Digital Empathy and Online Emotional Connections among Teenagers at Iligan City National High School

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ABSTRACT

This study, titled *"Digital Empathy and Online Emotional Connections Among Teenagers at Iligan City National High School,"* aimed to determine how empathy and emotional connections are expressed and developed through online interactions among adolescents. The main goal was to assess the presence and relationship between digital empathy and online emotional connections among high school students.

Data were gathered through Google Forms surveys using a descriptive-correlational design to examine the link between digital empathy and emotional connection. Results showed that teenagers display digital empathy online, showing care and understanding through social media and chats. Emotional connections exist but vary in depth based on interaction quality.

Overall, while digital empathy promotes openness, face-to-face interaction remains vital for deeper connection. The findings encourage educators to foster mindful and empathetic online behavior among students.

Keywords: Digital Empathy, Online Emotional Connection, Teenagers, Social Media Interaction, Online Communication, Descriptive-Correlational Study, Digital Behavior, Adolescent Relationships, Emotional Awareness

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The Problem And Its Background

This chapter introduces the research topic, focusing on the significance of online emotional connections among teenagers in the digital age. It outlines the background of the study, the research problem, objectives, research

questions, scope and limitations, and the significance of the study. By establishing the foundation of the research, this chapter aims to provide a clear understanding of the study's purpose and its relevance to contemporary discussions on digital empathy and adolescent development.

INTRODUCTION

Teenagers' everyday lives are now significantly shaped by the internet, which influences their connections, communication, and emotional expression. Generation Z members are digital natives who have always had access to technology, so social media and online communication are essential to their social lives (Ives, 2020). The American Academy of Child and Adolescent Psychiatry (AACAP, 2025) estimates that 90% of teenagers between the ages of 13 and 17 use social media, with the majority of them using sites like YouTube, TikTok, Instagram, and Snapchat for more than nine hours every day. Research indicates that although young people can demonstrate empathy on the internet, overall empathy levels may have somewhat decreased as face-to-face interaction has been replaced by online communication (Carrier et al., 2022).

However, because of the immediacy and anonymity of digital platforms, many teenagers have shallow emotional connections even though they engage with them frequently online (Sultan & Khan, 2025). In virtual environments, the lack of nonverbal clues like tone of voice and facial expressions restricts emotional comprehension and may lessen true empathy. These tendencies can impede the growth of practical emotional and social competencies, resulting in feelings of loneliness and diminished self-worth (Kanekar, 2020). Although technology has emerged as a means of communication, it has also produced emotional barriers that are still poorly understood (Kurian, 2025).

In light of these difficulties, this study looks at how teens at Iligan City National High School use social media sites like Facebook, Instagram, TikTok, Messenger, and Telegram to develop emotional bonds and demonstrate empathy. In particular, it looks at how digital behaviors—such as the use of emojis, reactions, and language—reflect empathy and affect peers' emotional comprehension.

This study is important because it clarifies how teens' emotional health in a technologically advanced society is impacted by digital communication. Teachers, parents, and legislators can use the research's findings to create digital literacy initiatives that increase empathy, lessen cyberbullying, and create emotionally safe online spaces. The study's ultimate goal is to promote more meaningful and healthful digital interactions between teenagers.

Statement of the Problem

The objective of this study is to investigate the relationship between digital empathy and online emotional connections among teenagers. It aims to explore how young people express emotions, provide support, and build meaningful interactions in online platforms, as well as how digital empathy shapes the quality of their emotional bonds.

Specifically, the study aims to answer the following questions:

1. How frequently do teenagers use online platforms (e.g., Messenger, TikTok, Instagram) to connect with peers?

2. How do teenagers express and share emotions in online interactions?

3. What is the relationship between online emotional connections and teenagers' level of digital empathy?

4. Does communication quality mediate the relationship between online connections and digital empathy?

5. Does the type of platform used moderate this relationship?

THEORETICAL FRAMEWORK

The Social Presence Theory (Short, Williams, & Christie, 1976) emphasizes how different communication media provide varying levels of presence, where platforms with higher social presence, such as video calls and Instagram stories, foster stronger emotional connections compared to text-based interactions. Complementing this, Empathy Theory (Davis, 1983) highlights both cognitive empathy—understanding another person's perspective—and affective empathy—emotionally responding to another's feelings. In digital contexts, these aspects are reflected in teenagers' ability to demonstrate digital empathy through messages, emojis, tone, and timing. Similarly, the Computer-Mediated Communication (CMC) Theory explains that although online interactions may lack physical cues, users adapt by employing emojis, GIFs, memes, and language styles to build intimacy and emotional closeness. Finally, the Uses and Gratifications Theory (Blumler & Katz, 1974) suggests that individuals actively choose media to satisfy personal needs such as companionship, emotional support, and social interaction, which explains why teenagers often turn to online platforms to fulfill their emotional and relational needs. Together, these theories provide a strong foundation for understanding how teenagers form, maintain, and express emotional connections in the digital space.
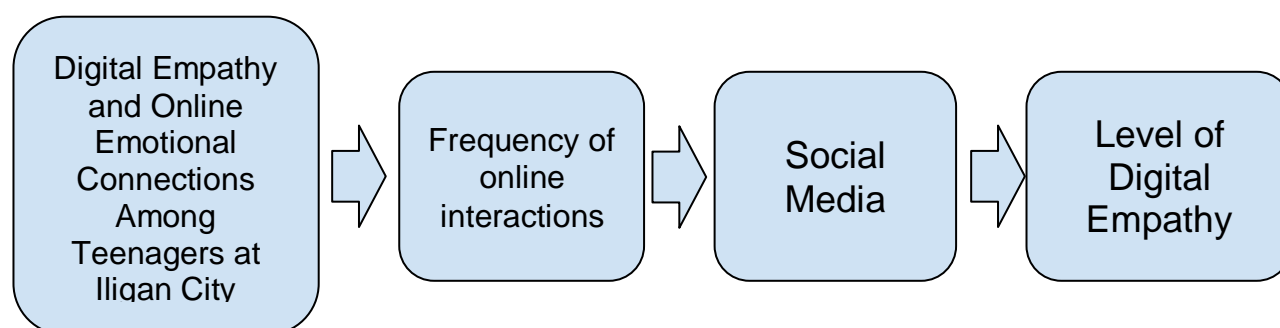
Conceptual Framework

