students' attitude in learning mathematics alongside with teacher affective support (Davadas et al., 2020).

Furthermore, results in the table show that academic self-concept does not significantly predict academic achievement of Grade 10 learners as evident on the regression coefficient value of 0.014 with $p>0.05$. This implies that academic self-concept does not have a direct contribution to the academic success of Grade 10 learners. This finding contradicts the view of Emmanuel et al. (2014) that students who have a positive self-concept perform well in mathematics because they understand that they must do well – to please their parents and gain admission to the education institutions of their choice. Most especially, students with a strong self-concept performed better on the mathematical achievement exam. In the same manner, this finding is widely opposite to the conclusion of Akomofale et al. (2013) that positive self-concept increases a person's happiness, self-perception, self-esteem, and life in general. Consequently, pupils with a strong self-concept would study and do better in school than those with a poor self-concept.

CONCLUSIONS

Based on the findings of this study, the following conclusions were deduced: The level of attitudes towards mathematics in terms of valuing mathematics, liking mathematics, and confidence in mathematics obtained a high descriptive rating. It implies that positive attitudes towards mathematics are oftentimes manifested by the Grade 10 learners. With this, the respondents are interested in learning mathematical concepts and considered it important to do well in mathematics. The level of academic self-concept in terms of persistence, motivation, and ability are descriptively rated as high. This means that academic self-concept was oftentimes manifested among Grade 10 learners. With this, the respondents are willing to do their best and put their effort to pass the course. The level of mathematics academic achievement of the Grade 10 learners obtained a moderately high descriptive rating. It implies that the students' academic achievement was average. Similarly, it suggests that the students have mastered well-enough their mathematics lessons from their past grade levels lesson and other enrichment activities. The attitudes towards mathematics significantly predicted the academic achievement in mathematics of Grade 10 learners, while the academic self-concept did not predict the mathematics academic achievement of Grade 10 learners. This implies that attitudes towards mathematics do influence mathematics academic achievement while academic self-concept does not, still resulting to the overall positive combined influence of these two variables towards mathematics academic achievement.

REFERENCES

Abin A., Nunez J, Rodriguez C. (2020). Predicting mathematics achievement in secondary education: The role of cognitive, motivational, and emotional variables.

Alibraheim, E. (2020). Factors affecting freshman engineering students' attitudes toward Mathematics. *EURASIA Journal of Mathematics, Science and Technology Education, 2021,* 17(6),.ISSN:1305-8223.

Aggarwal, R. (2019). Study designs: Part 2 – descriptive studies. *Perspectives in Clinical Research*, 10(1), 34.

Aini, A. N., . S., & . S. (2017). Student's mathematics creative thinking skills in terms of logical mathematical intelligence. *International Journal of Scientific Research and Management.*

Akomolafe, M. J., Ogunmakin, A. O., & Fasooto, G. M. (2013). The role of academic self-efficacy, academic motivation, and academic self-concept in predicting secondary school students' academic performance. *Journal of Educational and Social Research.*

Alibraheim, E. A. (2021, May 8). Factors affecting freshman engineering students' attitudes toward Mathematics.

Al-Mutawah, M. A., & Fateel, M. J. (2018). Students' achievement in Math and Science: How grit and attitudes influence? *International Education Studies, 11(2), 97.*

Amoah, S. O., Acheampong, H. Y., Sefah, E. A., Britwum, F., & Britwum, S. (2021). Academic self-concept and academic performance of college of education students. *Journal of Education and Practice*, 122(24), 34–40.

Arnab, R. (2017). Nonsampling errors. *ScienceDirect.*

Attard, C. (2012). Transition from primary to secondary school mathematics: Students' perceptions. *Southeast Asian Mathematics Education Journal*, 2(1), 31–43.

Awofala, A. O. (2014). Examining personalisation of instruction, attitudes toward and achievement in Mathematics word problems among Nigerian senior secondary school students. *International Journal of Education in Mathematics, Science and Technology*, 2(4), 273.

Becker M, Neumann M. (2016). Context-related changes in academic self-concept development: On the long-term persistence of big-fish-little-pond effects. *Learn Instruction.*45:31–39.

Bermel, M. T.(2014). Impact of non-academic factor on students, persistence in community colleges: Nuturing an academic resiliency perspective. Desertasi Doktoral. UMI No. 3641180.

Blazer, C. (2011). Strategies for Reducing Math Anxiety. Information Capsule. 1102. Research Services, Miami-Dade County Public Schools.

Boaler, J., Dieckmann, J. A., Pérez-Núñez, G., Sun, K. L., & Williams, C. (2018). Changing students minds and achievement in Mathematics: The impact of a free online student course. *Frontiers in Education*, 3.

Boe, O, Säfvenbom. R., Johansen R., Buch, R. (2018). The relationship between self-concept, self-efficacy, and military skills and abilities. *International Journal of Learning, Teaching and Educational Research,* Vol. 17, No. 10, pp. 18-42.

Briggs, A. R. J., Clark, J., & Hall, I. (2012). Building bridges: Understanding student transition to university. *Quality in Higher Education*, 18, 3-21.

Cabiguing, A. M. (2018). Adaptation and validation of Academic Self-Concept Questionnaire (ASCQ) for college students. *International Journal of Multidisciplinary Approach and Studies*, 5(1), 57–66.

Campbell, T. (2015). Stereotyped at seven? Biases in teacher judgement of pupils' ability and attainment. *Journal of Social Policy*, 44(3), 517-547.

Campbell, T. (2021). In-class 'ability'-grouping, teacher judgements and children's mathematics self-concept: evidence from primary-aged girls and boys in the UK millennium cohort study. *Cambridge Journal of Education*, 51(5), 563–587.

Casty, M. M., Ciriaka, M. G., & Peter, R. (2021). Mathematics anxiety, attitude, and performance among secondary school students in Kenya. *Educational Research and Reviews*, 16(6), 226–235.

Cerbito, A. F. (2020a). Comparative analysis of mathematics proficiency and attitudes toward mathematics of senior high school student. *International Journal of Scientific and Research Publications (IJSRP)*, 10(05), 211–222.

Chen, S. K., Yeh, Y. C., Hwang, F. M., & Lin, S. S. (2013). The relationship between academic self-concept and achievement: A multicohort–multioccasion study. *Learning and Individual Differences*, 23, 172–178.

Compagnoni, M., & Losenno, K. M. (2020). "I'm the best! Or am I?": Academic self-concepts and self-regulation in kindergarten. *Frontline Learning Research*, 8(2), 131–152.

Creswell, J. W. (2012). Educational research planning, conducting, and evaluating quantitative and qualitative research (4th ed.) *Pearson*.

Davadas, S. D., & Lay, Y. F. (2020). Contributing factors of secondary students' attitude towards Mathematics. *European Journal of Educational Research*, 9(2), 489-498.

Department of Education (2016). K to 12 Mathematics Curriculum Guide

Department of Education Central Office, & Briones, L. M., Memorandum No. 08, series of 2020 Guidelines on Enrolment For School Year 2020 – 2021 in the context of public health emergency due to Covid-19, 1-13.

Ellis, M., & Riel, R. (2013). It's time to begin an adult conversation on PISA. *Canadian Teachers' Federation*, 1-7

Enu, J.; Agyman, O.; Nkum, D. (2015). Factors influencing students' mathematics performance in some selected colleges of education in Ghana. *Int. J. Educ. Learn. Dev.* 3, 68–74.

Ertem, Z. S., & Arı, A. (2022). Investigation of the relationship between motivational persistence, procrastination tendency and achievement orientation. *Anatolian Journal of Educatio*n, 7(1), 17-30.

Fong, C. J., & Kremer, K. P. (2019). An expectancy-value approach to Math underachievement: Examining high school achievement, college attendance, and STEM interest. *Gifted Child Quarterly*, 64(2), 67–84.

García, M. E., Chávez, M. E., & Kramer, R. C. A. (2018). Confirmatory model to measure attitude towards Mathematics in higher education students: Study case in Mexico. *International Electronic Journal of Mathematics Education*, 14(1).

Geesa, R. L., Izci, B., Song, H., & Chen, S. (2019). Exploring factors of home resources and attitudes towards Mathematics in Mathematics achievement in South Korea, Turkey, and the United States. *EURASIA Journal of Mathematics, Science and Technology Education*, 1–18.

Ghazvini S. (2011). Relationships between academic self-concept and academic performance in high school students. *Islamic Azad University, Roudehen Branch, Young Researchers Club.*

Guce, I. K. (2018). The role of journal writing in senior high school students' attitude toward Mathematics. *International Journal of Evaluation and Research in Education* (*IJERE*), 7(2), 132.

Gunawan, AW (2011) *Born to Be a Genius* (Jakarta: Gramedia Pustaka Utama)

Guy, G. M., Puri, K., & Cornick, J. (2015). A look at the impact of raising standards in developmental Mathematics. *Community College Journal of Research and Practice*, 40(1), 68–74.

Herges, R. M., Duffield, S., Martin, W., & Wageman, J. (2017). Motivation and achievement of middle school Mathematics students. *The Mathematics Educator*, 26(1), 83–106.

Hansen, K., & Henderson, M. (2019). Does academic self-concept drive academic achievement? *Oxford Review of Education*, 45(5), 657–672.

Han, S. Y., & Carpenter, D. (2014). Construct validation of student attitude toward Science, Technology, Engineering and Mathematics project-based learning: The case of Korean middle grade students. *Middle Grades Research Journal*, 9(3), 27–41.

Hunagund, D. L., & Hangal, S. J. (2014). Self-efficacy and happiness in youth. *Journal of the Indian Academy of Applied Psychology*, 40(1), 70-73.

Ingram, N. (2015). *Students' Relationships with Mathematics: Affect and Identity. Mathematics Education in The Margins* (Proceedings of the 38th Annual conference of the Mathematics Education Research Group of Australasia), 301–308.

Islami M., Sunardi, and Slamin (2018*).* Factors that Influence Mathematics Attitudes. *Summative Projects for MA Degree.* 8.

Jhangani, R., Dastur, F., Le Grand, R., & Penner, K. (2018). As good or better than commercial textbooks: Students' perceptions and outcomes from using open digital and open print textbooks. *The Canadian Journal for the Scholarship of Teaching and Learning*, 9(1).

Khedhiri, S. (2016). The determinants of Mathematics and Statistics achievement in higher education. *Modern Applied Science*, 10(4), 60.

Kibrislioglu, N. (2015). An investigation about 6th grade students' attitudes towards Mathematics. *Procedia - Social and Behavioral Sciences*, 186, 64–69.

Shiela Mae K. Nacion[1] and Virgion H. Mamonong[2], Phd

: of students at the

[1] Kalbay National High School, Kalbay, Jose Abad Santos, Davao Occidental
[2] University of the Immaculate Conception, Davao City

'R *Journal of Research & Method in Education (IOSRJRME),* 4(6), 53–62.

Hunagund, D. L., & Hangal, S. J. (2014). Self-efficacy and happiness in youth. *Journal of the Indian Academy of Applied Psychology*, 40(1), 70-73.

Hwang, J., Runnalls, C., Bhansali, S., Navaandamba, K., & Choi, K. M. (2018). "Can I do well in mathematics reasoning?" Comparing US and Finnish students' attitude and reasoning via TIMSS 2011. *Educational Research and Evaluation*, 23(7–8), 328–348.

Lein, Asha K. Jitendra, Kristin M. Starosta, Danielle N. Dupuis, Cheyenne L. Hughes-Reid & Jon R. Star (2016) Assessing the relation between seventh-grade students' engagement and mathematical problem solving performance, preventing school failure: Alternative education for children and youth, 60:2, 117-123.

Lenderman, A. (2017). Comparing mathematics achievement scores: Face-to-face versus online delivery (Order No. 10264131).

Singh, P. (2015). Interaction effect of self-concept and study habits on academic achievement in Mathematics. *International Journal of Science and Research (IJSR)*, 4(11), 482–485.

Suhendri, H. (2012). Pengaruh Kecerdasan Matematis-Logis, Rasa Percaya Diri, dan Kemandirian Belajar terhadap Hasil Belajar Matematika Prosising Seminar Nasional Matematika dan Pendidikan Matematika

Syam, M., & Salim, S. (2014). The reasons behind student's disinterest in Math as a major at Qatar University: A comparative case study. *The International Conference on Social Sciences and Humanities.* 173-179.

Tan, R. (2019). Academic self-concept, learning strategies and problem solving achievement of university students. *European Journal of Education Studies.*

Wahid, S.N.S., Yusof, Y., & Razak, M.R. (2014). Math anxiety among students in higher education level. *Procedia Soc.Behav. Sci*

Wasylkiw, L. (2016). Students' perspectives on pathways to university readiness and adjustment. *Journal of Education and Training Studies,* 3(4), 28-39.

West C., Fish J., and Stevens R. (2016). General self-concept, self-concept of academic ability and school achievement: Implications for "causes" of self-concept. *The Australian Journal of Education-vol. 24, no.2*

Wilkesmann. U., Fischer H., & Virgillito A., (2015). Academic motivation of students – the German case. *Zentrums für HochschulBildung (vormals Zentrum für Weiterbildung) Technische Universität Dortmund 02-2012 ISSN 1863-0294*

Wilkins, J. L., & Ma, X. (2012). Predicting student growth in mathematical content knowledge. *The Journal of Educational Research*, 95, 288-298.

Winheller, S., Hattie, J. A., & Brown, G. T. L. (2013). Factors influencing early adolescents' Mathematics achievement: High-quality teaching rather than relationships. *Learning Environments Research*, 16(1), 49–69.

The Mediating Effect of Parental Involvement in the Relationship Between Vocabulary Learning Strategy and Reading Motivation of the Students in Secondary Public Schools: A Convergent Design

Shiela Mae K. Nacion[1] and Virgion H. Mamonong[2]

[2] Faculty, Graduate School,
University of the Immaculate Conception, Philippines

ABSTRACT

The purpose of this study was to determine the mediating effect of parental involvement on the relationship between vocabulary learning strategy and reading motivation of the students in Davao Region. An explanatory sequential mixed method was employed to obtain data from 365 Junior High School students across 5 schools in Davao Region. Medgraph was employed in determining the mediating effect of parental involvement on the relationship between vocabulary learning strategy and reading motivation of the students which was found to be significant partial mediation in this study. Through interviews and focus group discussion with 17 participants taken from the quantitative respondents, data were integrated with the findings in the quantitative aspect of the study. The participants confirmed the relationships and the functions of the variables in the mediation model. With the confirmation, it can be stated therefore that there is substantial evidence that parental involvement is one of the reasons why vocabulary learning strategy could influence reading motivation of the students in Davao Region as demonstrated in the partial mediation model. Thematic analysis of the qualitative data unveiled the essential themes generally confirming the mediation model and its particulars. Connecting-merging-confirmation surfaced as the nature of data integration.

KEYWORDS: Applied linguistics, vocabulary learning strategy, reading motivation, parental involvement, junior high school, Philippines

INTRODUCTION

Reading motivation continually surfaces as a critical contributor to reading achievement, comprehension in reading, comfort with academics, and confidence in academic ability (Gottfried, 1985; Gottfried, Fleming, & Gottfried, 2001; Guthrie, 2008). However, many children and adolescents demonstrate limited engagement and motivation in reading (OECD, 2017); on average, 40% of students, sampled from 50 countries, reported being only "somewhat" or "less than" engaged in their reading lessons (PIRLS, 2016).

Reading has been a long-lasting and widespread problem among junior high school students, and one of the challenges for teachers is motivating students to read. With the current reading performance of the students, especially at Kalbay National High School, Jose Abad Santos, Davao Occidental it was found that few junior high school students have less motivation for reading as

indicated by their low performance in subjects that require intensive reading. Also, a high percentage of their students have problems with answering tasks or activities presented in the self-learning modules that require intensive reading and some of the activities or tasks that involve reading were ignored. In addition, records in the school show that out of 1207 junior high school students, 320 are considered "frustration level" readers. That means the students find reading materials so difficult that they cannot successfully respond to them. (MIS, Kalbay National High School, 2021).

Meanwhile, research studies indicated that vocabulary learning strategy, parental involvement, and reading motivation are linked to each other. However, most of them were in foreign context and adopted quantitative research approach. Specifically, the study conducted by Wong (2015) found that vocabulary learning strategy is an important factor to reading motivation development since readers need to learn the meaning of unfamiliar words to enable them to fully understand the plot of a story or to better comprehend what they read. Also, Suk (2017) noted that extensive exposure to new words could help optimize word learning and reading widely could provide this exposure to a substantial number of unfamiliar words. Likewise, Çakır et al. (2016) substantiated that vocabulary, working memory and general lexical access processes are components of fluent reading. Meanwhile, the study of Otani (2017) revealed that parental involvement is associated with students' educational outcome.

In this context, the researcher felt the need to fill in the research gap of conducting a study in the Philippine setting, particularly in Region XI using a mixed methods approach. Specifically, the researcher used sequential-explanatory design to have a better understanding of the reading motivation as determined by the vocabulary learning strategy and mediated by parental involvement, which is found to be scarce. The present study intends to contribute to the limited body of knowledge regarding reading motivation in the context of students in Davao Region.

Worldview and Theoretical Lens

A pragmatic paradigm was applied in this study. It aims to identify the problem and view it within its broadest context. As a pragmatist, the researcher adheres to a pragmatic worldview in which the creation of individual realities is treated as a derivative of varying personal experiences and ideas encountered and not of an absolute default (Maddux & Donnett, 2015).

This study was anchored on three theories, the Nativist Theory of Language Learning by Chomsky's (1995), Instinct Theory by James (1910), and Vocabulary Learning Strategy proposition by Wong (2015). The Nativist Theory of Language Learning which posits that the individuals are born with a specific language-learning area in the brains.

In addition, the Instinct Theory of James (1910) depicts that biological or genetic programming causes the motivation to occur and all human beings share the same motivation as all of us are sharing similar biological programming. This theory illustrates the desire to motivate behaviors for enrichment or incentives which means we are motivated to perform actions because of internal desires and desires, yet at other times, our behaviors are passionate by a desire for external rewards.

Another interesting proposition is from Wong (2015) who pointed out that vocabulary learning strategy is an important factor to reading motivation and comprehension development since

readers need to learn the meaning of unfamiliar words to enable them to fully understand the plot of a story or to better comprehend what they read. It was further given emphasis that vocabulary learning strategy should also be integrated with grammar and syntax instruction as vocabulary knowledge without grammar and syntax knowledge is not enough.

METHODS

Research Design

In this study, the researcher employed mixed methods, specifically explanatory sequential research design. This is an evolving research technique that promotes the systematic synthesis or mixing of quantitative and qualitative data within a single study or ongoing investigation or inquiry (Creswell, 2013). The explanatory sequential approach is a two-phase mixed methods design that explains and enriches the quantitative findings; thus, it elaborates the quantitative results by collecting qualitative data from participants chosen from the respondents of the quantitative phase. Sometimes, there are insufficient arguments that quantitative or qualitative may not be resolved by it, and sometimes each provides different pictures (Creswell, 2017).

In the quantitative phase, the researcher specifically used the descriptive correlation approach to address the problems in the study and achieve its purpose. This approach measures two or more relevant variables and assesses a relationship between or among them (Schmitz, 2012). The relationship among parental involvement, vocabulary learning strategy, and reading motivation was described and examined. The survey method was employed using adapted survey questionnaires with a five-point Likert scale.

Meanwhile, in the qualitative phase, the researcher used a phenomenological approach. Typically, interviews were conducted with a group of individuals who have first-hand knowledge of an event, situation, or experience. Phenomenology is the most appropriate approach to use because the researcher wants to understand the lived experiences of the junior high school students in secondary public schools in Region XI (Creswell, 2017).

