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Happiness Index Towards Teaching Performance Among Science Teachers

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Abstract — Teaching performance was widely acknowledged as a critical factor influencing student achievement and educational quality. While teacher happiness has traditionally been associated with enhanced motivation and instructional efficacy, recent research suggests that the relationship between happiness and teaching performance is neither linear nor universally applicable. This study addressed a significant gap in the literature by investigating the direct relationship between the happiness index and teaching performance among science teachers. Specifically, it examined whether dimensions of happiness, such as personal well-being, work-life balance, self-control, resilience, commitment, and motivation, correlated with observable teaching performance metrics in the science education context. Employing a descriptive-correlational research design, the study analyzed data from a representative sample of science teachers to assess the impact of each component of the Happiness Index on various indicators of teaching effectiveness. The findings aimed to clarify the extent to which teacher happiness serves as a predictor of instructional performance, offering evidence-based insights for policymakers, school leaders, and educators. The results informed strategic interventions to improve educational outcomes, either by reinforcing teacher well-being initiatives or by redirecting focus toward structural and professional supports. Ultimately, this research contributed to a more nuanced understanding of how emotional and background factors interacted to shape science teaching performance.

Keywords — Teaching performance among science teachers, descriptive-correlational design, teachers, DepEd Davao City Division.

I. Introduction

Teaching performance is a key factor in educational quality and student success, directly influencing student achievement, engagement, and motivation (Darling-Hammond, 2017). While it's often assumed that teacher happiness enhances performance by boosting motivation, commitment, and instructional quality (Amanze, 2021; Macuka et al., 2020) recent research suggests the relationship is more nuanced. Some studies support the idea that happier teachers perform better and are less likely to leave the profession. However, others argue that teaching effectiveness is more strongly influenced by factors such as professional skills, classroom management, and institutional support. Hargreaves (2019) and Skaalvik & Skaalvik (2017) found

that while job satisfaction helps reduce burnout, it doesn't necessarily lead to better teaching or improved student outcomes. These mixed findings highlight that while happiness contributes to overall well-being, it is not a standalone predictor of teaching performance.

Science educators face unique demands that impact teaching performance beyond emotional well-being. Effective science teaching requires deep subject knowledge, hands-on instruction, and the ability to foster critical thinking (National Research Council, 2012). However, challenges like low pay, student behavior issues, and administrative overload cited in both U.S. (Nelson-Coffey et al., 2020) and Philippine contexts (PIDS, 2023) can lead to burnout and reduced effectiveness. While teacher well-being is a growing research focus, few studies directly examine how the Happiness Index relates to science teaching performance. Most existing research emphasizes general well-being or its indirect effects on students (Demiriz et al., 2016; White, 2023), without linking specific happiness factors to performance outcomes. For instance, Magtubo and Dela Cerna (2023) assess happiness dimensions like work-life balance and resilience but fall short of connecting them to measurable teaching effectiveness. This study addresses that gap by investigating whether elements of the Happiness Index such as motivation, commitment, and self-control affect science teachers' performance. The goal is to provide evidence-based insights to inform policies that support both teacher well-being and instructional quality.

Litertature Review

The literature on the happiness index of science teachers reveals that while emotional well-being enhances teaching effectiveness, especially in developed countries with strong institutional support, performance in developing nations often remains high due to cultural expectations and structured accountability despite low happiness levels. Science teachers face unique stressors such as heavy workloads, limited advancement, and poor work-life balance exacerbated by the COVID-19 pandemic. Reforms like flexible scheduling and mental health support are recommended to improve well-being, which is essential for sustaining quality science education and resilient learning environments.

Self-control and resilience are key traits for science teachers, helping them manage stress, avoid burnout, and maintain well-being. These traits, supported by emotional intelligence, enhance job satisfaction and teaching effectiveness. Passion, commitment, and motivation especially when aligned with subject interest boost teacher performance and student outcomes. However, challenges like burnout and poor support can hinder these qualities. Strengthening teacher motivation through supportive policies and training is crucial for retaining a strong science education workforce.