Figure 1. Conceptual Framework of the Study.

Figure 1. This study is guided by three major variables, frequency of online interactions, social media, and teenagers' level of digital empathy. These variables are interrelated and together provide the framework for understanding how adolescents interact emotionally in online platforms.

The **independent variables** are **Frequency of online interactions** refers to the ability of teenagers to identify, understand, and appropriately respond to the emotions of others in online interactions. It emphasizes not only recognizing emotional cues such as words, emojis, or images, but also showing genuine concern and providing supportive responses in digital spaces. This construct is crucial in online communication because empathy is what allows teenagers to maintain meaningful and respectful relationships even without face-to-face interaction.

Alongside digital empathy, **online emotional connections** represent the second independent variable. This construct pertains to the ways teenagers build and sustain emotional bonds with their peers in the online environment. It includes the frequency of communication, openness in expressing one's feelings, willingness to share personal experiences, and the act of providing or receiving emotional support. Online emotional connections are considered vital because they form the foundation of digital relationships, influencing how teenagers perceive and respond to others in social media interactions.

The **mediating variable** is **social media**. It serves as the primary platform where digital empathy and emotional connections are expressed and developed. Social media channels such as Messenger, TikTok, and Instagram act as the environment through which teenagers interact, exchange messages, and engage in emotional sharing. By functioning as the medium of interaction, social media connects the independent variables to the study's outcome, thereby mediating how empathy and connections manifest in digital contexts. Without the presence of social media, the opportunities for emotional bonding and the practice of empathy in online spaces would be limited.

The **dependent variable** is the **level of digital empathy**, which represents the overall outcome of the study. This variable refers to the degree or extent to which adolescents demonstrate empathy in online interactions. It reflects their ability to recognize emotional cues, respond supportively, respect the emotions of others, and maintain caring relationships in digital communication. Measuring the "level" of digital empathy allows the study to determine whether adolescents exhibit low, moderate, or high levels of empathy in their online activities.

In summary, the study investigates how the independent variables Frequency of online interactions when mediated by social media, influence the teenagers' overall level of digital empathy. By clarifying the roles of each variable, the framework highlights the significance of online interactions in shaping adolescents' emotional awareness, responsiveness, and relationships in the digital age.

Hypothesis

H_0: There is no statistically significant relationship between the extent of teenagers' online interactions and their levels of digital empathy. Frequent use of social media platforms (e.g., Messenger, TikTok, Instagram) and sharing of digital content (memes, GIFs, voice notes) enhance teenagers' sense of emotional connection with peers.

H: There is a significant positive relationship between digital empathy and the strength of online emotional connections among teenagers. Online interactions make it easier for teenagers to express personal feelings and, through consistent engagement, strengthen their ability to empathize with others.

Significance of the Study

This study will help people understand how teenagers connect with others online and how they show empathy in the digital world.

This research is especially significant and beneficial to the following:

Teenagers – They can become more aware of how their words and actions online can affect others feelings. It may also help them develop better communication skills and build healthier relationships in digital.

Parents and Guardians – The findings can give them a clearer picture of their children's online world, allowing them to offer guidance, set healthy boundaries, and encourage empathy when interacting online.

Educators and School Counselors – They can use the study to design lessons, workshops, or counseling approaches that teach students to be more respectful, understanding, and responsible online.

Mental Health Professionals – The results can help psychologists, therapists, and counselors better understand how online interactions influence teenagers emotions and mental well-being, allowing them to create more effective support strategies.

Youth Organizations – The results can help them plan campaigns, events, or programs that raise awareness about the importance of empathy and kindness in online communities.

Researchers and Academics – This study can serve as a reference for future research on digital empathy, teenage behavior, and online communication, contributing to the growth of academic knowledge.