Place of the Study

The study was conducted purposively in public secondary schools in Region XI. The locale is also known as the Davao Region in the Southern part of Mindanao. It is situated in the Southeastern portion of Mindanao and comprises five provinces: Davao de Oro, Davao del Norte, Davao del Sur, Davao Oriental, and Davao Occidental. The Davao region is one of the most important economies on the island and the third most important urban center in the Philippines. Region XI surrounds the Davao Gulf, bounded on the north by the provinces of Surigao del Sur, Agusan del Sur, and Bukidnon; on the east by the Philippine Sea; and on the west by the Central Mindanao provinces.

Participants

The respondents of the quantitative phase were the 365 junior high school students of the five public secondary schools in Region XI who are officially enrolled for S.Y. 2021–2022. For multiple linear regressions, Bujang et al. (2017) suggested a minimum sample size of 300 or more to generate an approximation of estimates with parameters in a survey. The researcher employed stratified random sampling in selecting the participants from purposively selected schools in Region XI with grade level as the basis for stratification.

In the qualitative phase, the researcher purposively selected 10 junior high school students who were drawn from the quantitative strand respondents for the IDI and 7 junior high school students for the FGD. A total of 17 public junior high school students were invited as participants. Inclusion criteria used are as follows: bonafide junior high school students who are enrolled for S.Y. 2021-2022 in public secondary schools.

Data Analysis

Pearson-r, and regression analysis were used to analyze the quantitative data of this study. The Pearson r was used to determine the significance of the relationships between Vocabulary Learning Strategy and Parental Involvement; Parental Involvement and students' Reading Motivation; and Vocabulary Learning Strategy and students' Reading Motivation. The mean was used to determine the level of parental involvement, vocabulary learning strategy, and reading motivation of students. A standard deviation was used to measure how spread out the respondents was. Multiple regression was used to predict the value of students' reading motivation based on parental involvement and vocabulary learning strategy. Finally, medgraph using the Sobel z-test was used to prove the mediation and to strengthen if parental involvement significantly mediates the relationship between vocabulary learning strategy and students' reading motivation. While the data from the IDI and FGD was analyzed using thematic analysis.

Trustworthiness of the Study

To establish the trustworthiness of the study, the researcher followed the four proposed criteria in evaluating interpretive research work by Lincoln and Guba (1985), which are as follows: credibility, transferability, dependability, and confirmability. Trustworthiness of this study was addressed through a thorough collection of data by survey and in-depth interview and was supported by FGD for triangulation.

RESULTS

Level of Vocabulary Learning Strategy, Reading Motivation, and Parental Involvement

Vocabulary Learning Strategy. Table 1 shows the level of vocabulary learning strategy of the students. It shows that the overall mean of vocabulary learning strategy is 3.72 which is described as high. It means that the vocabulary learning strategy of the students is oftentimes manifested. In addition, the overall standard deviation is 0.19 which is less than one denoting that the respondents have ratings that are practically almost the same.

Table 1

Level of Vocabulary Learning Strategy, Reading Motivation, and Parental Involvement

Main Variables/Indicators	S.D	Mean	Descriptive Level
Vocabulary Learning Strategy	0.22	3.72	High
Reading Motivation	0.19	3.57	High
Parental Involvement	0.19	3.57	High

Reading Motivation of the Students. Reading motivation of the students in public secondary schools got an over-all mean of 3.57 described as high. It means that the reading motivation of the students is oftentimes observed. The over-all standard deviation of 0.19 indicates a negligible variation of responses of the students.

Parental Involvement. As shown in the table, parental involvement obtained an overall mean score 3.57, descriptively rated as high. The standard deviation value of 0.19 indicates that the responses of the respondents, on average, were 0.28 away from the mean.

Mediating Effect of parental Involvement on the Relationship between Vocabulary Learning Strategy and Reading Motivation of the Students

As shown on Table 3, that vocabulary learning strategy has a significant positive strong relationship with the reading motivation of the students with a p-value of .000 that is less than .05 level of significance (two-tailed) ($r = .68$, $p < .05$). It means that as the level of the vocabulary learning strategy of the student's changes, their reading motivation also significantly changes. Similarly, the result shows that the relationship between vocabulary learning strategy and parental involvement has a significant positive strong relationship with a p-value of .00 that is less than alpha set at .05 ($r = .60$ $p < .05$). This means that if the level of vocabulary learning strategy of student's changes, the level of parental involvement also significantly changes. This leads to the rejection of null hypothesis of no significant relationship between vocabulary learning strategy and parental involvement. Lastly, the result shows parental involvement has a significant positive strong relationship with the reading motivation of the students with a p-value of .000 that is less than .05 level of significance (two-tailed) ($r = .63$, $p < .05$). It means that as the level of parental involvement changes, student's reading motivation also significantly changes.

Table 2

Correlation among Vocabulary Learning Strategy (IV), Reading Motivation (DV), and Parental Involvement (MV)

Variables	r-value	p-value	Interpretation
Vocabulary Learning Strategy (IV) and Reading Motivation (DV)	*0.680**	*0.000*	*Significant*
Vocabulary Learning Strategy (IV) and Parental Involvement (MV)	*0.600**	*0.000*	*Significant*
Parental Involvement (MV) and Reading Motivation (DV)	*0.630**	*0.000*	*Significant*

******Correlation is significant at the 0.05 level (2-tailed).

Meanwhile, the mediating effect of parental involvement on the relationship between vocabulary learning strategy and reading motivation of the student in secondary public schools were

tested based on the Baron and Kenny (1986) four steps test. In this model, linear regression analysis was used to test the influence among variables. Meanwhile, multiple linear regression analysis was used for mediating test.

In Table 3, these are categorized as Steps 1 to 4. In step 1, vocabulary learning strategy as the independent variable significantly predicts reading motivation of the students with a p-value of .000 that is less than .05 level of significance (two-tailed) ($B=0.671$, $p<0.05$). In step 2, vocabulary learning strategy significantly predicts parental involvement, the mediator, with a p-value of .000 that is less than .05 level of significance (two-tailed) ($B=0.923$, $p<0.05$). In step 3, parental involvement significantly predicts reading motivation of the students with a p-value of .000 that is less than .05 level of significance (two-tailed) ($B=0.403$, $p<0.05$). Because the three steps (paths a, b and c) are significant, further mediation analysis through medgraph is warranted, involving the Sobel z test to assess the significance of mediation effect. Further, as gleaned in step 4, the effect of vocabulary learning strategy on reading motivation was found to be significant after mediated by parental involvement. Therefore, partial mediation took place since the effect was found to be significant at 0.05 level.

Table 3
Data Entry for the Different Paths

Independent Variable	(IV)	Vocabulary Learning Strategy
Dependent Variable	(DV)	Reading Motivation
Mediating Variable	(MV)	Parental Involvement
		STEPS
1. Path A (IV and DV)		
Reading Motivation regressed on Vocabulary Learning Strategy		
B (Unstandardized regression coefficient)		.671
e (Standard error)		.040
Significance		.000
2. Path B (MV and DV)		
Reading Motivation regressed on Parental Involvement)		
B (Unstandardized regression coefficient		.403
e (Standard Error)		.028
Significance		.000
3. Path A (IV and MV)		
Parental Involvement regressed on Vocabulary Learning Strategy		
B (Unstandardized regression coefficient		.923
e (Standard Error)		.069
Significance		.000
4. Combined Influence of MV and IV on DV		
Reading Motivation regressed on Parental Involvement and		
Vocabulary Learning Strategy		
Parental Involvement		
B (Unstandardized regression coefficient)		.220
Se (Standard Error)		.030
Beta (Standardized regression coefficient)		.345
Vocabulary Learning Strategy		
Beta (Standardized regression coefficient)		.477
Total R Square		.544

Moreover, the result of the computation of mediating effects is shown in Figure 5. The Sobel test yielded a z-value of 6.48 with a p-value of 0.000, which is significant at 0.05 level. This means that the partial mediation accounted by reading attitude on the relationship of vocabulary learning strategy and reading motivation of the students is significant. In addition, the causal relationship between vocabulary learning strategy and reading motivation has been increased from a significant coefficient correlation value of 0.477 to 0.680, which is still significant, at the inclusion of parental involvement, the mediator variable.

Lastly, the figure shows the results of the computation of the effect size in the mediation test conducted between the three variables. The effect size measures how much of the effect of vocabulary learning strategy on the reading motivation of the students can be attributed to the indirect path. As shown in the figure, The ratio index obtain a value of 0.299 indicating that about 29.90 percent of the total effect of the independent variable on the dependent variable goes through the mediator variable, and about 70.10 percent of the total effect is either direct or mediated by other variables not included in the model.

Significance of Mediation		Significance
Sobel z value	6.48	$p = .000$
95% Symmetrical Confidence Interval		
Lower	.030	
Upper	.069	
Unstandardized Indirect Effect		
a*b	.200	
Se	.050	

Effect Size Measures	
Total:	.668
Direct:	.468
Indirect:	.200
Indirect to total ratio	.299

Standardized Coefficients

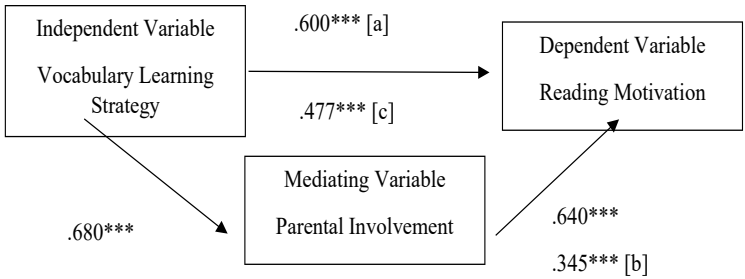

Figure 5. Mediation Model

Qualitative Results

Presented in Table 4 is the profile of the participants who were involved during the in-depth interview and focus group discussion. There were ten informants on IDI and seven participants in FGD. For the number of students per school, School Alpha had 5 participants, School Beta had 4 participants, School Gamma had 3 participants, School Delta had 3 participants, and School Epsilon had 2 participants- a total of 17 participants. The informants and participants were Grade 9-10 students from 5 public national high schools in Davao Region. There were eleven females and six male junior high school students. To protect the identity of the participants, the researcher made use of Student Number codes.

Table 4
Profile of the Participants

Pseudonym	Gender	Grade Level	School	Study Group
Student 1_P001	Female	Grade 9	School Beta	In-depth Interview
Student 2_P002	Male	Grade 9	School Beta	In-depth Interview
Student 3_P003	Female	Grade 9	School Alpha	In-depth Interview
Student 4_P004	Female	Grade 10	School Alpha	In-depth Interview
Student 5_P005	Male	Grade 9	School Alpha	In-depth Interview
Student 6_P006	Female	Grade 9	School Gamma	In-depth Interview
Student 7_P007	Female	Grade 10	School Gamma	In-depth Interview
Student 8_P008	Male	Grade 9	School Delta	In-depth Interview
Student 9_P009	Female	Grade 9	School Delta	In-depth Interview
Student 10_P0010	Male	Grade 9	School Epsilon	In-depth Interview
Student 1_P001	Male	Grade 9	School Alpha	Focus Group Discussion
Student 2_P002	Female	Grade 9	School Alpha	Focus Group Discussion
Student 3_P003	Female	Grade 9	School Beta	Focus Group Discussion
Student 4_P004	Female	Grade 10	School Beta	Focus Group Discussion
Student 5_P005	Male	Grade 9	School Gamma	Focus Group Discussion
Student 6_P006	Female	Grade 10	School Delta	Focus Group Discussion
Student 7_P007	Female	Grade 9	School Epsilon	Focus Group Discussion

Standpoints of the Participants on the Quantitative Results Regarding the Status of the Independent, Dependent, and Mediating Variable

Table 5 presents the standpoints of the participants on the quantitative results regarding vocabulary learning strategy, reading motivation, and parental involvement. The essential themes generated are as follows: confirmed high ratings of vocabulary learning strategy, reading motivation, and parental involvement.

Table 5
Standpoints of the Participants on the Quantitative Results Regarding the Status of the Independent, Dependent, and Mediating Variable

Level	Essential Theme	Typical Reason
Vocabulary learning Strategy *(Independent Variable)*	**Confirmed High Rating of Vocabulary Learning Strategy**	Students are taking notes for the new learned unfamiliar words. Students are using internet to learn new words from peers online. Internet was used to clarify the meaning of new learned words. Using online dictionary help enhanced students learning of newly learned words. Teachers assisted students to clarify the meaning of unfamiliar words.
Reading Motivation *(Dependent Variable)*	**Confirmed High Rating of Reading Motivation**	Perceiving themselves as good readers increase students' motivation in reading. The availability of reading materials enhance their reading motivation. Teachers were able to arouse students' learning motivation and interests, enhancing their consciousness of participation in classroom activities. Students are motivated to read to get good grades. Students read articles to have something to say during social gatherings.
Reading Motivation *(Mediating Variable)*	**Confirmed High Rating of Reading Motivation**	Parents actively participated in school-related activities. Parents continually communicated with teachers regarding students' academic status. Parents talk with teacher about student's performance

Confirmed High Rating of Vocabulary Learning Strategy. The participants expressed that they oftentimes utilized strategies that make their learning easier and more effective and can be used or transferred to other situations related to language learning. As they pointed out, using vocabulary learning strategies help them learn new vocabulary without the presence of their teacher. Hereunder are thee shared narratives of the participants: Student 1 shared how she was able to use vocabulary learning strategies to improve her vocabulary skills. She stated:

> Usually I write words, especially unfamiliar words, when I am reading books or e-books. I make a list and then look up the meaning of that word or words so that I know what they mean. (IDI_P001_1-12)

Using electronic mediums such as internet and other online software provide students opportunities to learn from distance. Through online interactions, students were able to interact with different students from different places with different backgrounds. Through their communication process they could learn new words which help them improve their vocabulary skills. Student 4 shared the instances where she was able to use internet to learn new words. She revealed that:

> Yes ma'am, most of the students now share their opinions online. Based on their opinions, I sometimes encountered new words, and then there were times when I used those words that I read online whenever I wanted to express my opinion. Especially those highlighted words. *(IDI_P004_24-31)*

Confirmed High Rating of Reading Motivation of the Students. The internalized reason for reading which pushes students to learn an English language are affected by several factors. Hence, most of the respondents voiced their experiences on what motivates them to engage in reading activity. Student 2 highlighted that being a good reader motivates her to engage more time on reading different materials. With conviction, she said:

> Usually, based on my observation of my environment before the pandemic, my classmates in our section are good readers because if my teacher asks a question regarding the reading activities, they can answer it. I've even got a challenge with myself to read, and I need to be a good reader to understand the discussions with the teacher and to widen my comprehension. (IDI_P002_97-112)

Confirmed High Rating of Parental Involvement. In this study, participants believed that the emotional and physical presence of the parents and being consistently presence for the students in times of their academic needs encouraged them to do well English class.

During FGD, Student 5 shared her experiences with her parents. With a smile, she said:

> Yes ma'am, I will agree, because if there are activities in school they will really attend, it is either my mother or my father. It depends on who is available with them. If my mother is busy, my father will be the one to attend. If my father is busy, my mother will be the one to attend. Sometimes, if there is a parent's day celebration, both will attend. (FGD_P005_246-258)

Standpoints of the Participants on the Mediating Effect of Parental Involvement on the Relationship Between Vocabulary Learning Strategies and Reading Motivation of the Students

Shown in Table 6 are the standpoints of the participants on the mediating effect of parental involvement on the relationship between vocabulary learning strategies and reading motivation of the students. The table further reveals essential themes: confirmed relationship between vocabulary learning strategies and reading motivation and confirmed mediating effect of parental involvement on the relationship between vocabulary learning strategies and reading motivation of the students.

Table 6

Standpoints of the Participants on the Mediating Effect of Parental Involvement on the Relationship Between Vocabulary Learning Strategy and Reading Motivation of the Students

Mediating Model	Essential Theme	Typical Reason
Significant Relationship of Vocabulary Learning Strategies and Reading Motivation of the Students	**Confirmed Relationship of Vocabulary Learning Strategy and Reading Motivation**	Utilization of vocabulary learning strategies promote independent learning resulting to enhance reading motivation. Self-directedness increase students motivation in learning. Students using vocabulary learning strategy are willing to read.
Significance on the Mediating Effect of Parental Involvement on the Relationship Between Vocabulary Learning Strategies and Reading Motivation of the Students	**Confirmed Mediating Effect of Parental Involvement on the Relationship Between Vocabulary Learning Strategies and Reading Motivation of the Students**	The mediating model is reliable. The influence of vocabulary learning strategy on the reading motivation can be enhance through parental involvement. In the absence of parental involvement, vocabulary learning strategy can contribute to student's reading motivation but to a lesser degree. The intervention of parental involvement increase student's interest to use vocabulary learning strategies to improve reading motivation.

Confirmed Relationship between Vocabulary Learning Strategies and Reading Motivation. The participants of this study confirmed the relationship between vocabulary learning strategy and reading motivation of the students as an essential theme, the following are the shared narratives of the participants: Student 2 expressed his view on the model particularly the relationship between vocabulary learning strategy and reading motivation of the students. In his word he said:

> I also agree, ma'am, for me to learn to be on my own without relying on my parents. That way, if there is no one who will teach you, you will shine even more. You will improve yourself without relying on anyone. (IDI_P002_468-474)

Confirmed Mediating Effect of Parental Involvement on the Relationship between Vocabulary Learning Strategies and Reading Motivation. Given the standpoints of the participants from the in-depth interview and focus group discussion, the participants confirmed the mediating effect of parental involvement on the relationship between vocabulary learning strategies and reading motivation of the students. The following are the shared views of the participants.

> Yes, ma'am, I agree that we really need the support of our parents since they serve as my motivation. When it comes to my studies, it is already my hobby to ask them if I have read something. If I find a word which I didn't understand, my mother will tell me you should do this for you to understand it. That is why I feel motivated to learn and read. IDI_P001_522-531

Data Integration of Quantitative and Qualitative Results

Illustrated in Table 7 is the joint display of data and information gathered for both quantitative and qualitative results or mixed methods design, specifically the explanatory sequential approach.

Table 7
Joint Display of Quantitative and Qualitative Results

Research Area	Quantitative Results	Quantitative Results	Nature of Integration
Level of Vocabulary Learning Strategy, Reading Motivation, & Parental Involvement 1.1. Level of Vocabulary Learning Strategy	-Vocabulary Learning Strategy of the Students acquired a mean score of 3.72 described as high. This means that vocabulary learning strategy is oftentimes manifested. (Refer to Table 1)	-Participants confirmed the high rating of vocabulary learning strategy in quantitative phase. Results of IDI and FGD indicates that students are using internet to search meaning for unfamiliar words. (Refer to Table 5)	-Connecting, merging (Confirmation)
1.2 Level of Reading Motivation	-Reading motivation of the students acquired a mean score of 3.57 described as high. This means that reading motivation is oftentimes observed. (Refer to Table 1)	-Participants confirmed the high rating of reading motivation in quantitative phase. Results of IDI and FGD indicates that the availability of reading materials enhance their reading motivation. (Refer to Table 5)	-Connecting, merging (Confirmation)
1.3 Level of Parental Involvement	-Parental involvement of the students acquired a mean score of 3.57 described as high. This means that reading motivation is oftentimes evident. (Refer to Table 1)	-Participants confirmed the high rating of parental involvement in quantitative phase. Results of IDI and FGD indicates that parents continually communicated with teachers regarding	-Connecting, merging (Confirmation)

		students academic status. (Refer to Table 5)	
2. Mediating Model 2.1 Relationship Between Vocabulary Learning Strategy and Reading Motivation	There is a significant relationship Vocabulary Learning Strategy and Reading Motivation ($r= 0.680$, $p<0.05$). (Refer to Table 2)	-Participants have agreement on the support of the relationship between Vocabulary Learning Strategy and Reading Motivation. (Refer to Table 6)	-Connecting, merging (Confirmation)
2.2. Mediating effect of parental involvement in the relationship between vocabulary learning strategy and reading motivation	- Significant ($p<0.05$) partial mediating effect of parental involvement on the relationship between vocabulary learning strategy and reading motivation ($z = 6.48$) (Refer Computation in Figure 5)	- The majority of informants/ participants expressed their positive ideas on the support of TBLT to ELE in influencing ATLEL. (Refer to Table 6)	-Connecting, merging (Confirmation)

Level of Students' Reading Motivation. For the level of reading motivation, it is revealed that the mean of the eleven indicators ranges from 2.32 to 3.78 which denotes high level of reading motivation. The qualitative data confirms the quantitative data as the informant showed positive response on the following domains: availability of reading materials, positive self-concept, getting high grades, and social interaction. Thus, the nature of integration is connecting-merging-confirmation.