Teaching performance in science encompasses the ability to plan, deliver, and assess lessons that promote inquiry, critical thinking, and hands-on learning. Effective science teachers combine deep content knowledge with pedagogical skills to engage students through experiments, projects, and varied assessment methods. Performance is shaped by a teacher's adaptability,

creativity, and capacity to manage diverse learning environments, with professional development playing a key role in maintaining instructional quality. While teacher happiness has been positively linked to motivation, resilience, and classroom engagement, it is not the sole determinant of teaching performance. Studies show that factors like professional skills, institutional support, and social networks often mediate the impact of happiness. Therefore, understanding how happiness interacts with these elements is vital to enhancing science teaching and fostering scientific literacy.

II. Methodology

Research Design

This study employed a descriptive-correlational research design, a quantitative method used to explore relationships between variables without manipulating them. This approach allows researchers to observe and measure variables as they naturally occur, focusing on describing their current state and the associations between them (Suárez et al., 2017; Tessler et al., 2019). Descriptive designs are flexible and can incorporate various methods to investigate one or more variables within a specific context (Creswell, 2017).

A correlational design explicitly examines the strength and direction of relationships between two or more variables within a single group without inferring causality. It is a non-experimental approach that identifies whether variables increase or decrease together but does not test cause-and-effect relationships (Esser et al., 2017).

In this study, the descriptive-correlational design was used to investigate the relationship between the happiness index and teaching performance among science teachers. Data were collected through surveys, and statistical analyses were conducted to determine the direction and strength of the relationship between these variables (Creswell & Creswell, 2017). While this design does not establish causality, it provides valuable insights into patterns and associations within the sample. The study aimed to clarify the correlation between the happiness index and teaching performance, thereby supporting broader generalizations about these variables in educational settings (Fraenkel, Wallen, & Hyun, 2015).

Additionally, this study sought to describe the happiness index among science teachers in three major schools in Davao City. By systematically gathering numerical data, the research assessed both the extent of teacher happiness and its relationship with teaching performance. Consistent with the descriptive-correlational framework, the focus was on observing existing conditions and quantifying relationships rather than determining causality (Suárez et al., 2017). This approach enabled a comprehensive understanding of teacher happiness aligned with the study's objectives.

Research Respondents

The study involved 70 science teachers selected through simple random sampling from three large public senior high schools Schools A, B, and C in Cluster 2 of the Davao City Division. This method, recommended by Creswell and Creswell (2018), ensured fair representation from a geographically dispersed population. These teachers, ranging from Teacher I to Teacher III, were actively engaged in classroom instruction and selected based on their experience and commitment to teaching. Their perspectives were crucial in exploring factors that influence both their happiness and instructional effectiveness. Situated in the diverse educational landscape of Davao City, their daily experiences were shaped by various classroom dynamics affecting both performance and well-being. The careful screening and sampling process helped ensure the validity and reliability of the study's findings on the relationship between teacher happiness and teaching performance.

Research Locale

Davao City, a major urban center in Mindanao, is known for its strong commitment to education, with numerous public secondary schools serving a diverse student population. This study focuses on three of the city's largest and most established senior high schools, which play key roles in promoting academic excellence. School A, located in Matina Crossing, enrolls over 7,000 students and offers a wide range of academic and extracurricular programs that support holistic development (Department of Education, 2021).

School B, along Maa Road, is known for its inclusive education and innovative teaching and community engagement strategies (Davao City Education Office, 2022). School C, in the Poblacion District, emphasizes science and technology, equipping students with critical thinking and problem-solving skills through well-equipped labs and student-centered instruction (SunStar Davao, 2023). These schools, with their large enrollments and progressive approaches, provide an ideal setting to explore the relationship between the Happiness Index and teaching performance among science educators, aligning with the city's broader educational goals.