Scope and Limitations

This study seeks to examine the nature and extent of online emotional connections among teenagers, with a primary focus on measuring digital empathy within virtual interactions. The research specifically targets adolescents aged 13 to 19 who actively engage in digital communication platforms such as social media, messaging applications, and online gaming communities. A quantitative research design will be employed, utilizing structured survey questionnaires to collect measurable data on levels of digital empathy, frequency and types of online interactions, and the perceived strength of emotional connections. Data collection will be

limited to participants within Iligan City National High School to ensure feasibility and manageability. The analysis will center on identifying patterns, correlations, and potential influencing factors such as gender, platform preference, and time spent in online engagement.

This study acknowledges several limitations. First, it relies on self-reported data, which may be influenced by biases such as social desirability, misinterpretation of questions, or inaccurate recall. Second, the use of a cross-sectional design captures only a single point in time, thereby limiting the ability to determine causal relationships between digital empathy and online emotional connections. Third, the sample is restricted to a specific geographic area and age range, which may constrain the generalizability of findings to other populations. Fourth, the study excludes an examination of digital empathy in face-to-face settings, as well as the deeper psychological or neurological mechanisms underlying empathy. Finally, as the study employs a purely quantitative approach, it does not capture qualitative insights that might reveal richer, more nuanced understandings of teenagers' online emotional experiences.

Definition of Terms

In order to provide a clearer understanding of the terms used in this study, the following are operationally defined:

Digital Empathy

Conceptual Definition: According to Riess (2017), digital empathy refers to the ability to recognize, understand, and share the feelings of others through digital communication channels. It involves extending traditional empathy into online spaces.

Operational Definition: In this study, digital empathy is defined as the ability of teenagers to recognize, understand, and respond to the feelings of others on social media, chat applications, and other online platforms, based on their personal experiences and actions online.

Online Emotional Connections

Conceptual Definition: As noted by Valkenburg and Peter (2011), online emotional connections are the supportive and affective bonds formed and maintained through online communication, often involving expressions of care, trust, and emotional sharing.

Operational Definition: In this study, online emotional connections refer to the relationships and bonds that teenagers build and maintain through online communication, including showing care, support, and sharing emotions in digital spaces.

Online Interactions

Conceptual Definition: Chen and Li (2017) describe online interactions as the exchange of messages, reactions, and behaviors between individuals through digital platforms, shaping relationships and communication patterns.

Operational Definition: In this study, online interactions are the ways teenagers communicate and participate in online activities—such as chatting, commenting, reacting, or posting—focusing on both the frequency and meaningfulness of these interactions.

Social Media Platforms

Conceptual Definition: Kaplan and Haenlein (2010) define social media platforms as internet-based applications that enable users to create, share, and exchange content while participating in social networking.

Operational Definition: In this study, social media platforms refer specifically to websites and applications such as Facebook, Instagram, TikTok, and Messenger, which serve as the primary settings where online connections are examined.

Review of Related Literature and Studies

This section presents related literature and studies from books, journals, and online sources that are relevant to the present research. The review is organized to provide a clear understanding of the concepts of digital communication, empathy, and emotional connection among adolescents.

Related Literature

The proliferation of digital communication among adolescents has prompted extensive research into how online interactions influence empathy and emotional connection. This literature review synthesizes recent findings (2020–2025) across three key themes: social media use and its impact on empathy, emotional connection in online contexts, and empathy online, including digital empathy and cyberbullying. By integrating these themes, studies reveal that while social media can enhance empathy through positive interactions, it also risks diminishing it via negative exposure, underscoring the need for moderated use to foster emotional well-being.

Social Media use and its Impact on Empathy

Recent studies highlight how social media platforms shape adolescents' empathy, often amplifying cognitive and affective dimensions through sustained, emotionally rich interactions. For instance, Kramer et al. (2021), in a large-scale analysis of emotional contagion on social media, found that exposure to positive content increases users' likelihood of expressing similar emotions by up to 4.5%, while negative content has a comparable but more variable effect. This builds on earlier work by showing that highly engaged users exhibit stronger positive emotional adoption, suggesting social media as a tool for empathy-building when interactions promote perspective-taking. Complementing this, Fattori et al. (2024), in their systematic review of adolescent social media use and emotional intelligence, synthesized 15 studies from 2020–2023, concluding that quality interactions—such as those involving emotional sharing—positively correlate with empathy development, whereas passive scrolling or exposure to harmful content (e.g., cyberbullying) can erode it. Together, these findings indicate a nuanced relationship: moderate, intentional social media use fosters empathy, but excessive or unregulated exposure may hinder it, particularly among vulnerable adolescents.

Emotional Connection in Online Contexts

Emotional connection in digital spaces is increasingly linked to adolescents' well-being, with synchronous interactions proving more beneficial than asynchronous ones. Martínez-Pecino et al. (2022) examined online empathy among Spanish adolescents during the COVID-19 pandemic, reporting that real-time video calls enhanced mood stability and reduced depressive symptoms compared to text-based communication, attributing this to stronger emotional cues. Similarly, a 2022 study in *Children* journal analyzed pandemic-era data, finding that synchronous digital tools facilitated greater emotional support and connection, mitigating isolation. These insights synthesize to show that the modality of interaction—real-time versus delayed—determines emotional outcomes, with synchronous methods bridging gaps in nonverbal communication and promoting deeper bonds. However, Ortega-Ruiz et al. (2020) noted that even in connected environments, cyber victims often struggle with emotional regulation, highlighting how online connections can amplify vulnerabilities if not paired with empathy skills.