Level of Parental Involvement. For the status of parental involvement, it is shown that parental involvement acquired an overall mean of 3.57 which indicates a level of parental involvement. The qualitative data confirms the quantitative data as the informants showed the presence of parental involvement in the core ideas or typical reasons generated from their responses, hence connecting-merging-confirmation is the nature of integration.

Relationship between Vocabulary Learning Strategy and Reading Motivation of the Students. The significant relationship between the independent variable with the dependent variable which is confirmed by the data gathered in the qualitative phase of the study. The participants express their ideas on the importance of the vocabulary learning strategy to students' reading motivation, hence connecting-merging-confirmation is the nature of integration.

On the mediating Effect of Parental Involvement on the Relationship Between Vocabulary Learning Strategy and Reading Motivation of the Students. There is partial mediation of parental involvement on the relationship between vocabulary learning strategy and reading motivation of the students. The qualitative data confirms the quantitative data since the informants expressed their ideas on the help of parental involvement vocabulary learning strategy influencing students' reading motivation.

DISCUSSION

The level of vocabulary learning strategy acquired a high descriptive rating. This finding supports the view of Wilsom and Conyer (2018) that vocabulary learning strategies could serve as learning tools for students in order for them to acquire vocabulary and make them become responsible for their own learning.

The level of reading motivation obtained a high descriptive rating. This finding is congruent to the view of Hussain et al. (2020) that motivation is a factor that pushes students to engage in reading activity. It plays a crucial role in learning achievement. Mahadi and Jafari (2012) noted that applying several motivational strategies in learning would bring positive results on students. Likewise, Alhamdu (2015) pointed out that motivation is considered important in reading engagement that affects results of reading achievement and school success.

The parental involvement among the schools in Region XI acquired high descriptive rating. This finding is congruent to the result of the study of Durisic and Bunijevac (2017) that parental academic support is an effective tool that encourage children's and adolescents' achievement in many ways.

There is a significant relationship found between vocabulary learning strategy and reading motivation of the students. This suggests that a change in the status of between vocabulary learning strategy may affect the reading motivation of the students. This conforms the proposition of Wong (2015) that vocabulary learning strategy is an important factor to reading motivation and comprehension development since readers need to learn the meaning of unfamiliar words to enable them to fully understand the plot of a story or to better comprehend what they read.

There is a significant relationship between vocabulary learning strategy and parental involvement. Lastly, parental involvement has a significant relationship with the reading motivation of the students. Wang and Sheikh-Khalil (2014) found that parental involvement is associated with motivation to read, while Jung and Zhang (2016) found indirect effects of parental involvement on academic achievement through educational aspiration. Also, Núñez et al. (2015) found both direct and indirect effects of parental involvement in homework at different school levels and found different associations according to different school levels.

Through medgraph (Jose, 2003) the mediation model was generated. The model denotes that vocabulary learning strategy influence students' reading motivation with the inclusion of parental involvement. However, if parental involvement is removed, there is still a relationship but not that strong. Therefore, this is partial mediation since the mediating variable, which is parental involvement is only responsible for a part of the relationship between vocabulary learning strategy and reading motivation. Since, it is only partial mediation that took place, it could not be concluded that parental involvement is the main factor that contributed on the influence of vocabulary learning strategy on the reading motivation of the students. As to the claim of Jose (2003), full mediation rarely happens, thus, the findings of the current study is reasonable.

The participants confirmed the high rating for vocabulary learning strategy as acquired in the quantitative results of the study. According to them, the use of internet and online dictionaries allows them to search meanings for the unfamiliar words, thus, increasing their vocabulary. With these affirmations of the participants on the status of their vocabulary learning strategy, it could be said that these practices describes high level of vocabulary learning strategy since it agrees to the views of various authors (Benson, 2001; de la Garza & Harris, 2017; Dörnyei & Kubanyiova, 2014; Kalmari, 2017) that vocabulary learning strategy could help students to become autonomous learners so that students will take more responsibility for their learning.

The high rating of student's reading motivation in the quantitative results is supported by the participants in relation to positive self-concept, availability of materials, teacher's assistance, grade

factors, and social interaction. The students highly agreed that they read English language just as the form of their responsibilities in reading classes. The above-mentioned perceptions characterized high level of reading motivation since it agrees to the view of several authors (Alhamdu, 2015; Carroll & Fox, 2017; Hussain et al., 2020; Lai, 2013) that motivated students tend to engage in learning activities that help them to learn and achieve the learning goal because they will pay attention and use the time effectively during teaching and learning in the class.

The high rating of parental involvement in the quantitative results is supported by the participants' narratives acquired based in-depth interview and focus group discussion. These views describe high level of parental involvement since it is parallel to the views of various authors (Chen, 2021; Delgado, 2020; Durisic & Bunijevac, 2017; Langevine, 2020) that parental involvement is an effective tool that encourage children's and adolescents' achievement in many ways.

During the in-depth interview and focus group discussion the informants confirmed the quantitative result that confirmed relationship between vocabulary learning strategy could influence the reading motivation of the students. The result supports the anchored proposition by Wong (2015) that vocabulary learning strategy is an important factor to reading motivation and comprehension development since readers need to learn the meaning of unfamiliar words to enable them to fully understand the plot of a story or to better comprehend what they read.

The participants' standpoints confirmed the mediating effect of parental involvement on the relationship between vocabulary learning strategy and reading motivation of the students. This view is congruent to the view of Kalaycı and Öz (2018) that students with involved parents are more likely to have better strategy in learning new words, higher grades and test scores, attend school regularly, have better social skills, show improved behavior, and adapt well to school.

Implication for Educational Practices

The result of the study may provide insights for the DepEd officials to enhance class and school web pages to strengthen the involvement of the parents in school. Also, this may serve as guide for DepEd officials to encourage teachers to frequently communicate with parents. They may need to enrich their vocabulary learning strategies as it will help them as well to read efficiently and effectively. The reading interest they prefer to read is expected to help them to be better an active readers as it grows the love of reading in general. Students may improve their motivation to read through the aid of note taking, internet technologies, online dictionary, social interaction, and teacher assistance. For some students, vocabulary learning strategies provides them the opportunities to be independent learners. The strong collaboration of parents with school authorities can lead to increased improvement in both physical and academic performance of the school.

CONCLUSION

The high level of reading motivation of the students indicates that students oftentimes felt the push factor that leads them to reading activity. For them, the availability of reading materials and assistance of teachers enhance their reading motivation. The high level of parental involvement indicates that the emotional and physical presence of the parents, and being consistently dependable for the students in times of their academic needs is oftentimes evident. This shows that parental involvement is an effective tool that encourages children's and adolescents' achievement in many ways. The result showed that there is a significant relationship between vocabulary learning strategy and reading motivation of the students. This means that a change in vocabulary learning strategy corresponds to a change in reading motivation of the students. Parental involvement significantly and partially mediates the relationship between vocabulary learning strategy and reading motivation of the students. Since it is partial mediation, it could not be claimed that parental involvement is the

reason for the relationship between vocabulary learning strategy and reading motivation of the students. This implies that parental involvement is only one of the reasons. The quantitative results were further substantiated by essential themes that emerged during the thematic analysis of the

Albert F. Mamusog[1] /Teacher / Department of Education and Porferia S Poralan[2], PhD

[1] Don Salvador Lopez National High School, Don Salvador Lopez, Mati City /09364905861 mamusog23@gmail.com

[2] University of the Immaculate Conception, Davao City

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[illegible] under the study as well as the mediating role of parental involvement on the relationship between vocabulary learning strategy and reading motivation of the students.

REFERENCES

Alahmadi, A. (2015). *Exploring vocabulary learning strategies of Saudi undergraduate EFL students at King Abdulaziz University and its relationship to their vocabulary size*. Unpublished PhD thesis, Bangor University. Retrieved September 11, 2021 from http://jurnal.radenfatah.ac.id/index.php/psikis/article/view/552

Azar, A. S, & Tanggaraju, D. (2020). Motivation in Second Language Acquisition among Learners in Malaysia. *Studies in English Language and Education, 7*(2), 323-333. Retrieved September 6, 2021 from http://jurnal.unsyiah.ac.id/SiELE/article/view/16506

Binder, M. & Niederle, U. (2012). *Institutions as determinants of preference change: A one way relation?* https://papers.econ.mpg.de/evo/discussionpapers/2006-07.pdf.

Bobis, J., Anderson, J., Martin, A., & Way, J. (2012). A model for mathematics instruction to enhance student motivation and engagement. In D. Brahier (Ed.), Motivation and Disposition: Pathways to Learning Mathematics, National Council of Teachers of Mathematics Seventy-third Yearbook (2011) (pp. 31–42), Reston,Va: NCTM.

Dagenais, D., Walsh, N., Armand, F. & Maraillet, E. (2010). Collaboration and co-construction of knowledge during language awareness activities in Canadian elementary school. *Language Awareness, 17*(2), 139–155. http://dx.doi.org/10.2167/la442.0

Davis, M. H., Tonks, S. M., Hock, M., Wang, W., & Rodriguez, A. (2018). A review of reading motivation scales. *Reading Psychology, 39*, 1–67. Retrieved September 6, 2021 from https://doi.org/10.1080/02702711.2017.1400482

Ditual, R. C. (2012). The motivation for and attitude towards learning English. *Asian EFL Journal*, 63.

Doğaner, N. (2017). *Relationship between the attitudes towards internet usage in English and English reading skills among secondary school students.* http://acikerisim.baskent.edu.tr/bitstream/handle /11727/4029/10229936.pdf? sequence=1&isAllowed=y

Dörnyei, Z., & Kubanyiova, M. (2014). *Motivating learners, motivating teachers: Building vision in the language classroom*. Retrieved September 6, 2021 from https://www.researchgate.net/publication /317871069_MOTIVATING_LEARNERS_MOTIVATING_TEACHERS_BUILDING_V

ISION_IN_THE_LANGUAGE_CLASSROOM_BY_ZOLTAN_DORNYEI_AND_MAGDALENA_KU BANYIOVA-BOOK_REVIEW

Drew, I., & Sørheim, B. (2016). *English teaching strategies - methods for English teachers of 10 to 16-year-olds* (3rd ed.). Oslo: Det Norske Samlaget

Garcia, O., & Kleyn, T. (2016). Translanguaging with multilingual students: Learning from classroom moments. London: Taylor and Francis.

Hong, Y. C., & Ganapathy, M. (2017). To investigate ESL students' instrumental and integrative motivation towards English language learning in a Chinese school in Penang: Case study. *English Language Teaching, 10*(9), 17-35. Retrieved September 6, 2021 from https://files.eric.ed.gov/fulltext/EJ1151555.pdf

Huang, S., Capps, M., Blacklock, J., & Garza, M. (2014). Reading habits of college students in the United States. *Reading Psychology, 35*(5), 437-467. Retrieved September 4, 2021 from doi:10.1080/02702711.2012.739593.

Liao, P.-W., & Hsieh, J. Y. (2012). What influences Internet-based learning? *Social Behavior and Personality: an international journal, 39*(7), 879-887. https://www.sbp-journal.com/index.php/sbp/article/view/2184

Schmitt, N. (2014). Conceptual review article size and depth of vocabulary knowledge: what the research shows. *Language Learning, 64*(4), 913-951. Retrieved September 12, 2021 from http://dx.doi.org/10.1111/lang.12077

Suk, N. (2017). The effects of extensive reading on reading comprehension, reading rate, and vocabulary acquisition. *Reading Research Quarterly, 52*(1), 73-89. Retrieved September 11, 2021 from https://www.jstor.org/stable/26622579

Sung, Y.-T., Chang, K.-E., & Liu, T.-C. (2016). The effects of integrating mobile devices with teaching and learning on students' learning performance: A meta-analysis and research synthesis. *Computers & Education, 94*, 252-275. https://www.sciencedirect.com/science/article/pii/S0360131515300804

Suyitno, I. (2017). Cognitive strategies use in reading comprehension and its contributions to students' achievement. Retrieved September 6, 2021 from https://files.eric.ed.gov/fulltext/EJ1162686.pdf

Perceived Stress Reactivity, Social-Emotional Competence, and Motives of Teachers to Physical Activity

Albert F. Mamusog[1] and Porferia S. Poralan[2]
[2] Program Coordinator, Graduate School
University of the Immaculate Conception, Philippines

ABSTRACT

The purpose of this study was to determine the significant influence of perceived stress reactivity and socio-emotional competence towards teachers' motives to physical activity participation of Mati City Teachers. The study utilized quantitative research design particularly descriptive-correlation method. Three adopted instruments were used to determine the levels of perceived stress reactivity, socio-emotional competence, and teachers' motives to physical activity participation of Mati City Teachers. Data gathered were analyzed and interpreted using mean, standard deviation and multiple regression analysis. The results revealed teachers have moderate level perceived stress reactivity. On the other hand, the socio-emotional competence has high level while the teachers' motives to physical activity participation had very high ratings. It is also revealed in the study that there is no significant influence of perceived stress reactivity on teachers' motives to physical activity participation, however there is a significant influence of socio-emotional competence on teachers' motives to physical activity participation. Further, the results showed that socio-emotional competence predicts teachers' motives to physical activity participation.

KEYWORDS: Education, perceived stress reactivity, social-emotional competence, motives to physical activity, descriptive-correlational, high school teachers, Philippines

INTRODUCTION

Physical activity participation has been shown to increase well-being. In the other hand, the current scenario cause by pandemic and lockdown challenges teachers in participating in physical activity. Aperribai et al. (2020) stated that teachers mental, emotional, and social health are significantly decreasing due to the new normal set up cause by pandemic. De La Vega et al. (2020) added that teachers experience distress, social problem and emotional health caused by work overload generated, lack of social interaction and family sustainability. Low motivation to physical activity among employees was found in environmental and extrinsic factor such as work differences, time availability to participate in physical activity, and unorganized workload (Zakaria et al., 2020). Moreover, Sun Life Financial Asia Health (2017) reported that Filipinos rank with highest percentage in Asia of low motivation to physical activity due to lack of time, low personal motivation, and lack of focus to engage in exercise and physical activity.

In United Kingdom, Ellis (2017) revealed that low motivation to physical activity are cause by work overload, self-mismanagement, daily practices, and financial pressures that causes stress among employees. Teachers who did not participate in physical activity regularly experience high

stress level and assume negative stress. (Montgomery et al., 2012). In Switzerland, Sannino et al. (2017) added that physical activity demotivation and lack of stress management among employees resulted to poor performance, low task quality and affects the well-being of individual.

Further, in the Philippines, Abadilla (2017) stated that some employees are not motivated to exercise regularly due to lack of time because of overtime and improper workload management, lack of personal motives and distraction to modern life which affects their mental and emotional health. In Quezon City. Georgia (2016) added that decline of motivation to physical activity participation over the last ten years due to lack of self-determination, concentration, stress and motivational behaviors among employees.

Furthermore, there are factors that affects the motivation to physical activity participation of teachers such as stress reactivity which is the capacity or tendency to react to stressor that includes workload stress, prolonged stress, and stress of social conflict. This factor can give teachers the motivation to participate to physical activity and handle stress positively. However, when this factor taken negatively, teachers will lessen their motivation to participate to exercise and other physical activities (Stults-Kolehmainen & Sinha, 2015). As stress cause by physical and mental fatigue it is often visible that employees tend to lower their motivation to engage in physical activity (Zhou et al., 2021). In addition, Can (2018) added that employees with low motivation to physical activity has higher negative stress reaction or management while employees with high motivation to physical activity participation has lesser stress.

Moreover, social-emotional competence is another contributing factor on developing motivation to physical activity engagement. In the article of Nauert (2018) stated that social skills highly develop through physical activity participation, it develops level of decision making, leadership and empathy and in being said these skills provide healthy behavior. As teacher who develops a healthy learning environment for students, it is vital that they also motivate themselves to participate in physical activity to develop high level of social and emotional competence. Moreover, motivation to physical activity can reduce the feeling of unhappy, depress and stress, enhances the mood and overall well-being, that is why start moving when you feel anxious, down and stress (Phruthi, 2022).

Past and current research of motivation to physical activity participation has been conducted like in the study of Lippke et al. (2015) about perceived stress, physical activity, and motivation discussed about stress management and physical activity. In his study he showed that perceived stress is significantly associated to increase motivation to physical activity and manage stress appropriately. Also, there is study about development of social-emotional learning competence of students through physical activity involvement by Wang (2022).

Most studies had been conducted with one dependent variable and one independent variable. Such as in the study of Nguyen-Michel et al. (2006) about associations between physical activity and perceived stress/hassles in college students. Also, there was study in the past about social competence and moderate to vigorous physical activity of school-aged children through a creative physical education Intervention conducted by (Grasten et al., 2019). Likewise, some studies in the past were conducted in different locale with different respondents like students. However, in this study two independent variables will be combined which are Stress reactivity and Social-emotional competence to determines the relationships on the motivation to physical activity among teachers.

More so, in this study all teachers in Mati City Division are the respondents. The urgency to conduct of this study is needed. It is shown that past and current studies shows that there is a positive correlation of stress reactivity and social-emotional competence and motivation to physical activity participation. In this study the researcher is willing to test how motivation to physical activity can give positive stress reaction and increase the level the social-emotional competence such as self-awareness, social-awareness, and relationship management of teachers in Mati City Division.

With the foregoing scenario, the researcher wanted to study how teachers in Mati City Division are motivated to participate in physical activity to deal with stress in workplace and develop social-emotional competence level. Results of this study will further enrich the Department of Education and Higher Education, where it gives them idea on how participation in physical activity can give positive effects on teachers' stress and social-emotional competence

Theoretical Framework

This study anchored on **Self-Determination Theory (SDT)** as developed by Deci and Ryan (2000). This study highlighted that human being are intrinsically motivated to gain change and grow. The SDT represents a theoretical framework that can be utilized to human physical activity motives, which places the individual's autonomy, competence, and relatedness into the center of personal reactivity, creativity, and improved competence (Deci & Ryan, 2000). When people perceive positive change, they become self-determined to participate different activities to develop competence, connection and autonomy by physical activity participation that improve well-being, competence and perceive stress positively. Moreover, Deci & Ryan (2000) added that high level of self-determination and motives for accomplishing things like physical activity participation reduces the harmful effect of stressors and increase the level of self-termination and competence. Based on SDT, motivation to physical activity could be develop with several factors. Teixeira et al.(2012) stipulated that competence and intrinsic motives such as stress management of teachers positively predicts motivation to physical activity and exercise engagement. In the other hand, when teachers are pressured by work, social conflict, and stress, this embodies the intrinsic reason to participate in physical activity. Moreover, developing employees' competence, enthusiasm and relatedness are intrinsic factor in motivation oneself to engage physical activity. The study used SDT, teachers and individual intrinsically motivated to gain change and in this study shows that if teachers experienced lesser stress in their workplace, peers, and environment they were likely motivated to participate in physical activity. Moreover, when teachers are fully aware of their emotions, socially aware, and emotionally competent will most likely eager to participate in various physical activity to gain and improve themselves better. Thus, this fits well to the paradigm as supporting to attain competence, self-development with peers, develop emotion and improve well-being and react stressors positively.