Research Instrument

Data collection in this study focused on assessing the happiness index and teaching performance of science teachers through their classroom practices. In the quantitative phase, an adapted questionnaire served as the primary research instrument. The first research questionnaire was developed based on the dimensions of happiness identified by Magtubo (2023), which include personal happiness, work-life balance, self-control and resilience, commitment and enjoyment, and provision and motivation. A total of sixty-two (62) items were adapted and modified to address the specific context of science teachers. Before data collection, the instrument underwent content validation by three experts in the field, whose suggestions and recommendations were incorporated to enhance clarity and relevance. The consolidated validation results confirmed the instrument's high validity. Additionally, the reliability of the questionnaire was established with an assumed

Cronbach's alpha coefficient of 0.802, indicating acceptable internal consistency in line with standards for educational research instruments (Tavakol & Dennick, 2011).

Data Gathering Procedure

The data collection for this study was conducted through a series of systematic and carefully planned procedures to ensure the ethical integrity and reliability of the findings. Initially, the research manuscript was submitted for a thorough review by the research technical panel, during which the study design, objectives, and methodology were evaluated to ensure compliance with academic standards and ethical guidelines. To obtain permission for the study's conduct, a formal request was made, and a notification to commence was granted by the Program Chairperson and the Dean of the Institute of Advanced Studies at the College. Subsequently, a formal letter of permission and approval was requested from and issued by the Division of Davao City in compliance with institutional protocols and local regulations. Following approval from the Division Office, formal letters were sent to the heads of the identified schools, seeking permission to conduct the study within their respective institutions.

Throughout the process, ethical research practices were observed to ensure compliance with the principles of confidentiality, voluntary participation, and informed consent. The respondents were informed that participation was voluntary and that they could withdraw from the study at any point without any negative consequences. This assurance was emphasized to respect the autonomy of the participants and to foster an atmosphere of trust. Respondents who opted not to continue during the data collection process were allowed to withdraw freely without penalty or coercion.

The respondents were identified through purposive sampling, in which science teachers who met specific criteria aligned with the study's objectives were selected. Before data collection, all respondents were provided with information about the study's purpose, procedures, and the voluntary nature of their participation. This process was implemented to safeguard the rights and welfare of the participants and to promote trustworthiness and transparency throughout the research. The entire data collection process was meticulously organized to enable efficient data gathering and management while upholding ethical standards and ensuring the validity of the results. These steps, collectively, contributed to the ethical soundness of the study and strengthened the credibility of its findings.

Data Analysis

Data gathered through questionnaires were analyzed using two statistical tools: Mean. The mean was used to determine the average levels of both teaching performance and the happiness index among science teachers. It served as a measure of central tendency, summarizing the overall data by dividing the total scores by the number of respondents. This allowed the researcher to quantify the general levels of happiness and performance.

Pearson r. Pearson's correlation coefficient was used to examine the strength and direction of the relationship between the happiness index and teaching performance. This tool provided a value ranging from -1 to +1, indicating whether the relationship was positive, negative, or non-existent. Descriptive interpretations of r-values were applied to assess the extent of the correlation.

Chi-Square Test. The Chi-Square test was applied to analyze categorical data and determine whether there were significant differences between observed and expected frequencies. This test helped assess the relationship between categorical variables, such as gender and years of service, and their association with the happiness index or teaching performance. It is beneficial for evaluating the fit of observed data to hypothesized distributions in the study.

Ethical Considerations

This study upheld strict ethical standards to ensure the safety, privacy, and trust of all participants, guided by the principles of respect for persons, beneficence, and justice outlined in the Belmont Report (2020). Coordination with the Davao City Division and school principals was conducted prior to data collection, with formal letters explaining the study's objectives and procedures.

Seventy (70) science teachers participated voluntarily after being fully informed of the research purpose and process. They were given time to ask questions, and consent forms were provided to confirm their understanding and agreement. Confidentiality was maintained in accordance with the Data Privacy Act of 2012 (RA 10173), and participants could withdraw at any time without consequence. Due to initial concerns about anonymity, additional measures were taken to protect identities and build trust. Personal data were anonymized, securely stored, and accessible only to the researcher. Respect for persons was upheld through voluntary participation and informed consent (Ozolinčiūtė et al., 2022). Beneficence was ensured by minimizing risks and safeguarding privacy (Suárez et al., 2017), while aiming for positive contributions to the education sector. Justice was observed by treating all eligible science teachers equally, regardless of age, gender, or rank, using fair and transparent purposive sampling.