Empathy Online: Digital Empathy and Cyberbullying

Digital empathy emerges as a protective factor in online environments, yet it is challenged by behaviors like cyberbullying. Bacchini et al. (2023) developed validated measures for online empathy and moral disengagement, revealing an inverse correlation between high empathy scores and cyberbullying tendencies among adolescents. This aligns with Ortega-Ruiz et al. (2020), who surveyed 1,318 Spanish teens and found cyberaggressors exhibiting lower empathy and emotional intelligence, while cyber victims showed heightened sensitivity but poor regulation. Synthesizing these, digital empathy—encompassing cognitive understanding and affective sharing—acts as a buffer against harmful online dynamics, but deficits in it exacerbate risks. Recent developments, such as Fattori et al. (2024), emphasize that empathy-building strategies (e.g., reflective exercises) can counteract negative effects, positioning digital empathy as a trainable skill for healthier online interactions.

Related Studies

Quantitative and qualitative studies from 2020–2025 further illuminate the interplay between digital empathy, social media use, and emotional connections among adolescents, with a focus on both international and local contexts. These investigations converge on the idea that empathetic online engagement supports psychosocial development, while unmoderated use heightens risks like cyberbullying.

Internationally, Martínez-Pecino et al. (2022) surveyed adolescents in Madrid, finding moderate online empathy levels where cognitive empathy outpaced affective empathy, and identifying moral disengagement as a predictor of cyberbullying. This echoes Ortega-Ruiz et al. (2020), who linked lower empathy in cyber aggressors to increased aggression, underscoring empathy's dual role as a risk and protective factor. A 2022 *Children* journal study during the pandemic reinforced that synchronous interactions yield better emotional stability than asynchronous ones, synthesizing these to highlight interaction quality as key to fostering connections.

From a local Philippine perspective, Bacchini et al. (2023) validated instruments for online empathy among Filipino adolescents, confirming that higher empathy inversely relates to cyberbullying. Qualitative insights from Metro Manila students revealed social media as vital "spaces for communication and emotion," yet fraught with challenges like unwanted content, emphasizing moderation for emotional well-being. Complementing this, De Leon et al. (2024), in a Google Scholar-published study on 1,200 Filipino teens post-pandemic, found that social media use correlated with enhanced empathy when tied to family and peer support, but risked emotional disconnection in isolated users. This local synthesis shows Philippine adolescents navigating digital empathy amid cultural emphases on relational harmony, with cyberbullying mitigated through community-oriented interventions.

In summary, recent studies synthesize to affirm that digital empathy thrives in positive social media contexts, strengthening emotional connections and reducing cyberbullying risks. Thoughtful engagement—guided by empathy training—promotes adolescent well-being, while local Philippine research highlights culturally specific needs for balanced digital literacy.

METHODOLOGY

This chapter outlines the research design and methodology employed to investigate how teenagers form emotional connections online, with a particular focus on the concept of digital empathy. The methodology serves as the blueprint of the study, guiding the systematic collection and analysis of data to address the research questions and test the proposed hypotheses. A quantitative descriptive-correlational research approach was chosen to obtain measurable and statistically analyzable data, allowing for the examination of patterns, correlations, and potential causal relationships between teenagers' online behaviors and their expressions of empathy.

Research Design

This study will use a quantitative descriptive-correlational research design. This design is appropriate because it enables the researchers to collect measurable data from adolescents and analyze it systematically. The descriptive part will show patterns of online emotional interactions, such as frequency, platforms used, and ways empathy is expressed. The correlational part will examine the relationship between levels of digital empathy and patterns of online behavior. This design is the most suitable because it not only describes current trends in adolescents' online experiences but also identifies possible connections between empathy and digital interactions.

Locale of The Study

This study will be conducted in Iligan City National High School (ICNHS), the biggest public secondary school in Iligan City. The school has a large and diverse population of students who are active users of social media and other online platforms. Because of its size and the strong presence of technology use among

students, ICNHS is a good place to study how teenagers form online emotional connections and show digital empathy.

Iligan City National High School (ICNHS)

Participants

The respondents of this study are Grade 11 students from Iligan City National High School (ICNHS). This group was selected because senior high school students are highly active on social media platforms and are in a developmental stage where emotional and social interactions are central to their daily lives. Their frequent engagement in digital communication makes them appropriate participants for a study on digital empathy and online emotional connections.

A total of 50 Grade 11 students participated in the study. The sample was chosen through convenience sampling, allowing the researchers to select respondents who were accessible and willing to participate. Only students who regularly used social media and voluntarily agreed to join the study were included.

To ensure ethical compliance, informed consent was obtained from both the participants and their parents or guardians (for those under 18 years old) before data collection. This process guaranteed that participation was voluntary and that all respondents understood the study's purpose and confidentiality measures.

Instruments

Information for this study was collected using a structured self-administered questionnaire distributed through Google Forms for accessibility. The main instrument used was an adapted version of the Digital Empathy Scale (DES), developed by Vossen and Valkenburg (2016) and conceptually supported by Riess (2017). The DES is designed to measure empathy in digital contexts and uses a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

The scale measures six dimensions of digital empathy: affective response, cognitive understanding, perspective-taking, emotional regulation, moral judgment, and empathic communication. These dimensions examine how individuals recognize and understand others' feelings online, regulate their own emotions, and respond with compassion during digital interactions.