METHODS

Research Design

This study utilized quantitative research method specifically, or descriptive-correlational design. Quantitative research also uses logic, numbers, and an unbiased perspective. Instead of

divergent thinking, which is the production of many thoughts regarding a study subject in a spontaneous, free-flowing manner, this form of research places a strong emphasis on numerical and immutable facts as well as precise, convergent reasoning. The descriptive-correlational design employed in the study in which measurement of two or more relevant variables. This method was valid in researching specific subjects as precursor to two or more quantitative studies (Shuttleworth, 2008). Correlation analysis was the method of statistical evaluation used to study the strength of a relationship between two, numerically measured, continuous variables. The current situation is the primary emphasis of this design. Hence, this method was appropriate because this study described the perceived stress reactivity and social-emotional competence to teachers' motives to physical activity participation. Further, it looks into how perceived stress reactivity and social-emotional competence will influence the teachers' motives to physical activity participation.

Place of the Study

The investigation of the study was conducted at Mati City, Davao Oriental. Mati City is a city in the province of Davao Oriental. It serves as the province's capital. Politically, Mati City is divided into 26 barangays. On the eastern side of the island of Mindanao sits Mati City. It takes one and a half hours to drive from Tagum City to Davao City, which is located 155 kilometers away. The overall land area of Mati is 79,109 hectares, with a slope of 0 to 18 percent covering 33 percent of that area (plain to rolling). Mati City Division is wide and diverse it has comprised of three districts. with 23 secondary schools. District A has 11 schools, district B has 9 schools and district C with 3 schools. Having diverse culture and ethnicity with the different social-emotional challenges such as new normal set-up of teaching, daily work-related stress, lessen the level of social interactions and communication faced by teachers in their daily endeavors in this Division therefore, the research locale is appropriate to describe and explain how social-emotional competence and stress reactivity motivates teachers to participate in physical activity.

Respondents

The respondents of this study were the 209 secondary school teachers from District A of Mati City Division. The researcher used complete enumeration technique to identify the respondents from different schools in Mati City. Thus, the distribution based on retrieved questionnaire from the teachers who were willingly answer the survey questionnaire were the following: School A=21; School B =21; School C=23; School D =10; School E=18; School F=15; School G=15; School H=42; School I=15; School J=17; and School K=12. In this study, the selection of respondents was based on the following inclusion criteria namely: Permanent Junior School Teachers of District A who voluntarily answer and participated the study. The exclusion criteria were as follows: Senior High School Teachers and Private School Teachers.

Statistical tools

The collected data was categorized, examined, and interpreted using the proper statistical treatment as follows: **Mean,** this was used to determine the levels of motives for physical activity participation and perceived stress reactivity among Mati City teachers. **Standard deviation,** this was used to tell how measurements for a group are spread out from the mean. A low number indicates

most responses are close to the mean, while high number means responses are more spread out. **Multiple Regression analysis,** this was used to utilized to determine the strong predictors of perceived stress reactivity and social-emotional competence that significantly influence the teachers' motives to physical activity.

RESULTS AND DISCUSSION

Level of Perceived Stress Reactivity

Presented in table 1 is the result of perceived stress reactivity of teachers The overall mean rating of perceived stress reactivity is 0.94 and describe as moderate. This indicates that perceived stress reactivity is sometimes observed of teachers. In addition, the overall standard deviation is 0.43 which is less one which is denoting that the respondents have responses that are almost the same. The moderate results implies that teachers are sometimes feel uneasy when they are under stress.

Table 1

Level of Perceived Stress Reactivity of Teachers

	Mean	Standard Deviation	Description
Prolonged Stress	0.93	0.42	Moderate
Reactivity to Work Overload	0.89	0.52	Moderate
Reactivity to Social Conflicts	1.02	0.25	Moderate
Reactivity to Failure	0.97	0.29	Moderate
Reactivity to Social Evaluation	0.91	0.66	Moderate
Overall Mean	**0.94**	**0.43**	**Moderate**

The results of the study conformed with the result of the study of Liu and Yan (2019) that some of the teacher participants were generally worried and sometimes uneasy in teaching as stress arise due to demand of work and balancing time for teaching and allocating time for other works such administrative works. Further, in the study of Alison (2019) about public school teachers shows that teachers occasionally experience moderate level of stress reactions brought on by emotional stressors like criticism, conflict, and failure, and teachers' workplace also brought stressors like an unsafe workplace are shown to have moderate impact on teachers' ability to teach that triggers them to experience the feelings of anxiety, worry, and emotional exhaustion.

Of the five indicators it shows that Reactivity to social conflicts had obtain the highest category mean of 1.02 and rated as moderate. This indicates that this particular indicator is sometimes manifested by teachers. The item category mean ratings are ranging from 0.73 to 1.15. The findings of the study supported the study of Jimenez (2020) that teachers occasionally feel stressful with their co-workers where elementary and secondary school teachers sometimes feel upset as product of scarcity of support, maltreatment and misunderstanding between workers. Further, the study shows that there was a moderate level of teachers dealing conflictual situations. Meanwhile, the indicator which has the lowest mean is reactivity to work overload with a mean of 0.89 and describe as moderate. This indicates that this particular indicator is sometimes manifested by teachers. The mean ratings range from 0.75 to 1.21 and all describe as moderate. The results

conform with the study of Sarabia and Collantes (2020) about work-related stress and teaching performance of teachers shows that work-related stress is sometimes manifested by public school teachers, the study revealed that there is moderate level of work-related stress of teachers which implies that teachers sometimes experiencing stress in their work specially in the demand of work which is hard to manage.

Level of Socio-Emotional Competence

Table 2 presents the summary of all indicators on the level of socio-emotional competence among teachers. The overall mean rating of social-emotional of teachers is 4.13 and describe as high. This indicates that social-emotional competence is oftentimes manifested by teachers. Furthermore, the overall standard deviation is 0.59 which is less than one and signifies that the respondents have answers that are almost the same. The high results shows that teachers oftentimes manifested and express their ability to deal social issues and emotional concerns with competence where teachers can give appropriate decisions, judgements, and emotions to the existing challenges. The results conforms the study of Shanmugasundaram and Mohamd (2011) about social and emotional competency of beginning teachers who were socially, and emotionally competent has higher performance in workplace and positively responded to the existing challenges in school environment.

Table 2

Level of Social-Emotional Competence of Teachers

	Mean	Standard Deviation	Description
Self-Awareness	4.34	0.64	Very High
Social Awareness	3.97	0.67	High
Self-Management	3.85	0.67	High
Relationship-Management	4.14	0.67	High
Responsible Decision-Making	4.35	0.62	Very High

The indicator with the highest mean is responsible decision making. This indicator has category mean score of 4.35 and described as very high. This indicates that this particular indicator is always manifested by teachers. The category mean ratings of the items ranges from 4.22 to 4.42 and describe as very high. The claim is supported by the study of Tijani (2020) about teaches involvement in school decision making, the study revealed that there is a positive and high correlation of teacher's involvement in decision making and job satisfaction where teachers viewed the positive outcome and analyzing the criteria before giving their opinion or decision. Meanwhile the indicator with the lowest mean is self-management. This indicator has category mean score of 3.85 and described as high. This indicates that this particular indicator is oftentimes manifested by teachers. The category mean ratings of the items ranges from 3.77 to 3.96 and describe as high. The result is similar to the study of Arifin (2019) about management of teacher's emotional intelligences shows that teachers with high ratings of self-management and control one's own feeling and emotions and manage frustration, calm and relax with the existing issues reveled to have higher success in their task accomplishment.

Level of Motives of Teachers to Physical Activity

Table 3 presents the summary of all indicators of the level of teachers' motives to physical activity. The overall mean rating of teachers' motives to physical activity is 4.51 and describe as very high. This implies that teachers' motives to physical activity is always manifested. In addition, the overall standard deviation is 0.53 which is less than one and denoting that the respondents have responses that are almost the same. The very high level of teachers' motives to participate in physical activity suggest that teachers are very interested and motivated to engage in different physical activity and develop some dimensions it could be physical for staying fit, social for gaining friends, psychological for relaxing and mental development. The results conforms the study of Celik (2020) about motivations of teachers for participation in physical activities which revealed that teachers are highly motivated in physical activity and motives of teachers in physical activity varies in the interest of teachers, the motivation to physical activity give teachers to discover new friends, explore environment and relax while taking the body.

Table 3

Level of Motives of Teachers for Physical Activity

	Mean	Standard Deviation	Description
Psychological Motives	4.43	0.61	Very High
Cognitive Motives	4.63	0.52	Very High
Physical Motives	4.69	0.52	Very High
Social Motives	4.30	0.68	Very High
Overall Mean	**4.51**	**0.53**	**Very High**

The indicator which has the highest mean is physical motives. The category mean of 4.69 and describe as very high. This indicates that this particular indicator is always manifested by teachers. The category mean rating of the items in this dimension ranges from 4.45 to 4.77 and interpreted as very high. The results of the study is supported by the claim by Abdullah et al. (2019) about motivation and involvement of toward physical activity with obtain rating of very high which asserts that teachers were very highly or always intrinsically motivated to participate in physical activity to stay healthy and develop skills. The further study supported the claim above which revealed that regular physical activity motivation and engagement enhances physical body condition, reduces infirmity, enriches sleep, and provides a better quality of life (Brown et al., 2012). Meanwhile the indicator with lowest mean is social motives. This indicator obtained a category mean of 4.30 and rated as very high. This indicates that this particular indicator is always manifested by teachers. The category mean ratings of items ranges from 3.52 to 4.53 describe as high. The results conform to the study of Opstoel (2019) that there was a high motivation of teachers to participate in physical activity for social engagement, where development of social skills and support of peers, create new friends and play with them were reasons in participation of physical activity.

Significance of the Influence of Perceived Stress Reactivity and Social-Emotional Competence towards Motives of Teachers to Physical Activity

Illustrated in the table 4 is the significant influence of perceived stress reactivity and social-emotional competence towards teachers' motives to physical activity participation in Mati City. In singular capacity the result revealed that there was no significant influence between perceived stress reactivity and teachers' motives to physical activity participation with an obtain p-value of .35 which is higher than the alpha of 0.05 with the beta coefficient of -0.12 which is weak influence on teachers' motives to physical activity participation.

Table 4
Significance of the Influence of Perceived stress reactivity and Teachers' Motives to Physical Activity Participation

	Beta Coefficient	T	*p*-value	Interpretation
Perceived Stress Reactivity	-0.12	-0.93	.35	Not significant
Social-emotional Competence	0.69	17.64	0.00	Significant
R^2 0.60				
F 155.71				
P 0.00				

In the other hand, in singular capacity, the results shows that there was a significant influence of social-emotional competence and teachers' motives to physical activity participation with a p-value 0.00 which is lesser than the alpha of 0.05 ($p > 0.05$) with a positive beta coefficient value of 0.69. It means that for every unit increase in the value of social-emotional competence there is a corresponding increase of .69 in teachers' motives to physical activity. The findings of the study support the Self-Determination Theory of Ryan and Deci (2000) where teachers are intrinsically motivated and determined to achieve goals. It is empirical that the more the teachers are motivated to attain change they are more determined to participate in physical activity to achieve goals like developing emotional competence, lessen and perceived stress positively, and prevent illnesses and become physically fit. Further, teachers who are determined to engage in physical activity most likely become more aware of the people around them, know their emotions well and manage themselves.

Importantly, the combined influence of the two independent variables, perceived stress reactivity, and social-emotional competence as predictor of teachers' motives to physical activity is significant ($F=155.71$, $p<0.05$). Furthermore, R^2 is 0.60 signified that 60 percent of the variation in the teachers' motives to physical activity participation is explained by the predictor variable. This uncovered the other 40 percent of variation of teachers' motives to physical activity participation is recognize to other indicators not covered in this study.

CONCLUSIONS

Based on the findings, the following were the conclusions made. The level of perceived stress reactivity of teachers is sometimes observed. This finding connotes that prolonged stress, work overload, social conflicts, reactivity to failure and social evaluation were sometimes observed. This implies that teachers moderately react to the existing stress in their workplace. In addition, this suggests that teachers should stay calm and relax before reacting to the problem that will lead to stress. The level of socio-emotional competence of teachers was oftentimes manifested. The results imply that teachers' social-awareness, self-management, and relationship management is oftentimes, while self-awareness, and responsible decision-making were always manifested. This implies that teachers were aware of their emotions, and always analyzed the effect of their decisions and always valued the opinion and ideas of others. The level of motives teachers to physical activity is always manifested. This means that the psychological, cognitive, physical, and social motives of teachers is always manifested. This implies that teachers were motivated to participate in physical activity to develop skills, gain new friends, be relaxed, and stay fit and healthy. Perceived stress reactivity does not significantly influence teachers' motives to physical activity. In the other hand, social-emotional competence significantly influences teachers' motives to physical activity. This implies that with the increase of social-emotional competence, there will be an increase in the value of teachers' motives to physical activity participation. Furthermore, the combined influence of perceived stress reactivity and social-emotional competence in teachers' motives to physical activity was significant. This implies that teachers are intrinsically motivated to participate in various physical activity to gain good health, develop cognitive skills and interact with peers.

REFERENCES

Abadilla, D. (2017). https://business.inquirer.net/223197/filipinos-lack-exercise.

Abdullah, M. F. B. (2019). *Motivation And Involvement Toward Physical Activity*. Retrieved December 10, 2022, From Https://Www.Researchgate.Net/Publication/337484451_Motivation_And_Involvement_Toward_Physical_Activity_Among_Motivation_And_Involvement_Toward_Physical_Activity_Among

Alemdag, S. (2018). The role of social self-efficacy on physical activity: A cross-cultural comparision. *Journal of Education and Training Studies*, *6*(5), 40. https://doi.org/10.11114/jets.v6i5.2996

Alson, J. (2019). *Stress among public school teachers - fayetteville state university*. Stress Among Public School Teachers . Retrieved December 5, 2022, from https://digitalcommons.uncfsu.edu/cgi/viewcontent.cgi?article=1165&context=jri

Aperribai, L., Cortabarria, L., Aguirre, T., Verche, E., & Borges, Á. (2020). *Teacher's physical activity and mental health during lockdown due to the Covid-2019 pandemic*. Frontiers. https://www.frontiersin.org/articles/10.3389/fpsyg.2020.577886/full

Arifin, A. (2019). Management of teachers' emotional intelligence in the Industrial Revolution 4.0 Era. *Proceedings of the 5th International Conference on Education and Technology (ICET 2019).* https://doi.org/10.2991/icet-19.2019.35

Aydin, B., & Kaya, A. (2016). Sources of stress for teachers working in private elementary schools and methods of coping with stress. *Universal Journal of Educational Research*, *4*(12A), 186–195. https://doi.org/10.13189/ujer.2016.041324

Balyer, A., & Özcan, K. (2020). *Teachers' perceptions on their awareness of social roles and efforts to perform these roles.* South African Journal of Education. https://files.eric.ed.gov/fulltext/EJ1257252.pdf

Bidzan-Bluma, I., & Lipowska, M. (2018). Physical activity and cognitive functioning of children: A systematic review. *International Journal of Environmental Research and Public Health*, *15*(4), 800. https://doi.org/10.3390/ijerph15040800

Blašková, M., Figurska, I., Adamoniene, R., Poláčková, K., & Blaško, R. (2018). Responsible decision making for sustainable motivation. *Sustainability*, *10*(10), 3393. https://doi.org/10.3390/su10103393

Borecka-Biernat, D. (2018). Aggressive coping strategy in situations of social conflict. an attempt to determine personality predictors. *Journal of Educational Sciences*, *38*(2), 55–70. https://doi.org/10.35923/jes.2018.2.05

Brown, B. M., Rainey-Smith, S. R., Castalanelli, N., Gordon, N., Markovic, S., Sohrabi, H. R., Weinborn, M., Laws, S. M., Doecke, J., Shen, K., Martins, R. N., & Peiffer, J. J. (2017). Study protocol of the intense physical activity and cognition study: The effect of high-intensity exercise training on cognitive function in older adults. *Alzheimer's & Dementia: Translational Research & Clinical Interventions*, *3*(4), 562–570. https://doi.org/10.1016/j.trci.2017.09.003

Can, S. (2019). *The determining of relationship between physical Activity and level of Perceived stress.* Retrieved April 07, 2022, from https://files.eric.ed.gov/fulltext/EJ1202177.pdf

Castelli, D. M., & Beighle, A. (2006). *The physical education teacher as school activity director.* Journal of Physical Education, Recreation & Dance (JOPERD). Retrieved November 22, 2022, from https://eric.ed.gov/?id=EJ795569

Çelik, N. M. (2020). Investigation of motivations of teachers for participation in physical activities. *International Education Studies*, *13*(10), 157. https://doi.org/10.5539/ies.v13n10p157

Chaubey, Dhani & Mishra, Ms & Dimri, Rajat. (2017). Mediating Role Of Employee Relationship Management Between Perceived Training And Development And Employees Productivity. International Journal Of Research In Computer Application & Management.

Chohan, B. (2018). The Impact of Academic Failure on the Self-Concept of Elementary Grade Students. https://files.eric.ed.gov/fulltext/EJ1209820.pdf

Das, Girish & Maharana, Narayana & Misra, D. (2020). Employee Relationship Management (ERM) and its Significance- A Systematic Review. 12. 96-107.

De La Vega, R., Garaigordabel, M., & Idoiaga, N. (2020). Teacher's physical activity and mental health during lockdown due to the Covid-2019 pandemic. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.577886

Derrington, M. L., & Martinez, J. A. (2019). Exploring teachers' evaluation perceptions: A Snapshot. *NASSP Bulletin*, *103*(1), 32–50. https://doi.org/10.1177/0192636519830770

Dunker, F., Freund, P. A., & Engels, E. S. (2020). Does perceived stress affect the relationship between personality and sports enjoyment? *European Journal of Health Psychology*, *27*(2), 45–54. https://doi.org/10.1027/2512-8442/a000048

Ejimabo, N. O. (2015). *An Approach To Understanding Leadership Decision Making In Organization - core*. An Approach To Understanding Leadership Decision Making In Organization. https://core.ac.uk/download/pdf/236414463.pdf

Ellis, E., Grimsley, M., Goyder, E., Blank, L., & Peters, J. (2017). Physical activity and health: Evidence from a study of deprived communities in England. *Journal of Public Health*, *29*(1), 27–34.

Emery, E. (2016). *Ethical behavior, leadership, and decision making*. ScholarWorks. https://scholarworks.waldenu.edu/dissertations/1887

Eskiler, E., & Küçükibiş, H. (2019). Sources of social support in physical activity participation: The moderating effect of gender. *International Journal of Psychology and Educational Studies*, *6*(3), 80–88. https://doi.org/10.17220/ijpes.2019.03.009

Fauzani, I., Mujanah, S., & Andjarwati, T. (2022). Measuring Self-awareness *Effect of it capabilities, organizationalijses.com*. http://ijses.com/wp-content/uploads/2022/01/29-IJSES-V6N1.pdf

Gråstén, A., Kokkonen, M., Quay, J., & Kokkonen, J. (2019). Social competence and moderate to vigorous physical activity of school-aged children through a creative physical education intervention. *Advances in Physical Education*, *09*(02), 129–144. https://doi.org/10.4236/ape.2019.92010

Goldsby, M., Bishop, J., Goldsby, E., Neck, C. B., & Neck, C. P. (2021). *The impact of self-management practices on entrepreneurial psychological states*. MDPI. Retrieved April 01, 2022, from https://www.mdpi.com/2076-3387/11/1/12

Goodman, D. A. (2022). *Social-emotional beliefs and competencies of high rowan university*. Retrieved December 8, 2022, from https://rdw.rowan.edu/cgi/viewcontent.cgi?article=3976&context=etd

Greenberg, M. (2016). *Teacher stress and health - Pennsylvania State University*. Retrieved November 18, 2022, from http://prevention.psu.edu/uploads/files/rwjf430428-TeacherStress.pdf

Greene , S., & Kamimura, M. (2003). *Ties that Bind: Enhanced Social Awareness Development Through Interactions with Diverse Peers - websites.umich.edu*. Retrieved April 14, 2022, from http://websites.umich.edu/~divdemo/Ashe03num3.pdf

Herndon, C. L. (2021). Social Emotional Competence of Teachers *Scholar Works: Walden University Research*. Site. Retrieved November 18, 2022, from https://scholarworks.waldenu.edu/

Herr, R., Barrech, A., Riedel, N., Gündel, H., Angerer, P., & Li, J. (2018). Long-term effectiveness of stress management at work: Effects of the changes in perceived stress reactivity on mental health and sleep problems seven years later. *International Journal of Environmental Research and Public Health*, *15*(2), 255. https://doi.org/10.3390/ijerph15020255

Hon, A. H., & Chan, W. W. (2013). The effects of group conflict and work stress on employee performance. *Cornell Hospitality Quarterly*, *54*(2), 174–184.

