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**THE EFFECTS OF TECHNOLOGY ON INTERPERSONAL RELATIONSHIPS
AMONG ROWAN UNIVERSITY STUDENTS AGES 18 – 25**

by
Michelle Ann Nelson

A Thesis

Submitted to the
Department of Advertising and Public Relations
College of Communication
In partial fulfillment of the requirement
For the degree of
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at
Rowan University
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Thesis Chair: Dr. Joseph Basso

Dedication

I would like to dedicate this thesis to my parents, Charles J. Nelson and Jill A. Nelson,

and also to my siblings, Christopher J. Nelson and Nicole A. Nelson.

Acknowledgments

I would like to thank and acknowledge…

Dr. Joseph Basso for guiding me with continuous and valued feedback.

Fellow classmates for their support and flexibility with my study.

My co-workers for allowing me to have a flexible work schedule.

My family and friends.

Abstract

Michelle Ann Nelson
THE EFFECTS OF TECHNOLOGY ON INTERPERSONAL
RELATIONSHIPS AMONG ROWAN UNIVERSITY STUDENTS AGES 18 – 25
2012
Dr. Joseph Basso
Master of Arts in Public Relations

The purposes of this study were to (a) determine how young adults are

communicating with each other and (b) understand what is driving them to communicate

using different methods of communication. After completing a literature review, the

researcher conducted primary research using survey instruments and interviews.

What people are trying to communicate determines how they are going to relay

messages. The urgency of a message affects how respondents answer the message.

Table of Contents

List of Figures

List of Tables

CHAPTER 1

Introduction

"Communication can be defined as the exchange, interchange, or transmission of messages. Communication can occur for many purposes. Most communication occurs because the content of the communication – the message – is intended either to inform or to entertain, or sometimes both. The message is the content of communication. That message is carried over some conduit – the medium – of communication (Noll, 2007, p. 2)."

The author addressed both verbal and written communication in this study, both of which have drastically changed the past few years in terms of how and when communication takes place. The author focused on communication between Rowan University students between the age of 18 and 25 to determine the impact that technology has on their interpersonal relationships.

The first written communication were painted and carved figures in rock by cavemen. Many years later, people introduced writing with letters. Telegraphs were used to transmit signals in Morse code which was then received and written down by an interpreter. This was the first use of written communication without paper. Today's symbols, letters of the alphabet, are used in written communication from handwritten letters to technology oriented communication such as E-mail and instant messages.

Verbal communication has also changed drastically. Years after telegraph transmissions evolved, voices were transmitted and the invention of the telephone was introduced to the world. The telephone has changed drastically since the introduction of the first phone. New technology such as Skype allows users to communicate via the internet using verbal communication and webcam technology.

Technology has changed not only how people communicate in their daily lives, but it has also affected the way that people interact. Communication becomes a more complex action with the advances in communication technology. Today, most adults and teenagers can be found having a cell phone within an arm's reach, many times right in their pockets. Modern technology allows people to communicate directly from their cell phone or smart phone device. Emails, text messages, phone calls, and internet browsing are also available. Applications such as Google have become a widely used resource that the word Google has been added to the dictionary as an action verb.

With all of the technology available today, it is up to users to decide how they use it and also how often they use it. Today's technology overcomes many obstacles of time and space limitations. Many times, much of this advanced technology eliminates face-to-face communication.

Social media continues to evolve. Many of the popular social media sites include, but are not limited to, Facebook, MySpace, Twitter, and LinkedIn. These sites allow users to interact and share information. On sites such as Facebook, MySpace, and Twitter, users can post content including comments and photos. On LinkedIn, users can also upload photos; however, it is different from other sites mentioned because it also uploads resumes and professional profiles, which can be viewed by potential employers who are also on the site. Site users also have the opportunity to choose their privacy settings.

These sites allow people from all over the world to keep in touch with each other due to the elimination of time and space constraints. The sites provide a quick and simple way to send messages to one, if not many, people at the same time. With these

advancements in technology, many people are using social media among other technology oriented forms of communication instead of face-to-face communication, or even phone calls.

Statement of Problem

How people are interacting with each other on a regular basis and how relationships are formed is changing and are affected by the increase of technology used for communication. Some school districts are discussing the removal of cursive handwriting from the curriculum because so much of communication is done via typing and is done in print. Technology has overcome many time and space limitations which has in turn helped many industries and relationships grow and develop.

Technology has become infused into the everyday lifestyle of many people. Blackberry devices and Droid phones have everything that most people use to communicate in one device right in the palm of their hand. Smartphones enable the use of the internet, E-mail, social media, text messaging and telephone calls all in one single device.

Communication needs to be researched from multiple angles to fully understand the communication process. The purpose of this project was to understand the effects that technology and media has on face-to-face communication.

The following areas of research was critical to the study and provided the researcher guidance with respect to the future direction of communication. Motives to communicate exist, both interpersonal and media oriented. Research on the technology must continue in order to properly evaluate the communication process.