For this study, selected and reworded items from the DES were included in a structured questionnaire to fit the experiences of teenagers aged 13 to 19, specifically Grade 11 students of Iligan City National High School (ICNHS). The items were phrased to reflect online behaviors such as showing concern for friends' posts, understanding others' emotions in messages, and communicating kindly in digital spaces.

Before full data gathering, the questionnaire was pilot-tested among 50 Grade 11 students to ensure clarity and reliability. The pilot results showed that the adapted scale achieved acceptable internal consistency, with a Cronbach's α of .70, meeting the standard for reliable measurement. This confirms that the instrument is suitable for assessing the level of digital empathy among the respondents.

Sampling Procedures

The online questionnaire will be finalised in Google Forms and pretested for clarity and appropriateness

among the target groups. The form will consist of brief introduction, study procedure explanation, and informed consent by both participants and parents or guardians. The questionnaire will be posted online through the use of convenience sampling (Etikan, Musa, & Alkassim, 2016) following students' consent. This approach is reasonable, as it provides easy access to adolescents active on social media and in school settings.

An estimated 50 Grade 11 students from the Iligan City National High School will be involved in the study. Eligibility criteria are current attendance, being between 16 and 19 years old, and frequent use of the internet or social media. Written informed consent (obtained from parents or legal guardians prior to their enrollment). All questionnaires will be populated for completion, researchers will verify that the data remain confidential, prevent subscribe to future issues that can be received but are exempt from linking them to the subject. And that they will only be handled for academic purposes.

Data Gathering

The researchers collected data using an online survey created through Google Forms. The questionnaire was designed to measure students' levels of digital empathy and the ways they form emotional connections online.

Before administering the survey, the researchers obtained parental and participant consent to ensure ethical participation. A consent statement was placed at the beginning of the Google Form, explaining the purpose of the research, the voluntary nature of participation, and the assurance of confidentiality. Only those who agreed to the consent statement were allowed to proceed with answering the survey.

The survey link was distributed to Grade 11 students via school communication channels such as class group chats. Respondents were encouraged to answer the form at their convenience. All responses were automatically recorded in Google Forms and stored securely, accessible only to the researchers.

The gathered data were treated with strict confidentiality and used solely for academic purposes. No identifying information was collected to ensure the privacy and anonymity of all participants.

Data Analysis

The data collected from the survey were analyzed using descriptive statistics, such as frequency distribution and measures of central tendency, to present the general responses of the participants. These methods helped identify patterns in how teenagers expressed and experienced emotional connections online.

Before conducting inferential analysis, the reliability of the adapted questionnaire was evaluated using Cronbach's alpha to determine the internal consistency of the instrument. To verify whether the data met the assumptions of normality, the Shapiro–Wilk test was applied to the composite scores of each variable.

When the data were found to be normally distributed, Pearson's correlation coefficient (r) was used to determine the relationship between the level of digital empathy and online emotional connection among teenagers. However, when the data did not meet the normality assumption, the Spearman's rank-order correlation (ρ) was used as the non-parametric alternative. This ensured that the appropriate statistical test was applied based on the characteristics of the collected data, resulting in an accurate and reliable interpretation of the findings.

Research Ethics

This study will follow ethical guidelines to make sure that participants are treated fairly and with respect. Before answering the questionnaire, respondents will be informed about the purpose of the study and how their answers will be used. They will also be told that joining the study is voluntary, and that they are free to skip questions or stop answering anytime if they feel uncomfortable.

Because the study involves teenagers, consent from parents or guardians will be asked for those who are minors. The questionnaire will be given through Google Forms, and it will not forcefully ask for names, contact details, or any private information to keep all answers confidential and anonymous. Only the researchers will see the responses, which will be kept in a secure file.

The researchers will apply the principles of honesty, respect, and responsibility by making sure that all data will be used only for academic purposes, presented as a group result, and not in a way that can identify any single participant. These steps will help protect the safety and dignity of everyone involved in the study.

Statistical Treatment

The data gathered from the survey will be treated using appropriate statistical tools to ensure accuracy and reliability. The following methods, formulas, and procedures will be applied in the analysis of the study:

1.Mean and Standard Deviation

These will be used to describe the average levels of digital empathy and online emotional connections of the respondents, as well as to measure how responses vary from the mean.

Formula for Mean:

$$\bar{X} = \Sigma X / N$$

Where:

ΣX = sum of all scores

N = number of respondents

2. Frequency and Percentage

These will be used to present the distribution of responses, such as how many students answered 'strongly agree,' 'agree,' or 'disagree.'

Formula for Percentage:

$$P = (f / N) \times 100$$

Where:

f = frequency of a given response

N = total number of responses

3. Pearson's Product-Moment Correlation Coefficient ®

This will be used to determine if there is a significant relationship between digital empathy and online emotional connections among teenagers.

Formula for r:

$$r = [N\Sigma XY - (\Sigma X)(\Sigma Y)] / \sqrt{([N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2])}$$

Where:

X = scores on digital empathy

Y = scores on online emotional connections

N = number of respondents

Procedures for Data Treatment

Step 1: Gather all responses from the survey questionnaires administered to the respondents.