Hsu, H.-C. (2018). Age differences in work stress, exhaustion, well-being, and related factors from an ecological perspective. *International Journal of Environmental Research and Public Health*, *16*(1), 50. https://doi.org/10.3390/ijerph16010050

Jain, S. (2021). *A study of work stress and coping among primary school teachers in New Zealand.* New Zealand Journal of Teachers' Work, Volume 18, Issue 1,18-35, 2021. https://ojs.aut.ac.nz/teachers-work/article/download/313/466/

Jimenez, E. (2021). *Eric - EJ1287736 - impact of mental health and stress level* Impact of Mental Health and Stress Level of Teachers to Learning Resource Development. Retrieved December 6, 2022, from https://eric.ed.gov/?id=EJ1287736

Kazak, Z. (2018). Profiles of basic psychological needs in exercise settings: An examination of differences in contextual motivation, affect, and achievement goals. *International Journal of Environmental Research and Public Health*, *15*(12), 2871. https://doi.org/10.3390/ijerph15122871

Limm, H., Angerer, P., Heinmueller, M., Marten-Mittag, B., Nater, U. M., & Guendel, H. (2010). Self-perceived stress reactivity is an indicator of psychosocial impairment at the Workplace. *BMC Public Health*, *10*(1). https://doi.org/10.1186/1471-2458-10-252

Lee, L. (2019). *For teachers, risking failure to improve practice.* Edutopia. Retrieved November 18, 2022, from https://www.edutopia.org/article/teachers-risking-failure-improve-practice

Lippke S, Wienert J, Kuhlmann T, Fink S, Hambrecht R (2015) Perceived Stress, Physical Activity and Motivation: Findings from an Internet Study. *Ann Sports Med Res* 2(1) 1012

Liu, M., & Yan, Y. (2019). *Anxiety and stress in in-service Chinese University Teachers of Arts.* International Journal of Higher Education. Retrieved December 5, 2022, from https://eric.ed.gov/?id=EJ1240458

Martinez, L. (2015). *Developing teachers' social and emotional skills.* Edutopia. Retrieved November 21, 2022, from https://www.edutopia.org/blog/developing-teachers-social-emotional-skills-lorea-martinez

Matsushita, Masateru & Yamamura, Schuhei. (2021) The Relationship Between Long Working Hours and Strss Response in Junior High School Teachers: A Nationwide Survey in Japan https//doi.org/10.3389/fpsyg.2021.77552

Matitaputty, S., Hastie, R., & Rahutami, I. (2017). *Outdoor learning: Fostering social awareness with community service - shs-conferences.org*. Outdoor learning: Fostering social awareness with community service. https://www.shs-conferences.org/articles/shsconf/pdf

Normina Macabangkit[1] and Porferia S. Poralan[2], PhD

[1] Wago Deromoyod Elementary School, Lumbayanague, Lanao del Sur
[2] University of the Immaculate Conception

physical activity: 10.1186/s12889-

Montgomery, C. (2012). *Student teacher stress and physical exercice*. Academia.edu. https://www.academia.edu/66106375/Student_Teacher_Stress_and_Physical_Exercice

Munro, I. (2021). Self -management and how can you improve it. Retrieved March 27, 2022, from https://www.betterup.com/blog/what-is-self-management-and-how-can-you-improve-it.

Nauert, R. (2018). *Physical activity helps improve social skills*. Psych Central. https://psychcentral.com/news/2018/03/15/physical-activity-helps-improve-social-skills#1

Nguyen-Michel, S. T., Unger, J. B., Hamilton, J., & Spruijt-Metz, D. (2006). Associations between physical activity and perceived stress/hassles in college students. *Stress and Health*, *22*(3), 179–188. https://doi.org/10.1002/smi.1094

Ohuruogu, B., Chinyere, A. R., Nwodeh, O. R., Okechukwu, M. S., & Ikechukwu, A. C. (2020). Stress and social conflict management in an organization. *Journal of Natural Sciences Research*, *Vol.10*(No.6). https://doi.org/10.7176/jnsr/10-6-03

Opstoel, K., Chapelle, L., Prins, F. J., De Meester, A., Haerens, L., van Tartwijk, J., & De Martelaer, K. (2019). Personal and social development in Physical Education and Sports: A Review Study. *European Physical Education Review*, *26*(4), 797–813. https://doi.org/10.1177/1356336x19882054

Oteer, R. (2015). Stress at work and its subsequent problems among teachers of the public schools which operate the school-based violence reduction program (VRP) in Tulkarm governorate. *World Journal of Education*, *5*(4). https://doi.org/10.5430/wje.v5n4p26

Papa, S. (2017). The effects of physical activity on social interactions: The case of trust and trustworthiness. *Journal of Sports Economics*, *20*(1), 50–71. https://doi.org/10.1177/1527002517717299

Palvalin, M., Voordt, T. van der, & Jylhä, T. (2017, September 4). The impact of workplaces and self-management practices on the productivity of knowledge workers. Journal of Facilities Management, 15(4), 423-438.

Park, M.-H., Riley, J. G., & Branch, J. M. (2019, November 30). *Developing self-awareness using mindfulness meditation with Preservice Teachers: Reflections on practice*. Journal of Early Childhood Teacher Education. Retrieved April 14, 2022, from https://eric.ed.gov/?q=Teachers%2Bself-awareness&id=EJ1256140

Phruthi, S. (2017). *Depression and anxiety: Exercise eases symptoms*. Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/depression/in-depth/depression-and-exercise/art-20046495

Prytz, E. G., & Scerbo, M. W. (2015). Changes in stress and subjective workload over time following a workload transition. *Theoretical Issues in Ergonomics Science*, *16*(6), 586–605. https://doi.org/10.1080/1463922x.2015.1084397

Rick Nauert, P. D. (2018). *Physical activity helps improve social skills*. Psych Central. https://psychcentral.com/news/2018/03/15/physical-activity-helps-improve-social-skills#1

Rahman, S., Hussin, N., Kamal, J., Noh, N., Abdullah, S., & Amin, Z. (2020). *The challenges in implementation of ethics in Organization - HRMARS*. The challenges in implementation of ethics in Organization. https://hrmars.com/papers_submitted/8195/the-challenges-in-implementation-of-ethics-in-organization.pdf

Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being

Sami, S., Mahmoudi, S., & Aghaei, S. (2015). Social Development of students participating in physical activity and computer games. *Annals of Applied Sport Science*, *3*(2), 51–56. https://doi.org/10.18869/acadpub.aassjournal.3.2.51

Sarabia, A., & Collantes, L., (2020). Work-related stress and teaching performance of teachers in selected school in the Philippines. *Indonesian Research Journal in Education |IRJE|*, 6–27. https://doi.org/10.22437/irje.v4i1.8084

Shanmugasundaram, U., & Mohamad, A. R. (2011). Social and emotional competency of Beginning Teachers. *Procedia - Social and Behavioral Sciences*, *29*, 1788–1796. https://doi.org/10.1016/j.sbspro.2011.11.426

Shobeiry, M. (2020). Self -Efficacy and Self -Awareness of Language Teachers and Their Learners' Achievement.

Physical Activity and Leisure Motivation, Exercise Attitude, and Exercise Adherence among Elementary Public-School Teachers

Normina Macabangkit[1] and Porferia S. Poralan[2]

[2] Program Coordinator, Graduate School
University of the Immaculate Conception, Philippines
pporalan@uic.edu.ph

ABSTRACT

This study determined the influence of physical activity and leisure motivation as well as exercise attitude towards exercise adherence among elementary public-school teachers. A descriptive correlational research design was used in this study. To gather the necessary data, sets of adapted and expert-validated survey questionnaires were administered among the 145 elementary school teachers who were chosen using the stratified random technique. The study was conducted at Sta. Ana District, DepEd Davao City Division. The data were statistically treated using the following: mean, standard deviation, Pearson Product Moment Correlation, and multiple regression. Results revealed that the level of physical activity and leisure motivation, exercise attitude and exercise adherence of public-school teachers were all high. A significant relationship was found between physical activity and leisure motivation and exercise adherence. Also, there was a significant relationship between exercise attitude and exercise adherence; and physical activity and leisure motivation as well as exercise attitude significantly influenced the exercise adherence of the public-school teachers on their independent capacity.

KEYWORDS: Education, physical activity and leisure motivation, exercise attitude, exercise adherence, elementary public-school teachers, descriptive-correlational, Philippines

INTRODUCTION

Exercise adherence is found to be the most crucial in maintaining healthy habits of physical activity. Poor exercise adherence is found to be associated with poor general well-being (Freude et al., 2005). One of the challenges among teachers is how to maintain their ideal weight because of the nature of their jobs; almost always they lack the time for exercise adherence and watched their bodies swell until they felt the consequences of being obese (Schneider, 2011). Most teachers opted to disregard physical exercise and succumb to various illnesses because of the lack of exercise and one of the main reasons is time constraint because of their workload (Stults-Kolehmainen & Sinha, 2014). It is generally understood that consistent exercise may reward an individual with many health benefits. Exercising may lower a person's body fat, generate an increase in muscle strength, deliver mental alertness or positive feelings, and may even directly attribute to the longevity of one's life (Centers for Disease Control and Prevention, 2014).

In the United States studies showed that 150 minutes of moderate physical activity (PA) or 75 minutes of intense PA every week are enough to reduce risks and produce cardiovascular health benefits, and this activity can be performed in a continuous or interrupted way (Garber et al., 2015). Individuals who meet the minimum recommendation for weekly PA, in addition to being at a lower risk of developing various diseases, are also important allies of public health. It is estimated that, besides needing to use the Brazilian Unified Health System less frequently, they generate lower expenses with medicines and treatments as well. Furthermore, even walking is associated with lower medication, laboratory test and consultation costs (Codogno et al., 2015).

Meanwhile, in the Philippines, PA motivation among Filipinos, particularly adults are declining, and the tendency is to relax at home after work and public-school teachers are no exemption (Kandula & Lauderdale, 2005). The importance of examining perceptions and beliefs such as physical activity among older Filipino adults can be instrumental in bridging the gap between what is considered physical activity motivation and adherence to exercise. Distinctively different interventions and strategies might be appropriate if the study revealed differences in beliefs and perceptions about physical activity and exercise among Filipino adults (Esperat et al., 2004)

The City Government of Davao has launched a wellness program to promote physical activity among Dabawenyos despite the social and physical restrictions caused by Covid 19 pandemic, which is entitled "Aktibo Dabawenyo" last April 8, 2022. The said program weekly provides three-minute videos containing fitness information and exercises that the viewers can perform at home. The said videos are posted in the City Government of Davao Facebook page as well as other subpages, but it can be easily said that only few showed interests on it based on the number of views online. Mikey Aportadera, City Sports Officer in-charge, also stated that they have decided to bring the wellness to Dabawenyos who have become less mobile and active when we stayed at home.

Also in Davao City, there were many studies conducted about PA among students, such as the study of Abucay et al. (2016) which determined the level of motivation of junior high school students and their activity preferences, and the affective experiences on the physical activity level of senior high school students by Bagoto (2020), but there is paucity when it comes to physical activity motivation and exercise attitude among the teachers in association to their exercise adherence.

Nevertheless, published studies regarding exercise adherence is that of Buckworth et al. (2007) who conducted a study of an intervention for exercise adherence such as leisure activity. Another study of Buckworth (2012) is on exercise adherence which looked into the unique aspects of population, setting environment and exercise mode using TransTheoretical Model (TTM). This model posits that health-related behaviors of an individual undergoes six stages of change: precontemplation, contemplation, preparation, action maintenance, and termination. While these studies are helpful in improving the knowledge of exercise adherence, these studies mentioned have not investigated physical activity, leisure motivation, and exercise attitude as determinants of exercise adherence. The methodology also involves testing a model and proving the effectiveness of an intervention, not a multiple regression that this study would like to propose. This is a gap that this study wants to address. Moreover, the earlier subjects of the study of Buckworth are middle aged men and women, while the later study are college students. In this particular study, the respondents are the public-school teachers of Sta. Ana District in Davao City.

Furthermore, programs were proposed by the Department of Education to help promote the overall wellness among learners but seemed ineffective when it comes to advocating physical fitness among teachers. Though the said office has recently released a memorandum enclosing guideline on *GalawPilipinas: The DepEd National Calisthenics Exercise Program*, which aims to promote an active lifestyle among Filipinos, there is no concrete long-term plan and implementation disseminated among the teachers of Sta. Ana District. If long-term physical fitness programs like the above are successfully implemented, exercise adherence among teachers may follow. This study would be beneficial to the school heads and administrators of public schools in Davao City, wherein they can provide a schedule for the school teachers to engage in a physical activity together to lessen their risk of inactivity ailments and put them in good shape physically.

This study determined the relationship between physical activity and leisure motivation and exercise adherence and also the relationship between exercise attitude and exercise adherence of candidate teachers who will be a model in the future to the students. Results may be used in designing a contextualized physical activity and exercise program to lessen the increasing trend of overweight and obesity among the public elementary teachers especially amid the COVID-19 pandemic where physical inactivity and sedentary living are more prevalent.

Theoretical Framework

The study was anchored on the Self-Determination Theory and the Organismic Integration Theory (OIT) of Deci and Ryan (1985). Self-Determination Theory is a motivational theory developed by Deci and Ryan (1985) that focuses on understanding how social perspectives and individual differences enable different types of motivation. It emphasizes the reason behind human behavior by considering the basic psychological needs; the need to feel effective or to gain mastery of meeting environmental demands or also known as competence, the need to feel in control of one's behavior, also known as autonomy, and third, the need to sense of belongingness and cared for by people also known as relatedness. Specifically, Self-Determination Theory states that motivation to exercise varies along a continuum from intrinsic to extrinsic. Being intrinsically motivated means carrying out an activity for inherent satisfaction and enjoyment. At the same time, extrinsic motivation refers to engaging in an activity for its instrumental purpose or to gain something outside of the activity itself (Deci & Ryan, 1985). Thus, whenever teachers are extrinsically or intrinsically motivated, chances to develop skills such as dancing and sports and improve physical, social, mental, and behavioral health is possible. On the contrary, teachers with low physical activity motivation tend to live an inactive and sedentary lifestyle with chances of becoming overweight, obese, or worse ill.

METHODS

Research Design

The study employed quantitative research, specifically descriptive correlational design. This method allowed data analysis from many subjects simultaneously, which in this study involves the variables physical activity and leisure motivation, exercise attitude, and exercise adherence. Quantitative research is a research strategy that focuses on quantifying the collection and analysis of

data. This research strategy promotes the objective empirical investigation of observable phenomena to test and understand relationships (Bryman, 2012). This is done through a range of quantifying methods and techniques, reflecting on its broad utilization as a research strategy across different academic disciplines (Babbie, 2010). Cohen (2001) also pointed out that the purpose of descriptive correlation is to find new truths which may have different forms such as increased quality of knowledge, a new generalization or a new law, an increased insight into factors which are operating the discovery of the significant relationship, a more accurate formulation of the problem to be solved and many others. The mentioned research design was appropriate in determining the level of variables of public-school teachers' physical activity and leisure motivation, exercise attitude, adherence to exercise, and the relationship among them. Also, it accurately gathered the needed data and determined and described the relationship between the variables, namely, physical activity and leisure motivation, exercise attitude, and exercise adherence.

Place of the Study

The study was conducted in Sta Ana District, Davao City, comprising seven elementary schools. School A is located at Leon Garcia St., Agdao, Davao City, having 827 learners with 29 affiliated teachers. School B is also located at Leon Garcia St., Agdao, Davao City, having 810, with 21 affiliated teachers. School C is located in D. Ponce ST., Barangay 28-D, Davao City, with a total population of 1168 learners and 44 affiliated teachers. School D is located at D. Suazo St., Davao City, having a total population of 1086 with 34 affiliated teachers. School E is located at D. Ponce ST., Barangay 28-D, Davao City, with a total population of 1085 learners and 39 affiliated teachers. School F is located at R. Magsaysay St., Uyanguren, Davao City, having a total population of 3464 learners with 111 affiliated teachers. School G is located in Isla Verde, Brgy 23-C, Davao City, having a total population of 467 learners with 22 teachers.

Respondents

The respondents of the study were the 145 public school teachers from Sta. Ana District, Davao City. A stratified random sampling technique was utilized using Slovin's formula to determine the sampling population. Teachers who have served for two years and resided in Davao City, regardless of status or, gender were chosen. Teachers who are not affiliated with schools within Sta Ana District were not included as respondents. Also, public elementary school teachers who refused to participate in the survey and those not reached during the survey period were excluded.

Statistical tools

In treating the data, the following statistical tools were utilized: **Mean,** it was used in determining the public-school teachers' physical activity and leisure motivation as well as the level of public-school teachers' adherence to exercise. **Standard Deviation** was used to identify if the individual responses of the teachers in each item and category are mostly similar or vary. **Pearson Product Moment Correlation,** it was utilized in determining the significant relationship between public school teachers' physical activity and leisure motivation and adherence to exercise. **Multiple**

Regression Analysis, it was used to determine the domain of public-school teachers' physical activity and leisure motivation that significantly influence adherence to exercise.

RESULTS AND DISCUSSION

Physical Activity and Leisure Motivation

Table 1 shows the level of physical activity and leisure motivation of public-school teachers based on mastery, physical condition, affiliation, appearance, enjoyment, competition/ego, and others' expectations. It garners an overall mean of 3.95, described as high, which indicates that physical activity and leisure motivation are often observed among the teachers. A standard deviation of 0.66 indicates responses from the respondents do not vary. The table also connotes that physical condition is the highest motivating factor in the teachers' physical activity and leisure motivation. The results also support the study conducted by Bogaert et al. (2014), concluding that teachers motivated to perform more physical activities during leisure time may be more resistant to physical and other health problems.

Table 1
Level of Physical Activity and Leisure Motivation of Public-School Teachers

Indicators	Mean	SD	Description
Mastery	3.93	0.73	High
Physical Condition	4.30	0.66	Very high
Affiliation	4.11	0.81	High
Appearance	3.97	0.85	High
Enjoyment	4.19	0.80	High
Competition/Ego	3.45	1.09	High
Others' Expectations	3.53	0.95	High
Overall Mean	**3.95**	**0.66**	**High**

The indicator with the highest mean is physical condition. This indicator has a category mean of 4.30, which is very high, implying that physical activity and leisure motivation are always observed among elementary public-school teachers. The table further shows that the means range from 4.23 to 4.33. The result is in accordance with the results of the study of Kylasov and Gavrov (2011) which revealed that the key motive for doing exercises such as jogging, running, cycling, calisthenics, water aerobics, and weight-lifting training maintain or improve one's physical condition. Meanwhile, the indicator with the lowest mean is competition/ego. In this indicator, the acquired category mean is 3.45 which implies that physical activity and leisure motivation, in terms of competition/ego, is often observed and described as high. Furthermore, the means range from 3.35 to 3.56. The outcome coincides with the statement of Zervou et al. (2017) accentuating that ego-oriented subjects perceive physical activity as something that should help them to acquire more recognition and social status.