Purpose

Communication technology has changed the process of human communication. Consequently, as the channels of communication increase, the need for face-to-face communication has decreased.

The author attempted to ascertain the effects of technology on face-to-face communication using six main areas of study.

1. Motives: why people communicate
2. Channels: how people communicate
3. Technology: how it changes and the effects of the changes on communication
4. Language: each medium has its own language
5. Importance: specifically with face-to-face communication
6. Networking:/the impact on interpersonal communications

Hypothesis and Research Questions

H1 – The majority of respondents will report that technology is used as their primary channel for communication.

H2 – The majority of respondents will report that technology decreases the effectiveness of the message.

H3 – The majority of respondents will report that technology decreases the clarity of the message.

H4 – The majority of respondents will report that they choose a channel of communication based on the content of the message.

R1 – What channels do the majority of respondents use most often?

R2 – What types of messages do respondents use for each channel?

R3 – Does the decrease in face-to-face communication because of social media affect relationships between communicators?

R2 – Does the minimization of face-to-face communication affect relationships between communicators?

Procedure

The researcher gathered secondary data to better understand the subject. The target audience for the study was Rowan University students between the ages of 18 and 25. The researcher conducted a survey using convenience sampling to reach members of this universe. The survey consisted of approximately 30 questions that will include multiple choice, Likert scale, and open ended questions.

The researcher also conducted interviews with selected members of the Rowan University community to get more detail on the thoughts and ideas questioned in the survey. The researcher conducted a survey using convenience sampling. The survey will included 28 questions and one open-ended question.

The researcher also conducted interviews to get further data. All answers were categorized by the researcher and compared using the demographic information to determine communication trends.

Assumptions

- The researcher assumed that those who answered the survey or participated in the interviews had basic knowledge and understanding of what a social networking site is and understood basic changes in technology over the past 10 years.

- The researcher assumed that the participants communicated regularly and used more than one channel to communicate.

Delimitations

The researcher used convenience sampling for the survey and for the interview participants, thus, the study cannot be generalized.

The author referenced Facebook, MySpace, Twitter, and LinkedIn, but did not include information about other social networking sites.

Significance of Study

The researcher identified the reasons for communication using the six topics described previously to fully understand all of the areas of communication. The study enabled the researcher to predict future technology and media changes and assess their impacts on communication.

Definition of Terms

Communication- the act or process of communicating; fact of being communicating, the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs (Webster's universal college, 1997, p. 163)

Technology-the technology of a field (Webster's universal college, 1997, p. 808)

Face-to-face –having the fronts or faces toward or close to each other. Involving close contact or direct opposition. (Webster's universal college, 1997, p. 286)

Convenience Sampling- a nonprobability used during preliminary research to gather general information (Jugenheimer, Bradley, Kelly & Hudson, 2010)

Social-pertaining to, devoted to, or characterized by friendly companionship or relations (Webster's universal college, 1997, p. 745)

Media-the means of communication (Webster's universal college, 1997, p. 501)

Network-a computer or telecommunications system linked to permit exchange of information (Webster's universal college, 1997, p. 536)

Device-a thing made for a particular purpose, esp. a mechanical, electric, or electronic invention or contrivance (Webster's universal college, 1997, p. 221)

Application Program – a computer program used for a specific kind of task (Webster's universal college, 1997, p. 39)

CHAPTER 2

Literature Review

Communication

Webster's Dictionary defines communication as "the act or process of communicating; fact of being communicating, the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs (Webster's universal college, 1997, p. 163)." There are four communication styles: passive, aggressive, passive-aggressive, and assertive (Benedict, 2005).

To be a passive communicator means that the communicator does not express opinions and feelings via a developed pattern. According to Benedict, these communicators are typically people with low self-esteem. They do not respond to comments that are hurtful or attack them which can lead to outbursts that leave them feeling down, ultimately, returning to a passive communication style until the next outburst (Benedict, 2005)

Benedict adds that aggressive communicators express both opinions and feelings, often times violating the rights of other communicators. Often times, they are both verbally and physically abusive. Like passive communicators, they have low self-esteem but it was previously developed by traumatic experiences in life such as abuse, emotional wounds, and powerlessness feelings. Aggressive communicators often try to dominate

and blame others, speak in loud tones, don't listen well, and interrupt regularly (Benedict, 2005).

Passive-Aggressive communicators are passive communicators on the surface but are aggressive communicators under the skin. These communicators feel powerless and stuck. They undermine people by showing one emotion or opinion on the surface but then will have a secret plan of sabotage underneath. Often, examples of these communicators are Prisoners of War. These people will use facial expressions that do not match emotions and often mutter comments to themselves (Benedict, 2005).