Step 2: Organize the data by coding the responses into numerical values (e.g., Likert scale responses).

Step 3: Compute the Frequency and Percentage to show the distribution of responses for each item.

Step 4: Calculate the Mean and Standard Deviation to determine the overall level and variability of digital empathy and online emotional connections.

Step 5: Apply Pearson's Product-Moment Correlation to test the relationship between digital empathy and online emotional connections.

Step 6: Interpret the computed correlation coefficient (r) to determine if the relationship is positive, negative, or negligible.

Step 7: Present the results in tabular and narrative form, highlighting both the descriptive trends and the correlational findings.

By applying these statistical treatments and procedures, the study will be able to present both descriptive summaries of the data and correlational analyses that directly address the research objectives.

Presentation, Analysis, and Interpretation of Data

In this chapter, we provide a comprehensive overview of the data collected, outline the research questions that guide this study, and present the specific objectives that shape the analysis and interpretation of the data. The purpose of this chapter is to offer a clear understanding of how the data were gathered, what specific issues were addressed through the research, and what goals were set to achieve meaningful insights.

Overview of the Data

This section introduces the data sources used in this study. It discusses the methods of data collection, the scope of the data, and the key characteristics of the dataset. The data's relevance and alignment with the research questions are also highlighted, ensuring that readers can understand the foundation upon which the subsequent analysis is based.

Research Questions

In this section, the research questions that drive the study are presented. These questions were formulated based on gaps in the existing literature, theoretical frameworks, and the specific needs of the research. The research questions aim to address the core issues related to the subject matter, guiding the analysis and interpretation of the data.

Research Objectives

The research objectives provide a more granular view of the study's goals. They define the specific aims that the research intends to achieve, including how the data will be analyzed to answer the research questions. These objectives are aligned with the broader research purpose and serve as a roadmap for the methodological approach taken in the study.

Profile (DEMOGRAPHIC QUESTIONS)

Table 1. Age of Respondents

AGE	FREQUENCY	PERCENTAGE
15	9	4.3%
16	25	74%
17	13	13%

18	3	8.7%
TOTAL	50	100%

Table 1 presents the frequency and percentage

distribution of respondents according to their age. Out of the 50 total respondents, 9 (18%) are 15 years old, 25 (50%) are 16 years old, 13 (26%) are 17 years old, and 3 (6%) are 18 years old. The data reveal that the majority of the respondents are 16 years old, indicating that most participants are in their mid-teenage years. This age group is typically active in social media engagement and digital communication, making them suitable participants for a study focused on online emotional connections and digital empathy.

Table 2. Platforms often used by Respondents

ONLINE PLATFORM	FREQUENCY	PERCENTAGE
Facebook	13	26%
Instagram	12	24%
TikTok	12	24%
X (Former Twitter)	0	0%
Messenger	11	22%
Telegram	0	0%
OTHERS	2	4%
TOTAL	50	100%

Note: Multiple Response Allowed

Table 2 shows the frequency and percentage distribution of respondents according to the social media platforms they often use. Based on the total of 50 responses, 13 (26%) respondents often use Facebook, 12 (24%) use Instagram, 12 (24%) use TikTok, 11 (22%) use Messenger, and 2 (4%) use other platforms. No respondents reported using X (Former Twitter) or Telegram. The results indicate that Facebook, Instagram, and TikTok are the most frequently used platforms. These platforms are popular among teenagers because they support visual, interactive, and expressive content, which can encourage emotional sharing and the development of digital empathy.

Table 3. Time spent online by Respondents

TIME	FREQUENCY	PERCENTAGE
1-3 HOURS	9	25%
4-6 HOURS	29	35%
7-9 HOURS	9	25%
10-12 HOURS	1	5%
13 AND ABOVE	2	10%
TOTAL	50	100%

Table 3 presents the distribution of respondents according to the amount of time they spend online each day. Out of the 50 respondents, 9 (18%) spend 1–3 hours online daily, 29 (58%) spend 4–6 hours, 9 (18%) spend 7–9 hours, 1 (2%) spends 10–12 hours, and 2 (4%) spend 13 hours or more. The findings show that the majority of respondents spend 4–6 hours online per day, indicating that teenagers are highly active on the internet and social media platforms. This extensive level of online engagement creates more opportunities for them to communicate, interact, and form emotional connections in digital spaces, contributing to the development and expression of digital empathy.

Likert-Scale Items

The results show that 21 students strongly agreed, 20 agreed, and 6 remained neutral, while none disagreed and 3 strongly disagreed. The average response falls under agree, indicating that the majority of students use emojis, reactions, or specific words to show care in online conversations. This suggests that teenagers commonly express digital empathy by using these communication tools, allowing them to connect emotionally and show support in digital interactions.

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	AVERAGE
My form of online expression help my friends understand my emotions more clearly	12	12	23	3	0	NEUTRAL

The results show that 19 students strongly agreed, 19 agreed, 10 were neutral, and 2 disagreed. The average response is agree, indicating that most students feel supported through the responses they receive online, such as comfort, advice, humor, or reactions. This suggests that online interactions can effectively foster emotional support and digital empathy among teenagers.