Level of Public-School Teachers' Exercise Attitude

Table 2 exhibited the level of exercise attitude of public-school teachers with an overall mean score of 4.16 described as high which is interpreted as exercise attitude is oftentimes manifested, and with a standard deviation of 0.63 indicating that responses do not vary. The indicators in this variable are tension release, health promotion, vigorous exercise, and social benefits. Among these indicators, public elementary teachers agreed on their positive outlook about the benefits of being physically active. This also implies that they practice an active lifestyle believing in the health benefits they would gain from it. This result coincides with the study of Warburton et al. (2006) concluding that adults with a positive attitude in being physically active have the most improvements in health status and are most likely lowest in health risk.

Table 2
Level of Public-School Teachers' Exercise Attitude

Indicator	Mean	SD	Description
Tension Release	4.25	0.72	Very high
Health Promotion	4.43	0.63	Very high
Vigorous Exercise	3.89	0.89	High
Social Benefits	4.09	0.76	High
Overall Mean	**4.16**	**0.63**	**High**

The indicator with the highest mean is health promotion. This indicator has category mean of 4.43, and means ranging from 4.42 to 4.45 indicating that health promotion is marked always manifested. The results show that the respondents feel positive towards the health benefits they will gain in engaging in physical exercises, which also reflects and manifested in their behavior and teaching activities inspiring the students to learn enthusiastically; it is also in support to the study's results of Kumar and Preetha (2012) asserting that health promotion programs aim to engage and empower individuals and communities to choose healthy behaviors, and make changes that reduce the risk of developing chronic diseases and other morbidities. The results also tell that the teachers always engage in physical activity for the benefit of their bodies to make them feel better, which is essential as well to their health. Meanwhile, the indicator with the lowest mean is vigorous exercise. In terms of vigorous exercise, the garnered category mean score is 3.89 which means high, which implies that the teachers' attitude towards vigorous exercise is often manifested. The table shows that the mean is ranging from 3.88 to 3.90. The finding coincides with the study of Garcıa et al. (2011) stressing that although vigorous exercise offers many health benefits, it's not appropriate for everyone. If one has a health condition or hasn't been active in a while, it is safe to make sure to talk with the doctor before working out at a more strenuous level. In addition, teachers often engage in vigorous exercise to manage their weight, and necessity to maintain their health.

Level of Exercise Adherence of Public-School Teachers

Table 3 displays the level of exercise adherence of public-school teachers based on the respondents' adherence behavior and reasons for adherence, garnering an overall mean of 3.71

described as high which implies that exercise adherence among the public-school teachers are often times demonstrated, with a standard deviation of 0.84 which means that the teachers' responses do not vary. The results then reveal that most teachers adhere to exercise to feel good and confident knowing that exercise can indeed benefit the body and not only build stamina but making the body physically fit and shapely.

Table 3
Level of Exercise Adherence of Public-School Teachers

	Mean	Standard Deviation	Description
Adherence Behavior	3.72	0.88	High
Reasons for Adherence	3.73	0.85	High
Overall Mean	3.73	0.85	High

In terms of adherence behavior has garnered a category mean of 3.72 described as high level, which proves that exercise adherence is often demonstrated. Taking a closer look at the details, the mean ranges from 3.57 to 3.78. This finding is in consonance with the study conducted by Schwarzer (2008) emphasizing that behavioral indicators provide direction in how to develop new behavioral routines that would promote exercise adherence. Programs that utilize principles of behavior modification, including goal setting, self-monitoring, and social support rather than simple educational programs are more effective and have better long-term adherence rates. The results also tell us that teachers often engage in exercise as recommended and part of daily routine as a habit. In terms of reasons for adherence, the category mean range of 3.38 to 3.90 which means high, and the elementary public-school teachers exercise adherence is often demonstrated. The result is in accordance with the study of Pagoto (2016) stressing that leveraging the techniques in exercise coaching or training and tailoring them to the specific barriers and facilitators experienced by the individual may improve exercise adherence and, consequently, physical and mental health.

Significance of the Relationship between Physical Activity and Leisure Motivation, Exercise Attitude, and Exercise Adherence

Table 4 presents the correlations between the variables involved in the study, particularly between physical activity and leisure motivation and exercise adherence as well as exercise attitude and exercise adherence. Between physical activity and leisure motivation and exercise adherence, the computed r-value is .76 while the p-value of 0.00 is lesser when compared to the level of significance of 0.01 indicating significant relationship between physical activity and leisure motivation and exercise adherence. This shows that physical activity and leisure motivation is correlated to exercise adherence among public elementary teachers indicating that physical activity includes exercise adherence and mixing it with leisure motivation would make it enjoyable and inspiring while perspiring. The result supports the study of Molanorouzi et al. (2014) whose findings showed the correlations between each Physical Activity and Leisure Motivation Scale (PALMS) sub-scale and the corresponding sub-scale on the validated exercise adherence questionnaire was high.

Table 4

Significance of the Relationship between Physical Activity, Leisure Motivation, Exercise Attitude, and Exercise Adherence

Variables Correlated	r	p-value	Remarks
Physical activity & leisure motivation and exercise adherence	.76	.00**	Significant
Exercise attitude and exercise adherence	.65	.00**	Significant

**p<0.01

Moreover, between exercise attitude and exercise adherence, the computed r-value is 0.65 while the p-value of 0.00 is lesser when compared to the level of significance of 0.01 showing a significant relationship. This means that there is a significant relationship between exercise attitude and exercise adherence among the public elementary school teachers, indicating that attitude determine the course of action a person will choose. The outcome of this portion of the study coincides with the findings of Ribeiro and Milanez (2011) stating that concerning exercise attitude and exercise adherence, a significant relationship was found. It could be surmised therefore that there is a significant relationship between the independent variable's physical activity & leisure motivation, exercise attitude, and exercise adherence.

The study confirms the principles behind Self-Determination Theory as elaborated by Deci and Ryan (1985), wherein both intrinsic and extrinsic motivation are the factors behind the physical activity, attitude and exercise adherence of the public-school teachers; although the mentioned teachers disclosed that they are more motivated intrinsically compared to extrinsic factors. The result supports as well the veracity of OIT by the same authors, showing that individual's physical activity and leisure motivation to engage in exercise is manifested in attitude and displayed in exercise adherence, which means the outcome (benefit) of the whole process is worth the hardship experienced and the pleasure of doing it is acquired physical activity leisure.

Significance of the Influence of Physical Activity and Leisure Motivation, Exercise Attitude, to Exercise Adherence

Table 5 disclosed the significant influence of independent variables to exercise adherence. Both independent variables could significantly influence the exercise adherence of the public-school teachers on their independent capacity (p<.05). The beta coefficient of .62 signifies that every unit improvement in physical and leisure motivation results in a .62 increase in exercise adherence. On the other hand, the beta coefficient of .19 connotes that every unit increase in exercise attitude leads to .19 improvement in exercise adherence.

Table 5

Significance of the Influence of Physical Activity and Leisure Motivation, and Exercise Attitude to Exercise Adherence

Independent Variables	B	p-value	T	Remarks
Physical activity & leisure motivation	.62	.000	7.72	Significant
Exercise attitude	.19	.02	2.39	Significant

r^2= .587; p= .000; F= 102.51

The r^2 of .587 infers that 58.7 percent of the variation in exercise adherence is attributed to the combined influence of physical activity and leisure motivation and exercise attitude of the elementary public-school teachers. This result connotes that there are other factors comprising 41.3 percent that may influence exercise adherence that was not included in this study. This shows that physical activity and leisure motivation as well as exercise attitude significantly influences exercise adherence by 59.7 percent in the study with the remaining 41.3 percent unidentified that warrants further study. This means that the exercise adherence of the elementary public-school teachers is significantly influenced by physical activity and leisure motivation as well as exercise attitude. The result supports the study conducted by Hemmingsson and Page (2016) concluding that there are many factors that influence adults' adherence to physical activity and their behavior and attitude towards it. They also added that even though a lot of information on these factors has been accumulated, more research is still needed to design the best physical activity program for them.

CONCLUSIONS

Based on the findings of the study, the following conclusions were drawn: The level of physical activity and leisure motivation of public-school teachers was rated high which means that physical activity and leisure motivation of teachers is often observed. The indicators mastery, affiliation, appearance, enjoyment, competition/ego, and others' expectations are rated high or observed, while physical condition was rated very high or always observed. This signified that teachers gave value to their health and remains motivated in being physically active. The level of exercise attitude of public-school teachers was high which also means that exercise attitude of teachers is oftentimes manifested. The indicators tension release and health promotion acquired a very high rate, while vigorous exercise and social benefits were marked high. Teachers showed a positive perception about exercise and its benefits. The level of exercise adherence of public-school teachers was high in both adherence behavior and reasons for adherence which describes that exercise adherence of teachers is oftentimes demonstrated. This signified that the elementary public-school teachers of Sta. Ana District Davao City recognize the importance of having regular exercise. It also implies that factors affecting the teachers' exercise vary. There was a significant relationship between physical activity and leisure motivation and exercise adherence. This indicated that physical activity and leisure motivation were correlated with exercise adherence because exercise adherence is also one type of physical activity, although optional, one can enjoy doing it considering it as leisure because of the

benefits it gives to the physical body. This is also an indication that the teachers' exercise adherence can be significantly influenced by their physical activity motivation and leisure motivation. Furthermore, there was a significant relationship between exercise attitude and exercise adherence. This also indicated that exercise attitude had a significant impact on the elementary public school teachers' exercise adherence. A positive exercise attitude leads to more determined exercise adherence. The variation in exercise adherence of public elementary school teachers was influenced by their physical and leisure motivation, and exercise attitude, while there may be other factors that are not included in this study which may have influenced the elementary public school teachers' exercise adherence.

REFERENCES

Aaltonen, S., Leskinen, T., Morris, T, Alen, M., Kaprio, J., & Liukkonen, J. (2012). Motivesfor and barriers to physical activity in twin pairs discordant for leisure timephysical activity for 30 years. *International Journal of Sports Medicine, 33*(2),157–63. doi: 10.1055/s-0031-1287848.

Abdullah, N., Kueh, Y.C., Hanafi, M.H., Morris, T., & Kuan, G. (2019). Motives for participation and amount of physical activity among Kelantan Chinese adolescents. *Malaysian Journal of Medical Sciences, 26*(6), 101–110. doi: 10.21315/mjms2019.26.6.10.

Abucay, P. D., Miranda, L. & Cervera, R. C. (2016). Motivation to exercise and activity preferences of junior high school students of the University of the Immaculate Conception. *ARETE, 4*(1). Vol. 4 no. 1 (2016). Retrieved from http://ejournals.ph/form/cite.php?id=13759

Alvarez, M., Balaguer, I., Castillo, I., & Duda, J. L. (2012). The coach-created motivational climate, young athletes' well-being, and intentions to continue participation. *Journal of Clinical Sport Psychology, 6*(2), 166-179. https://psycnet.apa.org/record/2012-13349-004

André, N.& Dishman, R. (2012). Evidence for the construct validity of self-motivation as a correlate of exercise adherence in French older adults. *Journal of Aging Physical Activity,* 20(2), 231–45. https://pubmed.ncbi.nlm.nih.gov/22472582/

Aperribai, L., Cortabarria, L., Aguirre, T., Verche, E. & Borges, A. (2020). Teacher's physical activity and mental health during lockdown due to the COVID-2019 pandemic. *Department of Clinical and Health Psychology and Research Methodology, University of the Basque Country UPV/EHU, Donostia-San Sebastián, Spain. Frontier Psychology.* doi: 10.3389/fpsyg.2020.577886

Azliyana A., Justine,M., & Chua, S.K. (2013). Effects of a behavioral program on exercise adherence and exercise self-efficacy in community-dwelling older persons. *Research Management Institute Universiti Teknologi Mara* (600-RMI/DANA 5/3/RIF (511/2012). https://www.hindawi.com/journals/cggr/2013/282315/

Barkoukis, V., Koidou, E., & Tsorbatzoudis, H. (2010). Effects of a motivational climate intervention on state anxiety, self-efficacy, and skill development in physical education. *European Journal of Sport Science, 10*(3), 167-177.https://www.tandfonline.com/doi/abs/10.1080/17461390903426634

Barreal-López, P., Navarro-Patón, R., &Basanta-Camiño, S. (2015). ¿Disfrutan los escolares de Educación Primaria en las clases de EducaciónFísica? Un estudiodescriptivo. Trances. *Revista de Transmisión del Conocimiento Educativo y de la Salud, 7* (4), 613-625. Retrieved from http://www.trances.es/papers/TCS%2007_4_7.pdf

Belza, B., Walwick, J., Shiu-Thornton, S., Schwartz, S., Taylor, M., & Logerfo, J. (2004). Older adult perspectives on physical activity and exercise: Voices from multiple cultures. *Preventing Chronic Disease, 1*(4), 1–12. https://pubmed.ncbi.nlm.nih.gov/15670441/

Bogaert, I., De Martelaer, K., Deforche, B., Clarys, P., & Zinzen, E. (2014), Associations between different types of physical activity and teachers' perceived mental, physical, and work-related health. *BMC Public Health, 14*(1), 534.https://bmcpublichealth.biomedcentral.com /articles/10.1186/1471-2458-14-534

Brach, J.S., Simonsick, E.M., Krritchevsky, S., Yaffee, K., & Newman, A.B. (2004). The association between physical function and lifestyle activity and exercise in the health, aging, and body composition study. J*ournal of American Geriatrics Society, 52*(4), 502–509. https://pubmed.ncbi.nlm.nih.gov/15066063/

Brunet, J. &Sabiston, C.M. (2011). Exploring motivation for physical activity across the adult lifespan. *Psychology Sports Exercise, 12*(2), 99–105. https://www.sciencedirect.com/science/article/abs/pii/S146902921000124X

Bryan, C., &Solmon, M. A. (2012). Student motivation in physical education and engagement in physical activity. *Journal of Sport Behavior, 35*(3), 267-285. https://psycnet.apa.org/record/2012-22008-002

Bryman, A. (2012). *Social research methods (4th ed.).* Oxford: Oxford University Press. https://www.academia.edu/38228560/Alan_Bryman_ Social_Research_Methods_4th_ Edition_Oxford_University_Press_2012_pdf

Buckworth, J., & Dishman, R. K. (2007). Exercise adherence. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of Sport Psychology* (pp. 509–536). John Wiley & Sons, Inc. https://psycnet.apa.org/record/2007-01666-031

Cadmus-Bertram, L. (2014). Predicting adherence of adults to a 12-month exercise intervention. *Journal of Physical Activity & Health, 11*(7), 1304–1312. https://pubmed.ncbi.nlm.nih.gov/24176780/

Centers For Disease Control and Prevention (2010). *The healthy people 2010 database.* Retrieved from http://wonder.cdc.gov/scripts/broker.exe.

Centers For Disease Control and Prevention (2014). *Facts about physical activity.* Retrieved from http://www.cdc.gov/physicalactivity/data/facts.

Chen, H.M., Wang, H.H., & Chiu, M.H. (2014). Effectiveness of a releasing exercise program on anxiety and self-efficacy among nurses. *Western Journal Nursing Research. https://pubmed.ncbi.nlm.nih.gov/25326004/*

Chen, Y. and Tsuchiya, H. (2016). The relationship between the motivation for physical activity and life skills among Chinese and Japanese college students. *Advances in Physical Education, 6*(1), 283-291. https://file.scirp.org/Html/2-1600281_70853.htm

Chowdhury D. (2012). Examining reasons for participation in sport and exercise using the physical activity and leisure motivation scale (PALMS). In: Doctoral dissertation. *Victoria University: School of Social Science and Psychology, Faculty of Arts. https://vuir.vu.edu.au/19943/1/Debadeep_RoyChowdhury.pdf*

Chua, D. (2018). *Tension or trauma release exercises (TRE).* https://www.parkwaycancercentre.com/sg/news-events/news-articles/news-articles-details/tension-or-trauma-release-exercises-tre

Codogno, J.S., Turi, B.C., Kemper, H.C.G., Fernandes, R.A., Christofaro, D.G.D., Monteiro, H.L. (2015). Physical inactivity of adults and 1-year health care expenditures in Brazil. *International Journal of Public Health, 60*(1), 309-306. doi: 10.1007/s00038-015-0657-z.

Conn, V. (2001). Older women's beliefs about physical activity. *Public Health Nursing, 15*(5), 370–378. doi: 10.1111/j.1525-1446.1998.tb00362.x.

Curtis, E.A., Comiskey, C. & Dempsey, O. (2016). Importance and use of correlational research. *Nurse Research, 23*(6), 20-5. DOI: 10.7748/nr.2016.e1382

Darren, E.R., Warburton, C.W.N.& Bredin, S.S.D. (2006). *Health benefits of physical activity: the evidence.* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1402378/

Deci, E. L., & Ryan, R. (1985). Intrinsic motivation and self-determination in human behavior. *New York, NY: Plenum.* https://selfdeterminationtheory.org/SDT/documents/2000_RyanDeci_SDT.pdf

Deci, E.L., Koestner, R., & Ryan, R.M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin, 125*(6), 627–668. doi: 10.1037/0033-2909.125.6.627.

Deci, E.L. & Vansteenkiste, M. (2004). Self-determination theory and basic need satisfaction: understanding human development in positive psychology. *Ricerche di Psicologia,* 27(1), 17–34. https://www.researchgate.net/publication/232549169_Self-determination_theory_and_basic_need_satisfaction_Understanding_human_development_in_positive_psychology

Duggan, M. (2015). *Frequency of social media use.*http://www.pewinternet.org/2015/01/09/frequency-of-social-media-use-2/

Edmunds, J., Ntoumanis, N., &Duda, J. (2006). A test of self-determination theory in the exercise domain. *Journal of Applied Social Psychology, 36*(9), 2240-2265. https://selfdeterminationtheory.org/wp-content/uploads/2014/04/2006_Edmundsetal-1.pdf

Esperat, M.C., Inouye, J., Gonzalez, E.W., Owen, D.C., & Feng, D. (2004). Health disparities among Asian Americans and Pacific Islanders. *Annual Review of Nursing Research,* 22(1), 135–159. https://pubmed.ncbi.nlm.nih.gov/15368771/

Fahey, T.D., Insel, P.M., & Roth, W.T. (2004). *Fit & well: Core concepts and labs in physical fitness and wellness.* London: McGraw-Hill. https://psa.gov.ph/content/fit-and-well-core-concepts-and-labs-physical-fitness-and-wellnes

Felfe, C., Lechner, M., & Steinmayr, A. (2016). Sports and child development. *PLoS One, 11*, e0151729. https://journals.plos.org/plosone/article?id= 10.1371/journal.pone.0151729

Hyde, A.L., Doerksen, S.E., Ribeiro, N.F., & Conroy, D.E. (2010). The independence of implicit and explicit attitudes toward physical activity: introspective access and attitudinal concordance. *Psychology Sports Exercise,11*(1), 387-393.

Imbellino, D. (2014). *How modern technology is making us lazy and stupid!* http://www.pctechauthority.com/tech-editorials/how-technology-makes-us-unproductive.html

Ioan, T.D., Mihaela, C., & Sorin, D. (2011). Socializing students in physical education and sports activities. *Science, Movement and Health,11*(2). https://www.analefefs.ro/anale-fefs/2011/issue-2-supplement/pe-autori/58.pdf

Janet Buckworth (2001) Exercise Adherence in College Students: Issues and PreliminaryResults, Quest, 53:3, 33545, DOI: 10.1080/00336297.2001.10491750

Johnson, F.M. (2010). A naturalistic study of exercise adherence among a community-based sample at a fitness facility. *Degree of Doctor of Philosophy, Major: Interdepartmental Area of Psychological Studies in Education (Counseling Psychology), College at the University of Nebraska.* DOI:10.1615/CritRevPhysRehabilMed.v18.i2.10

Juarbe, T.C., Turok, X.P., & Perez-Stable, E.J. (2002). Perceived benefits and barriers to physical activity among older Latina women. *Western Journal of Nursing Research, 24(*8), 868–886. doi: 10.1177/019394502237699.

Kandula, N.R. & Lauderdale, D.S. (2005). Leisure time, non-leisure time, and occupational activity in Asian Americans. *Annals of Epidemiology, 15*(1), 257–265. doi: 10.1016/j.annepidem.2004.06.006.