Overall, the study prioritized ethical integrity to support both participant welfare and meaningful educational insights.

III. Results and Discussion

TABLES

Table 1. Demographic Profile of Science Teachers

Demographic Profile	Counts	% of Total
Gender		
Male	28	40.0
Female	42	60.0
Total	70	100
Years in Service		
2 years	1	1.4
3 years	17	24.3
4 years	14	20.0
5 years	11	15.7
6 years	8	11.4
7 years	8	11.4
8 years	7	10.0
9 years	3	4.3
10 years	1	1.4
Total	70	100
Rank		
Teacher 1	6	8.6
Teacher 2	46	65.7
Teacher 3	18	25.7
Total	70	100

Table 2. Happiness Index of Science Teachers

Happiness Index	Mean	SD	Descriptive Equivalent
Personal Happiness	3.800	0.75	High
Work and Life Balance	3.704	0.77	High
Self-control & Self-resilience	3.712	0.64	High
Commitment and Enjoyment	3.780	0.80	High
Provision and Motivation	3.744	0.76	High
Overall	3.748	0.66	High

Table 3. Level of Teaching Performance of Science Teachers

Indicator	Mean	SD	Adjectival Rating
Individual Performance Commitment and Review Form (IPCRF) Rating	4.320	0.377	Very Satisfactory

Table 4. *Significant Association of the Happiness Index and Demographic Profile of Science Teachers*

Variables	N	Value	df	p-value	Interpretation	Decision on Ho
Happiness Index and Years in Service	70	551	544	0.406		
Happiness Index and Gender	70	67.9	68	0.480	Not significant	H_{01} is Accepted
Happiness Index and Rank	70	137	136	0.453		

Table 5 *Test of Significant Relationship Between Happiness Index of Science Teachers and their Teaching Performance*

Variables	N	r-value	p-value	Remarks	Decision on Ho
Happiness Index and Teaching Performance	70	-0.137	0.254	Not significant	H_{02} is Accepted

Discussion

This study supports existing research showing that while teacher happiness contributes to overall well-being and job satisfaction, it does not directly improve teaching performance. Studies by Chang (2019), Gökçen et al. (2024), and Toropova et al. (2021) emphasize that factors like skills, experience, and institutional support are more strongly linked to teacher effectiveness. Consistently, this study found no significant correlation between the happiness index and science teachers' performance. Role Theory (Biddle, 1979) and Organizational Commitment Theory (Meyer & Allen, 1991) help explain these findings. Teachers may perform well not because they are happy, but because they identify with their professional role and feel a strong sense of responsibility, especially within structured systems like the IPCRF. Their performance is sustained by role expectations and organizational commitment rather than emotional well-being alone. These results have important implications. They highlight the need for strong institutional support clear performance standards, regular feedback, and targeted professional development (Collie et al., 2016) to maintain teaching quality. Schools should also implement support strategies such as mentoring, leadership development, and staff recognition (Borman & Dowling, 2008), while addressing workload and work-life balance to enhance overall job satisfaction (Klassen et al., 2019). In sum, happiness is valuable but not a direct predictor of teaching performance. Strengthening professional support systems and role-based motivation may be more effective in sustaining high performance among educators.

IV. Conclusion

The study found that science teachers, predominantly female and in mid-career roles, reported high levels of happiness especially in personal well-being and commitment and demonstrated very satisfactory teaching performance. However, no significant link was found between their happiness and either demographic traits or teaching effectiveness. This supports Role Theory and Organizational Commitment Theory, which suggest that teachers perform well due to professional norms and obligations, not necessarily emotional states. Thus, while teacher happiness supports morale, improving performance may depend more on professional development, resources, and leadership support than on emotional well-being alone.

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