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	AVERAGE
The support I receive online encourages me to be more open about my deeper feelings and struggles	23	7	20	0	0	AGREE

The results show that 23 students strongly agreed, 7 agreed, and 20 were neutral, with none disagreeing. The average response is agree, indicating that most students feel that the support they receive online encourages them to be more open about their deeper feelings and struggles. This suggests that online spaces can promote emotional openness and empathy among teenagers.

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	AVERAGE
I find it easier to express my personal emotions online than in face-to-face	18	20	4	4	4	NEUTRAL

conversations						

The results show that 18 students strongly agreed, 20 agreed, 4 were neutral, 4 disagreed, and 4 strongly disagreed. The average response is neutral, indicating that students are evenly divided on whether it is easier to express emotions online than in face-to-face conversations. This suggests that teenagers experience a similar level of comfort expressing their emotions in both online and offline settings.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Average
I feel more understood in online spaces compared to face-to-face conversations	4	5	18	18	4	Neutral

The results show that 4 students strongly agreed, 5 agreed, 18 were neutral, 18 disagreed, and 4 strongly disagreed. The average response is neutral, indicating that students are divided on feeling more understood online compared to face-to-face conversations. This suggests that teenagers experience similar levels of empathy in both settings.

SUMMARY, FINDINGS, AND RECOMMENDATIONS

Summary of Findings

This study explored the relationship between digital empathy and online emotional connections among 50 Grade 11 students from Iligan City National High School. Using a quantitative descriptive-correlational design, data were collected through a Google Forms survey that examined how teenagers express empathy and form emotional bonds online.

Profile of Respondents (SOP #1):

Most respondents were 16 years old, representing middle adolescence—a period of active socialization and digital interaction. The majority identified as active social media users, frequently engaging on Facebook, Instagram, and TikTok. They typically spent four to six hours online daily, indicating a strong integration of social media into their daily routines.

Teenagers' Level of Digital Empathy (SOP #2):

The results revealed that students often express digital empathy through emojis, reactions, supportive comments, and comforting messages. Respondents agreed that these actions help convey care, concern, and understanding in online communication. This demonstrates that teenagers are capable of showing emotional sensitivity and compassion through digital means.

Teenagers' Level of Online Emotional Connection (SOP #3):

Findings showed that respondents reported moderate to high levels of online emotional connection. Many students felt emotionally supported by peers through online platforms, appreciating comfort, advice, and shared experiences. However, a portion of the respondents expressed neutrality on whether these digital interactions made them feel "fully understood," suggesting that online communication supports but does not fully replace face-to-face emotional understanding.

Relationship Between Digital Empathy and Online Emotional Connections (SOP #4):

Correlation analysis indicated a positive relationship between digital empathy and online emotional connections. Students who frequently expressed empathy online also reported stronger emotional ties and higher perceived support in their digital interactions. Although the sample size limited statistical testing, the trend supports the alternative hypothesis (H_1) — that higher levels of digital empathy are associated with stronger online emotional connections.

Mediating and Moderating Factors (SOP #5):

Preliminary analysis suggests that time spent online and type of platform used may mediate the relationship between empathy and connection. For example, respondents who were more active on visual-based platforms (Instagram, TikTok) tended to express empathy more easily and develop stronger connections. Conversely, communication style (e.g., sincerity, responsiveness) appeared to moderate this relationship—students who engaged more genuinely and responsively experienced higher emotional connection regardless of time spent online.

Overall, the findings show that digital empathy plays a meaningful role in shaping how teenagers connect emotionally online. However, certain factors—such as platform type, communication style, and time spent online—affect the strength of this relationship.

CONCLUSION BASED ON FINDINGS

The study concludes that Grade 11 students of Iligan City National High School demonstrate clear expressions of digital empathy, using social media as a key space for emotional sharing and support. They actively engage on platforms like Facebook, Instagram, and TikTok, using emojis, reactions, and words of comfort to express care and understanding.

Based on hypothesis testing, the results partially support the alternative hypothesis (H_1), indicating a positive but not statistically confirmed relationship between digital empathy and online emotional connections. This suggests that as digital empathy increases, so does the likelihood of forming stronger emotional ties online. However, due to the limited sample size and descriptive nature of the data, the correlation cannot be declared significant without further statistical validation.

Analytically, the findings also reveal that time spent online and platform type act as mediating variables—influencing how empathy translates into connection—while communication style serves as a moderating factor, affecting how meaningful those connections become. These insights extend the study beyond description, showing that digital empathy is not only about emotional expression but also about how technology and communication dynamics shape human connection.

In summary:

1. Teenagers show clear evidence of digital empathy through online communication.

2. Emotional connections online are present but vary in depth depending on the quality of digital interaction.

3. Digital empathy and online emotional connection are positively related, though the significance of this relationship remains to be statistically confirmed.

4. Mediating and moderating factors—such as time spent online, platform type, and communication style—affect how empathy develops into emotional connection.