Kilpatrick, M., Herbert, E., & Bartholomew, J. (2005). College students' motivation for physical activity; differentiating men's and women's motives for sport participation and exercise. *Journal of American College Health 54*(2): 87-94. doi: 10.3200/JACH.54.2.87-94.

Kim, G. &Gurvitch, R. (2020). The effect of sports-based physical activity program on teachers' relatedness, stress and exercise motivation. *Department of Kinesiology and Health, Georgia State University, Atlanta, GA, USA, 79*(6), 658-670. https://doi.org/10.1177/0017896920906185

Koca, C. & Aşçı, H. (2004). The effect of athletic competence level and gender on attitudes toward physical education and sport. G*azi Journal of Physical Education and Sport Sciences, 9*(1), 15-24. https://www.researchgate.net/publication/7645354_Attitudes_toward_physical_education_and_class_preferences_of_Turkish_adolescents_in_terms_of_school_gender_composition.

Kopczynski, S., Chen-Stute, A., &Kellmann, M. (2014). Attitudes towards physical activity and exercise participation – a comparison of healthy-weight and obese adolescents. *Dtsch Z Sportmed*, *65*(1), 139-143. DOI: 10.5960/dzsm.2014.113

Gladys Michelle J. Lumantas[1] and John Rey Aleria[2], MA

[1] University of the Immaculate Conception
gladysmichelle21@gmail.com
[2] University of the Immaculate Conception

ls physical activity and *ining* , 5(1), 70-73.

e motivation scale: A confirmatory study of the Malay language version. *International Journal of Sport and Exercise Psychology*. DOI:10.1080/1612197X.2017.1321029.

Kumar, S. & Preetha, G. (2012). Health promotion: An effective tool for global health. *Indian Journal of Community Medicine 37*(1), 5-12.

Kylasov, A. & Gavrov, S. (2011). Diversity of Sport: non-destructive evaluation. *Encyclopedia of Life Support Systems, 2*(1), 462–491. http://www.discoveryjournals.org/medicalscience/current_issue/v21/n83/A1.pdf

Lim, W. M., Ting, D. H., Loh, K. Y., Loo, W. T., & Shaikh, S. (2013). Men's motivation to go to the gymnasium: A study of intrinsic and extrinsic motivation. *International Journal of Sport Management & Marketing, 13*(1), 122-139. DOI:10.1504/IJSMM.2013.055205.

Lin, Y., Huang, L., Young, H. (2007). Beliefs about physical activity: Focus groups results of Chinese community elderly in Seattle and Taipe. *Geriatric Nursing, 28*(4), 236–244. https://pubmed.ncbi.nlm.nih.gov/17711788/

Lindberg, S. (2020). *Benefits of strenuous exercise and how to add it to your workout.* https://www.healthline.com/health/strenuous-exercise

Long, A., Palermo, T.M., & Manees, A.M. (2008). Brief report: Using actigraphy to compare physical activity levels in adolescent with chronic pain and healthy adolescents. *Journal of Pediatric Psychology, 33*(1), 660-665. https://pubmed.ncbi.nlm.nih.gov/18180253/

Mackert, M., Stanforth, D., & Garcia, A.A. (2011). Undermining of nutrition and exercise decisions: Experiencing negative social influence. *Public Health Nursing, 28*(5), 402–410. https://pubmed.ncbi.nlm.nih. gov/22092423/

Marquez, D.X. & Mcauley, E. (2006). Gender and acculturation influences on physical activity in Latino adults. *Annual Behavior Medicine, 31*(1), 138-144. DOI: 10.1207/s15324796abm3102_5

McArthur, D., Dumas, A., Woodend, K., Beach, S., & Stacey, D. (2014). *Factors influencing adherence to regular exercise in middle-aged women: a qualitative study to inform clinical practice, Factors influencing adherence to regular exercise in middle-aged women: a qualitative study to inform clinical practice.* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3975263/citedby/

Mcclelland, D.C. (1985). *Human motivation.* Glennview, Il: Scott, Foresman. https://www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/ReferencesPapers.aspx?ReferenceID=391203

Troiano, R.P., Berrigan, D., Dodd, K.W., Masse, L.C., Tilert, T., & Mcdowell, M. (2008). Physical activity in the United States measured by accelerometer. *Medicine and Science in Sports and Exercise, 40* (1),181-188. doi: 10.1249/mss.0b013e31815a51b3

Vallerand, R. J. (2012). From motivation to passion: In search of the motivational processes involved in a meaningful life. *Canadian Psychology, 53*(1), 42-52. DOI:10.1037/a0026377

Walker, B. (2008). Intrinsic motivation and self-determination in exercise and sport. *Sport Psychologist, 22*(1),134–5. Doi: https:/doi.org/10.1123/tsp.22.1.134

World Health Organization (2016). Physical activity strategy for the WHO European Region 2016–2025. *World Health Organization, Copenhagen, Denmark*. https://www.euro.who.int/en/publications/abstracts/physical-activity-strategy-for-the-who-european-region-20162025

Zervou, F., Stavrou, N.A.M., Koehn, S., Zounhia, K., Psychountaki, M. (2017). Motives for exercise participation: The role of individual and psychological characteristics. *Cogent Psychol, 4*. DOI:10.1080/23311908.2017.1345141

Motivated Strategies, Student Engagement, and English Learning Outcomes in Digital Learning Environment of Junior High School Students in Davao City

Gladys Michelle J. Lumantas[1] and John Rey A. Aleria[2]
[2] Faculty, College of Arts and Humanities
University of the Immaculate Conception, Philippines

ABSTRACT

The dwindling in student learning outcomes in English has continued to worry many educational practitioners, and the era of the digital learning environment affects learners. This quantitative descriptive-correlational design sought to determine the influence of motivated strategies and student engagement in online learning on the English learning outcomes of selected junior high school students in Davao City. The researcher used validated-adapted survey questionnaires and statistical tools such as Pearson-r and regression analysis. The results revealed that student-motivated strategies range from average to high, while the mean level of student engagement is high. Students' English learning outcome was outstanding. Moreover, there was a significant relationship between motivated strategies and student engagement in their English learning outcome in the digital learning environment. Among the two independent variables, motivated strategies and student engagement in online learning, only motivated strategies can significantly influence students' English learning outcome on its independent capacity. However, motivated strategies and learning engagement can influence English learning outcomes when taken as a whole.

KEYWORDS*:* Education, learning strategies, motivation, quantitative, descriptive-correlation, Davao City, Philippines

INTRODUCTION

Learning outcomes determine the quality of education and specify the competencies expected to be attained by students after specific learning phases (Wijsman et al., 2016). In the study conducted by Hew et al. (2020), the abrupt switch to fully online learning has been particularly stressful for many students who prefer in-person instruction. Bond (2020) also stated that online learning is often stigmatized as a weaker option that provides a lower quality education than face-to-face learning, affecting students' learning outcomes.

On the other hand, Wijsman et al. (2016) found in their study a declining trend in English performance among Dutch secondary students in online learning. They further saw a linear decline in report card grades from grade 7 to 10 for boys and girls, in all school types, and regardless of initial level. Despite the large numbers enrolled in the online learning environment, very little is known about students' motivation and strategy use in these environments or how they may affect their online learning outcomes (Lin et al., 2017).

Another study by Martirosyan et al. (2015) found that international students, predominantly non-English speaking countries, struggle to understand lectures in remote learning environments. A number of these students have been observed to have declined in their performance. Furthermore, research on virtual charter schools in the United States has found mixed results regarding the effects of remote and classroom learning. Some virtual charter schools achieve student outcomes comparable to or better than traditional schools (SPI-B/DfE, 2020). These baseline statistics may indicate a substantial difference in students' achievement of learning outcomes in English compared to typical classroom settings over remote learning.

In the national arena, Garcia (2017) mentioned that there is still a big chunk of people, especially students, who aren't ready yet to embrace the technological change in the field of education. Junio-Sabio et al. (2020) specified that students' learning at high levels of achievement seems questionable due to the alarming decline in students' learning outcomes in digital education. Sobejana (2016) stated that the use of digital learning would have an impact on the learning outcome of students.

Further, when it comes to students' struggles to achieve excellent English learning outcomes in online learning, the local context is no exception, especially in the new normal. During the regular MANCOM meeting with School Heads, the superintendent expressed dismay over the result of the recent National Achievement Test given to junior high school students, where the Division of Davao del Sur obtained an overall mean rating of 48% and ranked eighth place out of the eleven divisions in Region XI. After a series of discussion, it was revealed that the common problem is the language barrier (Santos, 2020). Students found it difficult to comprehend texts that use English as the medium (Santos, 2020).

The decline in the English learning outcome of students in Davao City has been observed in the online learning modality as evidenced by student absenteeism, passiveness during synchronous periods, and lack of task completion. All seem worse than in a face-to-face classroom due to a lack of motivated strategies and low student involvement, resulting in joint assessment results (Baber, 2020). This has prompted the researcher's curiosity to conduct further research into students' English learning outcomes in digital learning and determine the factors that influence their performance in private schools in Davao City.

Several researchers have already explored the possible reason for the decreasing English learning outcome. Motivated strategies are one salient factor affecting student achievement of English learning outcomes in digital learning. Identifying which strategies are adaptive and maladaptive could help them promote student motivation in return (Omar et al., 2020). They also added that implementing motivational strategies is essential to effective language learning. Moreover, understanding the behavior of the students or how students engage in learning the subject indicates how the instructions and academic practices are going on in an institution (Delfino, 2019) and provides students the luxury to access to learning through technology such as E-learning (Katoua et al., 2016) can contribute to the success of students in their academic endeavor. Thus, the critical role of these factors has given the researcher the reason to identify the influence of motivated strategies and student engagement in English learning outcomes in the digital learning environment.

This research intends to find out the English learning outcome of the students and reveal the association of their performance to their motivated strategies and learning engagement. Moreover, this study focused on the ability of motivated strategies and learning engagement to influence student English learning outcomes in a digital environment. In this study, the researcher focused on the performance of the selected junior high school students in the private schools in Davao City who took English subjects in digital learning.

Theoretical Framework

The theoretical underpinning of the study is anchored on Eccles et al. (1983) Expectancy Value Theory on Learning supported by Achievement Goal Theory and Self-Determination Theory (Watt & Goos, 2017). Expectancy-Value Theory (EVT) outlines the psychological processes that predict achievement related choices and behaviors. Achievement-related choices are posited to be directly influenced by perceived abilities and values. Moreover, EVT postulates that prior self-efficacy leads to later emotional engagement, behavioral, and achievement and asserts that emotional engagement also relates to later behavioral engagement and achievement (Olivier et al., 2019). Another theory that supports EVT is the Self-Determination Theory (SDT).

Relating students' context, independence can be related to choosing the feeling of efficient competence and the sense of belongingness to both teachers and other students, which in a greater sense affects students' interest in learning the subject (Watt & Goos, 2017). The Expectancy Value Theory on Learning, supported by Achievement Goal Theory and Self-Determination Theory, presents an appropriate framework to study behaviors that, in this study, are associated with motivated strategies and student engagement in online learning since such behaviors are those activities conducted to confront with motivations and attitudes, mentioning that social factors influence them. In general, the preceding theories support the assumption that students' perception of the subject, their motivated strategies, and online learning engagement can affect specific behavior (student learning outcome), which also echoes the assumption of the researcher that student motivated strategies and online learning engagement affect their English learning outcome in a digital learning environment.

METHODS

Research Design

This study employed a quantitative design, specifically the descriptive correlational research design. A quantitative approach was used to gather the information that focused on describing a phenomenon across a more significant number of participants, thereby providing the possibility of summarizing characteristics across groups or relationships. Descriptive research is defined as a research method that describes the characteristics of the population or phenomenon studied. Correlational research is a non-experimental quantitative design in which the researcher applies correlational statistics to measure and describe the degree of association among variables or sets of scores (Creswell, 2012). Since the researcher described the variables: motivated strategies, student engagement, and English learning outcome in digital learning, descriptive research was used. Furthermore, the correlational method was used in this research to investigate the significant

relationship between the variables: motivated strategies, and student engagement toward English learning outcomes in a digital learning environment.

Place of the Study

This study was conducted in the three private institutions in Davao City. These institutions are committed to the task of upholding the laws of the Republic with the goals and objectives of the Department of Education. The three schools offer a Complete Basic Education Program. These schools were chosen based on the number of students enrolled and the use of online learning modality. These schools have a more significant portion of the number of students enrolled in private schools. They also utilized a similar process in conducting the online learning modality. Hence, the researcher aims to identify the level of motivated strategies and student engagement and the effect of the variables on English learning outcomes in a digital learning environment.

Respondents

Grade 10 students enrolled in the school year 2021-2022 were the chosen respondents of this study since they are qualified with the standards set by the researcher and are fully equipped with Basic English instructions from Elementary to Junior High school. Grade 10 students were more exposed to online learning modality in preparation for senior high school years, where students are expected to be equipped with advanced computer skills. Thus, the researcher excluded other levels in junior high school (Grades 7 to 9) to ensure that all the respondents could provide timely feedback. Additionally, the number of respondents in this study was determined through purposive-quota sampling, which allowed the researcher to obtain a sample population that best represents the entire population being studied. Furthermore, the researcher strongly believes in Lyon (2015), who affirmed that sample sizes of 200 to 300 respondents provide an acceptable margin of error as a rule. Therefore, there were 250 respondents for this study.

Statistical tools

The data were treated using descriptive statistics, mean, Pearson-r correlation method, standard Deviation, and multiple regression analysis. **Mean,** this was used to describe students' level of motivated strategies, student engagement, and English learning outcomes in a digital learning environment. **Pearson-r Correlation Method,** this was used in testing the relationships between motivated strategies toward English learning outcomes and student engagement toward English learning outcomes amid digital learning among Junior High School students. **Standard Deviation,** this was used to determine how to spread out, how far, or how close the students' responses were to the mean. **Multiple regression analysis,** this was used to determine whether the motivated strategies and student engagement could significantly influence the students' English learning outcomes during digital learning among Junior High School students.

RESULTS AND DISCUSSION

Level of Students' Motivated Strategies in learning English

The data in Table 1 pertain to the level of motivated strategies among junior high school students in Davao City. The table presented five indicators of motivated strategies with their corresponding mean scores and standard deviation. The indicators include the following: learning strategies, self-efficacy, intrinsic value, test anxiety, and self-regulation. For the motivated strategies variable, only the category means were emphasized because the statements in test anxiety and self-regulation indicators are negatively stated.

Table 1
Level of Students' Motivated Strategies in learning English

	Mean	SD	Description
Learning Strategies	4.13	0.69	High
Self-efficacy	3.85	0.76	High
Intrinsic Value	4.29	0.86	Very high
Test Anxiety	3.26	1.13	Average
Self-regulation	3.08	1.16	Average
Overall Mean	**4.39**	**1.16**	**High**

As shown in Table 1, the result means that the use of motivated strategies for learning is fairly evident among junior high school students. The category mean scores of all indicators under motivated strategies range from 3.08 to 4.29, which suggests average to very high. The standard deviation (SD) ranges from 0.69 to 1.16, indicating a small but insignificant dispersion among the respondents' answers in the survey. Since there are indicators that appear to have a standard deviation of more than 1.00, this describes that there are heterogeneous responses. Moreover, based on the results it can be interpreted as students being motivated to learn the subject and using different learning strategies. The findings of the study support the findings of Mazumder and Kilaru (2016) that students who are more motivated to engage in online learning tasks generally will opt to be more strategic, and those who are successful in their academics have a high level of motivated strategies in learning.

Among the five indicators of motivated strategies, intrinsic value obtains the highest mean score of 4.29, which is described as Very High. This means that the students' self-belief in learning the subject is very evident. Its standard deviation is 0.86, which is lower than one, implying that respondents' consistency of responses varies minimally. This result supports the findings of Dietrich et al. (2015) that a variety of excellent student learning outcomes are linked to high levels of intrinsic value. Moreover, students are naturally driven to engage in relatively innovative, interesting, and optimally challenging activities in an online modality (Dietrich et al., 2015). The same table also reveals that self-regulation as one of the indicators of motivated strategies has the lowest category mean, attaining a value of 3.08, described as moderate. This means that the use of self-regulation for learning in junior high school students is fairly evident. Its standard deviation is 1.16, indicating a slight variation in the respondents' consistency of responses. This indicates that respondents of the

study regulate their learning moderately in a digital learning environment. The finding shows an opposite pattern in the study of Mahmoodi et al. (2014), which highlights the notion that Iranian EFL learners use five self-regulation strategies most frequently, including making associations between new English and other English they already know, making sure they study English when they do not understand it, regularly testing their knowledge of English, trying and thinking of ways to make English learning more enjoyable and keeping records of English they have and/or have not mastered.

Level of Students' Learning Engagement

The information presented in Table 2 reveals the students' level of learning engagement among junior high school students in Davao City. Further, this study considers the following indicators: behavioral, cognitive, and emotional engagement. As observed in Table 2, the overall mean of the students' learning engagement is 3.97, which was described as high. Hence, it can be deduced that the students have a high level of engagement in learning English subject, indicating that their engagement in learning is favorable. The category mean of all indicators under the student engagement ranges from 3.86 – 4.06, suggesting a high result. Meanwhile, its standard deviation across all indicators ranges from 0.72 – 1.21, specifying an insignificant variation in subjects' responses to the survey. However, for indicators that appear to have a standard deviation of more than 1.00, this describes that there are heterogeneous responses.

Table 2
Level of Students' Learning Engagement

	Mean	SD	Description
Behavioral Engagement	4.06	0.72	High
Cognitive Engagement	3.86	0.78	High
Emotional Engagement	3.94	0.87	High
Overall Mean	3.97	0.71	High

Out of the three indicators of student engagement, behavioral engagement obtains the highest mean score of 4.06, which is described as high. This indicates that the student's behavioral engagement in online learning is favorable. Its standard deviation is 0.72, which is less than one indicating less spread-out responses of the samples. This result supports the finding of Lei et al. (2018) that out of the three dimensions of student engagement, behavioral has a higher mean compared to other dimensions. He also further explains that behavioral engagement increases students' performance directly, which provides them satisfaction in studying and learning. It can also be gleaned in Table 2 that cognitive engagement is the indicator that holds the lowest category mean rating of 3.86, described as high. This implies that students have favorably engaged in learning English regarding content knowledge and focusing on refining their skills in the subject. Its standard deviation is 0.78, which is lower than one suggesting a small dispersion in the responses of the samples. Although ranked as the indicator with a lowest mean, it is still described as favorable. These findings support the study of Doménech-Betoret et al. (2017) that students use their cognitive skills in dealing with online learning situations that impact their learning outcome.

Level of English Learning Outcome of the Students in Online Learning

Table 3 reveals the level of English learning outcomes among junior high school students across Davao City. As the dependent variable of this study, the only indicator used is the grade point average (GPA) of students in English subject. As gleaned in the table, the overall mean average of the student's GPA in the English general education course is 92.16%, considered very high. This means that the students achieved outstanding English performance in a digital learning environment.

Table 3
Level of English Learning Outcome of the Students in Online Learning

Range of Grade	F	%	Description
90-100	173	69.2	Very High
85-89	54	21.6	High
80-84	18	7.2	Average
75-79	5	2.0	Low
Overall Mean	**92.16**		**Very High**

The results revealing very high English learning outcomes confirms the observation of Bali and Liu (2018) that students got comfortable with online learning since it allowed them to be innovative by employing computer technology in learning. Hence, the students performed better in the digital learning environment. Moreover, it jives with Spitzer and Musslick (2021) and Gonzales et al. (2020) that student performance improved when they learned online. The students' outstanding success in the English course demonstrates that they have adapted to the new learning mode.

Relationship between Motivated Strategies, Student Engagement, and English Learning Outcomes

The correlation result is presented in Table 4. The data shows that both independent variables significantly correlate with English learning outcomes ($p<0.05$). The correlation coefficient (*r-value*) of 0.33 and 0.24, respectively, indicates that any improvement in motivated strategies and learning engagement is associated with students' English learning outcomes. Further, the positive Rvalues indicate that as independent variables' value increases, their English learning outcomes also increase and vice versa.