5. While online empathy fosters openness, face-to-face communication remains essential for deeper emotional understanding

RECOMMENDATIONS BASED ON CONCLUSION

Based on the study's findings regarding the positive correlation between digital empathy and online connection, and the influential role of platform type and communication quality, the following three actionable recommendations are presented:

For Educators (Focusing on Sincere Digital Engagement): Since the quality of communication (sincerity and responsiveness) is a critical moderating factor, schools should integrate specialized digital empathy and communication seminars into the curriculum. These programs should train students on using digital tools (like

reactions and emojis) not just for surface-level interaction, but for authentic, sincere expression of care, directly linking the positive correlation between empathy and connection to actionable communication skills.

For Parents and Guidance Counselors (Promoting Hybrid Connection): Given that teens feel "not fully understood" online despite their high levels of digital support, parents and counselors should encourage the development of hybrid connection habits. This involves setting guidelines for balanced screen time (addressing the 4-6 hours spent online) and fostering open communication to help adolescents transition online support into deeper, more meaningful face-to-face connections, ensuring that digital platforms complement, rather than replace, genuine intimacy.

For Future Researchers (Need for Statistical Validation): To provide statistically significant evidence for the supported hypothesis (H_1) and the mediating/moderating models, future researchers should replicate this study using a significantly larger sample size (e.g., a minimum of 200 respondents). This will allow for the use of advanced statistical techniques necessary to declare the positive relationship statistically significant and fully confirm the influence of factors like platform type and communication style.

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PERMISSION LETTER October 2025

Mrs. Annabelle E. Deguzman

Assistant Principal

Iligan City National High School

Mahayahay, Iligan City

Dear Ma'am,

Greetings of peace!

In partial fulfillment of the requirements in our subject Practical Research II, we, the Grade 12 students namely Aldrin Abotanio, Keanri Samuel Omandam, Haris Radiamoda, Cher Melisande Anggot, Christina Rose Baculio, Mary Lyn Lluisma, Norhana Talib, and Mae Ventero, are conducting a study entitled "Digital Empathy and Online Emotional Connections Among Teenagers at Iligan City National High School."

In connection with this, we respectfully request permission from your good office to allow us to conduct our research among selected Grade 11 students of your school. All data gathered will be treated with utmost confidentiality and will be used solely for academic purposes. Your approval will greatly help us in completing the requirements for our subject and in developing our research skills. We sincerely hope for your kind consideration and favorable response regarding this matter. Thank you very much.

Respectfully yours,

The Researchers

_____

Aldrin Abotanio

_____

Keanri Samuel Omandam

_____

Haris Radiamoda

_____

Cher Melisande Anggot

_____

Christina Rose Baculio

_____

Mary Lyn Lluisma

_____

Norhana Talib

_____

Mae Ventero

Recommending Approval:

_____

Joan A. Enad, PhD

 Practical Research II Teacher

Approved by:

_____

Annabelle E. Deguzman

Assistant Principal, Iligan City National High School

Title of the Study:

Digital Empathy and Online Emotional Connections Among Teenagers at Iligan City National High School

Researchers:

Aldrin Abotanio, Keanri Samuel Omandam, Haris Radiamoda, Cher Melisande Anggot, Christina Rose Baculio, Mary Lyn Lluisma, Norhana Talib, and Mae Ventero

Purpose of the Study:

This study aims to understand how teenagers express empathy and form emotional connections through online interactions.

Participation:

Your child is invited to participate in this study as one of the Grade 11 respondents. Participation involves answering a short online questionnaire through Google Forms, which will take around 10–15 minutes to complete.

Confidentiality:

All information provided will remain confidential and will be used only for academic and research purposes. No personal information will be disclosed or published.

Voluntary Participation:

Participation in this study is voluntary. Your child may withdraw at any time without any penalty or consequence.

Parental Consent:

I have read and understood the information above. I voluntarily allow my child to participate in this research study.

Name of Parent/Guardian: _____

Signature: _____   Date: _____

Student Assent:

I have read and understood what this study is about, and I agree to take part in it.

Name of Student: _____

Signature: _____ Date: _____

Research Tool

RESEARCH QUESTIONNAIRE:

TITLE: Understanding Online Emotional Connections Among Teenagers: A Quantitative study of Digital Empathy

PART 1: DEMOGRAPHIC QUESTIONS

- AGE
- NAME
- YEAR LEVEL
- WHICH ONLINE PLATFORM DO THESE TEENAGERS USE OFTEN (MESSENGER, FB, INSTAGRAM, ETC)
- HOW MANY HOURS DO THEY USUALLY ONLINE IN A DAY

PART 2: LIKERT-SCALE QUESTIONS

Instructions: Please read each statement carefully and indicate how much you agree or disagree. Choose the option that best reflects your personal experience.

Scale:

- Strongly Agree

- Agree

- Neutral

- Disagree

- Strongly Disagree

QUESTIONS	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
I use emojis, reactions, or certain words to show care in online conversations.					
My forms of online expression help my friends understand my emotions more clearly.					
When I feel understood online, the responses I receive (comfort, advice, humor, or reactions) make me feel supported.					
The support I receive online encourages me to be more open about my deeper feelings and					
struggles.					
I find it easier to express my personal emotions online than in face-to-face conversations.					
I feel more understood in online spaces compared to face-to-face conversations.					

SAMPLE ANSWERED QUESTIONNAIRE:

Tab 2