Table 4

Relationship between Motivated Strategies, Student Engagement, and English Learning Outcomes

Variables Paired with Learning Outcome	r	p	Remarks
Motivated strategies	.33	.00	Significant
Student engagement	.24	.00	Significant

The results corroborate with the findings of Singaram (2016), who revealed in her study that significant moderate relationships were found between academic performance and the motivated strategies subsumed within task value and self-efficacy for learning outcome and was also associated with higher engagement in learning (Singaram, 2016). Further, the study by Lin and Chen (2017) claimed that owning effective motivated strategies in online modality is vital to gain high performance in learning outcome. These findings support Sunawan et al.'s (2017) and Fung et al.'s (2018) studies, which suggest that student engagement is significantly associated with performance, which further means that students have higher performance when engaging in learning. Moreover, a research study conducted in Jordan reported that student engagement in digital learning was associated with students' performance (Al-Alwan, 2014). Similarly, Delfino (2019) found that students' engagement in online learning positively connects with students' performance. Also, along with these outcomes, Mauro (2014) discovered that students are more engaged in the class when teachers utilize more fun lessons and demonstrate enthusiasm in the class.

Regression Analysis of the Variables

Presented in Table 5 is the regression analysis on motivated strategies and learning engagement as influencers of learners' English learning outcomes. The data in the table shows a computed F-ratio of 14.81 and a p-value of 0.00, which means that the two independent variables, motivated strategies, and student engagement in online learning, can significantly influence student English learning outcomes when taken as a whole.

Table 5
Regression Result

Variables Regressed with Learning Outcome	B	p	t	Remarks
Motivated strategies	.31	.00	3.73	Significant
Student engagement	.03	.73	.34	Not Significant
$r^2 = .10$ p = .00 F = 14.81				

Further, between the two independent variables, only motivated strategies could significantly influence the learning outcome on its independent capacity ($p<.05$). The beta coefficient of .31 signifies that every unit improvement in learning strategies leads to a .31 increase in the students' learning outcomes. As a model, the R square of .10 connotes that the change in learning outcome could be attributed to 10% of the combined influence of motivated strategies and student engagement in online learning. Hence, other factors could affect the learning outcome equivalent to 90% that were not covered in this study.

The findings support the study of Al-Alwan (2014) conducted in Jordan which reported that student engagement found to be associated with students' performance, indicating that students'

English learning outcomes can be explained through their motivated strategies. Test anxiety is one indicator of motivated strategies that affect student English learning outcomes. Tugan (2015) and Gursoy and Arman (2016) claimed that test anxiety is an obstacle to an excellent learning outcome and prevents learners from acquiring consistent learning capabilities in different studies. In other respects, students believed that not being well prepared for the exam increased their anxiety. They thought that they were confused before the examinations and, unfortunately, in their perspective, felt they could do much better after the test.

CONCLUSIONS

Based on the findings, the following conclusions were drawn; The level of students' motivated strategies for learning ranges from high to very high. This connotes that the students can independently create their ways to be motivated in the subject; however, it was also found that students often do not regulate their learning. The level of learning engagement among students was described as favorable. This means that they engaged in learning the English subject. However, it can be noted that there are still chances for students to improve their learning engagement, particularly in the cognitive component. The English learning outcome of the students was described as very high. This implies that the English learning outcome of students was outstanding, and the attainment of the learning outcomes is outstanding. The students' outstanding success in the English course demonstrates that they have adapted to the new learning mode. There was a significant relationship between motivated strategies, learning engagement, and English learning outcomes of the students in the digital learning environment. Therefore, English learning outcomes improve when motivated strategies and student engagement in online learning are enhanced. Between the two independent variables, only motivated strategies for learning could significantly influence English learning outcome on its independent capacity. However, the combined influence of motivated strategies and student engagement in online learning is ten percent. This means that the change in English learning outcomes could be attributed to 10 percent of the combined influence of motivated strategies and student engagement in online learning. The result of the study supports the Expectancy Value Theory that student achievement can be directly associated with behavior and motivation. Achievement-related choices are directly influenced by perceived abilities and values, specifically learners' interests.

REFERENCES

Abeysekera, L., & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: Definition, rationale and a call for research. Higher Education Research & Development, 34(1), 1–14.

Ahmed, M. (2015). Students' Motivation toward English Language Learning at Undergraduate Level. Advances in Language and Literary Studies, Vol. 6 No. 3.

Alyami, M., Melyani, Z., Johani, A. A., Ullah, E., Alyami, H., & Sundram, F. (2017). The impact of self-esteem, academic self-efficacy and perceived stress on academic performance: a cross-sectional study of Saudi psychology students. Eur J Educ Sci (EJES), 51–68.

Amir, M. (2018). Language Learning Strategies Used by Junior High School EFL Learners. Language and Language Teaching Journal.

Amiri, M., & Ghonsooly, B. (2015). The relationship between English Learning Anxiety and the Students ' Achievement on Examinations. Journal of Language Teaching and Research, 6(4), 855–865.

Apriani, R. (2019). The Effect of Learning Media and Interest in Learning on English Learning Outcomes. English Journal, 13(2), 68-78.

Battersby, M. (1999). So, What's a Learning Outcome Anyway?.

Bressler, L. A., Bressler, M. E., & Bressler, M. S. (2010). The role and relationship of hope, optimism and goal setting in achieving academic success: A study of students enrolled in online accounting courses. Academy of Educational Leadership Journal, 14(4), 37.

Bond, M. (2020). Facilitating student engagement through the flipped learning approach in K-12: A systematic review. Computers & Education.

Burns, D. J. (2011). How can students improve their performance? An examination of possible correlates. Business Education Digest, 18, 1-10.

Canfield, M. L., Kivisalu, T. M., Van Der Karr, C., King, C., & Phillips, C. E. (2015). The Use of Course Grades in the Assessment of Student Learning Outcomes for General Education. SAGE Open.

Castelo, M. (2020). Factors to consider when preparing for E-learning. EdTech Magazine.https://edtechmagazine.com/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/k12/article/2020/03/factors-consider-when-preparing-e-learning-perfcon

Chen, P. S. D., Gonyea, R., & Kuh, G. (2008). Learning at a distance: Engaged or not? Innovate: Journal of Online Education, 4(3): https://nsuworks.nova.edu/innovate

Creswell, J. W. (2012). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Boston, MA: Pearson Education, Inc.

Cooper, K. S. (2014). Eliciting engagement in the high school classroom a mixed-methods examination of teaching practices. American Educational Research Journal, 51, 363–402.

Davis, H. A., Summers, J. J., & Miller, L. M. (2012). An interpersonal approach to classroom management: Strategies for improving student engagement. Corwin Press.

Delfino, A. P. (2019). Student Engagement and Academic Performance of Students of Partido State University. Asian Journal of University Education, 15(1), n1.

Dietrich, J., Dicke, A. L., Kracke, B., & Noack, P. (2015). Teacher support and its influence on students' intrinsic value and effort: Dimensional comparison effects across subjects. Learning and Instruction, 39, 45-54.

Dietrich, J., Dicke, A.-L., Kracke, B., & Noack, P. (2015). Teacher support and its influence on students' intrinsic value and effort: Dimensional comparison effects across subjects. ResearchGate: https://www.researchgate.net/publication/277726102_Teacher_support_and_its_influence_on_students'_intrinsic_value_and_effort_Dimensional_comparison_effects_across_subjects

Doménech-Betoret, F., Abellán-Roselló, L., & Gómez-Artiga, A. (2017). SelfEfficacy, Satisfaction, and Academic Achievement: The Mediator Role of Students' Expectancy-Value Beliefs. Frontiers in Psychology: https://www.frontiersin.org/articles/10.3389/fpsyg.2017.01193/full

Duncan, T., & Mckeachie, W. J. (2010). The Making of the Motivated Strategies for Learning Questionnaire. Educational Psychologist, 40(2):117-128.

Garcia, M. (2017). E-Learning Technology Adoption in the Philippines: An Investigation of Factors Affecting Filipino College Students' Acceptance of Learning Management Systems. The International Journal of E-Learning and Educational Technologies in the Digital Media. 3. 118-130. 10.17781/P002374.

Garcia, T., & Pintrich, P. R. (1996). Assessing students' motivation and learning strategies in the classroom context: The Motivated Strategies for Learning Questionnaire. In Alternatives in assessment of achievements, learning processes and prior knowledge (pp. 319-339). Springer, Dordrecht.

Gonzales, D. E. (2019, December 29). YEAR-END REPORT: DepEd in 2019: The quest for quality education continues. Manila Bulletin: https://mb.com.ph/2019/12/29/year-end-report-deped-in-2019-the-questfor-quality-education-continues/

Grunschel, C., Schwinger, M., Steinmayr, R., & Fries, S. (2016). Effects of using motivational regulation strategies on students' academic procrastination, academic performance, and well-being. Learning and Individual Differences, 49, 162-170.

Hatch, D. K. (2017). The structure of student engagement in community college student success programs: A quantitative activity systems analysis. AERA Open, 3(4), 2332858417732744.

Hayat, A., Shateri, K., & Amini, M. (2020, March). Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: a structural equation model. Retrieved from BMC Medical Education: https://doi.org/10.1186/s12909-020-01995-9

Hew, K. F., Jia, C., Gonda, D. E., & Bai, S. (2020). Transitioning to the "new normal" of learning in unpredictable times: pedagogical practices and learning performance in fully online flipped classrooms. International Journal of Educational Technology in Higher Education, 57

Jackson, C. R. (2018). Validating and adapting the motivated strategies for learning questionnaire (MSLQ) for STEM courses at an HBCU. Aera Open, 4(4), 2332858418809346.

Jones, R. D., Marrazo, M. J., & Love, C. J. (2008). Student engagement— creating a culture of academic achievement. Rexford, NY: International Center for Leadership in Education.

Jude, L. T., Kajura, M. A., & Birevu, M. P. (2014). Adoption of the SAMR model to assess ict pedagogical adoption: A case of Makerere University. International Journal of e-Education, e-Business, eManagement and eLearning, 4(2), 106-115.

Junio-Sabio, C., Manalo, M. M., & Vigonte, F. G. (2020). Determining Students' Learning Outcomes in Basic Education: A Proposed CPD for Teachers. International Journal of Information and Education Technology, Vol. 10, No. 1.

Kenda, C. (2019). Self-efficacy and why believing in yourself matters. Very Well Mind.

King, R. B. (2015). Sense of relatedness boosts engagement, achievement, and well-being: A latent growth model study. Contemporary Educational Psychology, 42, 26–38. https://doi.org/chqz

Lamborn, S., Newmann, F., & Wehlage, G. (1992). The significance and sources of student engagement. Student engagement and achievement in American secondary schools, 11-39.

Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. Social Behavior and Personality: an international journal, 46(3), 517-528.

Lekwa, A. J., Reddy, L. A., & Shernoff, E. S. (2019). Measuring teacher practices and student academic engagement: A convergent validity study. School Psychology, 34(1), 109.

Lin, M. H., & Chen, H. G. (2017). A study of the effects of digital learning on learning motivation and learning outcome. Eurasia Journal of Mathematics, Science and Technology Education, 13(7), 3553-3564.

Lizzio, A. Wilson, K., & Simons, R. (2002). University Students' Perceptions of the Learning Environment and Academic Outcomes: implications for theory and practice. Studies in Higher Education, 27 (1), 27-52

Ly, P., Degeng, N. S., & Setyosari, P. (2016). Relationship between Achievement

Motivation and Learning Outcomes on Land Law Course vy Student of PPKN Nusa Cendana University. Retrieved from International Conference on Education: https://core.ac.uk/download/pdf/267023499.pdf

Mahajan, M., & Sarjit Singh, M. K. (2017). Importance and Benefits of Learning Outcomes. IOSR Journal of Humanities and Social Science. 22. 65-67. 10.9790/0837-2203056567.

Martin, J., & Torres, A. (2016). User's guide and toolkit for the surveys of student engagement: the high school survey of student engagement and the middle grade school survey of student engagement. National Association of Independent Schools. https://www.nais.org/Articles/Documents/Member/2016 HSSSE-report-full-FINAL.pdf.

Maulana, R., Opdenakker, M. C. J. L., Den Brok, P., & Bosker, R. J. (2012). Teacher–student interpersonal relationships in Indonesian lower secondary education: Teacher and student perceptions. Learning environments research, 15(2), 251-271.

Mazumder, Q. H., & Kilaru, V. (2016, June). Motivation and learning strategies of high school and university students. https://peer.asee.org/motivation-andlearning-strategies-of-high-school-and-university-students.pdf

Morales, M., Hernandez, R., Barchino, R., & Medina, J. A. (2015). MOOC using cloudbased tools: A study of motivation and learning strategies in Latin America. International Journal of Engineering Education, 31(3), 901–911.

Nelson Laird, T. F., Seifert, T. A., Pascarella, E. T., Mayhew, M. J., & Blaich, C. F. (2014). Deeply affecting first-year students' thinking: Deep approaches to learning and three dimensions of cognitive development. The Journal of Higher Education, 85(3), 402-432.

Nguyen, H., & Terry, D. R. (2017). English learning strategies among EFL learners: A narrative approach. IAFOR Journal of Language Learning, Volume 3 – Issue 1.

Nguyen, T. D., Cannata, M., & Miller, J. (2018). Understanding student behavioral engagement: Importance of student interaction with peers and teachers. The Journal of Educational Research, 111(2), 163-174.

Nortvig, A. M., Petersen, A. K., & Balle, S. H. (2018). A literature review of the factors influencing e_learning and blended learning in relation to learning outcome, student satisfaction and engagement. Electronic Journal of Elearning, 16(1), pp46-55.

Oweis, T. I. (2018). Effects of using a blended learning method on students' achievement and motivation to learn English in Jordan: A pilot case study. Journal of Education Research International.

Pietarinen, J., Soini, T., & Pyhältö, K. (2014). Students' emotional and cognitive engagement as the determinants of well-being and achievement in school. International Journal of Educational Research, 67, 40–51. https://doi.org/chq3

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. Journal of educational psychology, 82(1), 33.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the Motivated Strategies for Learning Questionnaire (MSLQ). Educational and Psychological Measurement, 53(3), 801-813. doi: 10.1177/0013164493053003024

Pintrich, P., Smith, D. A. F., Gracia, T., & McKeachie, W. (1991). Manual for the Use of the Motivated Learning for Strategies Questionnaire. Ann Arbor, Michigan: University of Michigan.

Rashid, S., & Rana, R. A. (2019). Relationship between the levels of motivation and learning strategies of prospective teachers at higher education level. Bulletin of Education and Research, Vol. 41, No. 1 pp. 57-66.

Renninger, K. A., & Bachrach, J. E. (2015). Studying triggers for interest and engagement using observational methods. Educational Psychologist, 50, 58–69. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/00461520.2014.999920

Sadi, O., & Uyar, M. (2013). The Relationship Between Self-Efficacy, SelfRegulated Learning Strategies And Achievement: A Path Model. J Baltic Sci Educ, 21–33.

Şahin, M., Seçer, Ş. Y., & Erişen, Y. (2016). Perception of 'English' and motivation in learning English. Journal of Education and Training Studies, Vol. 4, No. 9.

Salehi, M. & Marefat, F. (2014). The effects of foreign language anxiety and test anxiety on foreign language test performance. Theory and practice in language studies, 4(5), 931–940. doi:10.4304/tpls.4.5.931-940

Schnitzler, K., Holzberger, D., & Seidel, T. (2020). All better than being disengaged: Student engagement patterns and their relations to academic self-concept and achievement. European Journal of Psychology of Education.

Schneider, J., Hutt, E. (2014). Making the grade: A history of the A-F marking scheme. Journal of Curriculum Studies, 46, 201-224.

Scientific Pandemic Influenza Group on Behaviours (SPI-B) and the Department for Education (DfE). (2020). COVID-19: Benefits of remaining in education - evidence and considerations. Scientific Advisory Group for Emergencies.

Seals, Christopher. (2016). Expectancy Value Theory: Racializing values in motivation theory using racial opportunity cost. Urban Education Research & Policy Annuals. 4. 56-70.

Shahzad, K., & Naureen, S. (2017). Impact of teacher self-efficacy on secondary school students' academic achievement. Journal of Education and Educational Development, Vol. 4 No. 1.

Shernoff, D. J. (2013). Optimal learning environments to promote student engagement. New York, NY: Springer. http://link.springer.com/content/pdf/10.1007/978-1-4614-7089-2.pdf

Singaram, V. S. (2016). Motivated strategies for learning and their association with academic performance of a diverse group of 1st-year medical students. African Journal of Health Professions Education.

Smit, K., de Brabander, C. J., Boekaerts, M., & Martens, R. L. (2017). The selfregulation of motivation: Motivational strategies as mediator between motivational beliefs and engagement for learning. International Journal of Educational Research, 82, 124-134. https://doi.org/10.1016/j.ijer.2017.01.006

Sobejana, N. (2016). Educational technology and academic performance of students in Basic English in selected higher education institutions in Davao del Sur. International Journal of Logistics Research and Applications, 1(1), 1-13. Steinmayr, R., Weidinger, A. F., Schwinger, M., & Spinath, B. (2019, July). The Importance of Students' Motivation for Their Academic Achievement.

Suraya, W. H., & Jamal. (2017). Self-efficacy and academic performance of secondary schools students in Perak: An exploratory outlook . International Journal of Academic Research in Progressive Education and Development, Vol. 6, No. 3.

Takahashi, T. (2018). Motivation of students for learning English in Rwandan schools. Issues in Educational Research, v28 n1 p168-186.

Tugan, S. (2015). Relationship Between Test Anxiety and Academic Achievement. Kara Elmas Journal of Educational Sciences, 3, 98-106.

Van Rooij, E. C., Jansen, E. P., & van de Grift, W. J. (2017). Secondary school students' engagement profiles and their relationship with academic adjustment and achievement in university. Learning and Individual Differences, 54, 9-19.

Vann, S. (2016). Learning approaches and learning outcomes of the English University curriculum. Master's Degree Studies in International and Comparative Education.

Voelkl, K. E. (2012). School identification. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), Handbook of research on student engagement (pp. 193– 218). New York, NY: Springer.

Wael, A., Asnur, M. N. A., & Ibrahim, I. (2018). Exploring students' learning strategies in speaking performance. International Journal of Language Education, 2(1), 65-71.

Wang, H. S., Shi, W., Wymore, R. S., Pan, Z., Cohen, I. S., McKinnon, D., & Dixon, J. E. (1997). Identification of two nervous system-specific members of theerg Potassium Channel Gene Family. Journal of Neuroscience, 17(24), 9423-9432.

Wang, J. (2012). Revised motivated strategies for learning questionnaire for secondary school students. The International Journal of Research and Review, Volume 8.

Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. American Educational Research Journal, 47, 633–662.

Wara, E., Aloka, P. J., & Odongo, B. C. (2018). Relationship between emotional engagement and academic achievement among Kenyan Secondary School Students. Academic Journal of Interdisciplinary Studies, 7(1), 107.

Wijnia, L. (2020). Students' motivation in secondary and post-secondary education.

Wilson, K., & Narayan, A. (2016). Relationships among individual task self efficacy, self-regulated learning strategy use and academic performance in a computer-supported collaborative learning environment. Educational Psychology, 36(2), 236-253.

Yarborough, C. B., & Fedesco, H. N. (2020). Motivating students. Vanderbilt University Center for Teaching. https://cft.vanderbilt.edu//cft/guides-subpages/motivating-students/.

Yazzie-Mintz, E., & McCormick, K. (2012). Finding the humanity in the data: Understanding, measuring, and strengthening student engagement. In S. L. Christenson, A. L. Reschly, & C. Wiley (Eds.), Handbook of research on student engagement. (pp. 743–761). New York, NY: Springer

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