Assertive communicators state and express their feelings and opinions. Unlike aggressive communicators, they do so without violating the rights of other people. These communicators have high self-esteem and value themselves. They are personal advocates but also respect others equally. These people feel in control of their life and connected to other people. While aggressive communicators interrupt often, assertive communicators do not. They speak in a calm tone and do not allow abuse from others, like passive communicators (Benedict, 2005).

Generational differences impact communication behavior. "Since the days of the Old Testament and ancient Greece, the word "generation" and its various roots have connoted the essence of life – birth and death, the maturing of youth and the letting-go of old age, the rise and fall of dynasties and nations (Strauss and Howe, 1991, p. 59)."

Generations are defined by peer personalities. A peer personality is a generational persona recognized and determined by (1) common age location; (2)

common beliefs and behavior; and (3) perceived membership in a common generation (Strauss and Howe, 1991).

A generation gap exists between each different generation. A generation gap is the change in values between each generation. This can include education, occupation, and preferences for life choices such as family size. "The generation gap is ubiquitous; it exists in all American social classes, ethnic groups, income levels, regions and occupations (Falk and Falk, 2005, p. 24)."

Changes that led to more evident generation gaps include longevity, birth rates, and employment. People are living longer, which is making a bigger gap between what is considered middle aged and old. Life expectancies are longer now because of medical advances in antibiotics, operation procedures, and aftercare. Birth rates are decreasing with families becoming smaller. In 2002, the birth rate dropped from four million annually to 3.9 million annually. And lastly, more women are employed than ever before which "leaves children on their own after school and subject to youth culture (Falk and Falk, 2005, p. 27)."

According to Gamble and Gamble, communication can occur in two different forms: interpersonal or intrapersonal. Interpersonal communication occurs when at least two people interact, exchanging and learning information that helps sustain or terminate relationships. Intrapersonal communication occurs within oneself. This communication includes when one has thoughts to make decisions and evaluate ideas within one's own head; intrapersonal communication does not include anyone else. (Gamble & Gamble, 2002)

Intercultural Communication is communications with people across the globe about different information and issues. Each culture has its own set of beliefs, attitudes, values, and symbols. Because of this and language barriers, there can be unintentional misunderstandings between different cultures. Intercultural communication is increasing around the globe with the increase of available technologies (Gamble & Gamble, 2002).

Communication can be referred to as dynamic because all factors of communication can affect another factor of communication. For example, the tone of people's voices or their facial expressions can affect the meaning of their message. Communication is also considered unrepeatable and irreversible because each communication encounter will not happen the same exact way twice; there may be similarities but there will also be differences. (Gamble & Gamble, 2002)

Both written and oral forms of communication exist. Some written forms include, but are not limited to, letters, e-mails, text messages, and newspapers. Some oral forms include, but are not limited to, spoken languages, television programs, thoughts, and body language/facial expressions. Both written and non-written forms of communication have advantages and disadvantages (Guffey & Loewy, 2011).

The advantages of written communication are a decreased chance of misunderstandings. Written communication is great for sending another person detailed, complicated instructions. Because it is written down, it can also be referenced at a later date. Written communication also has disadvantages. First, it can be considered impersonal between the communicators. It can take more time than non-written communication and does not provide the writer with immediate feedback. Written

communication requires a specific vocabulary sometimes related to the topic that may make it hard for readers to understand (Guffey & Loewy, 2011).

Non-written, often referred to as verbal or spoken communication, also has advantages and disadvantages. Verbal communication allows the communicator to receive immediate feedback from their audience. They can then determine if their message was heard and understood immediately by the response or reaction of whom they are speaking to. Language barriers can create a hurdle for verbal communication and interpretations cannot always be exact, affecting the message (Guffey & Loewy, 2011).

Gamble and Gamble (2002) write that non-verbal communication intertwines with non-written communication and can support or change the meaning of the message the communicator is trying to send. Non-verbal communication consists of body language such as facial expressions and posture, along with the environment of the communication, meaning the space between the communicators and the overall feeling of the room or area the communication is occurring in. Also, the behaviors of the communicator can be defined in non-verbal communications. Behaviors would include eye contact and physical movements during the communication (Gamble & Gamble, 2002).

Formal communication is typically used in professional settings and with people that the communicator does not know. Informal communication is more relaxed and is used with family and friends. Formal communication includes mostly written communications but also includes speeches and presentations (Guffey & Loewy, 2011).

Formal communication includes "messages that follow prescribed channels of communication." Informal communication includes "any interaction that does not generally follow the formal structure but emerges out of natural social interaction among members (Pearson, Nelson, Scott & Harter, 2003, p. 316)."

Written formal communication consists of letters, resumes, presentation slides, and so on. Typically, these are one-way communications. One-way communication is when information is shared in one direction and there is no feedback (Fulginiti & Bagin, 2005). For example, when boarding a flight, the flight attendant will go over emergency procedures before take-off. This is one-way communication.

Informal communication is more relaxed and casual, used with family and friends. Like formal communications, informal communications can be written and also spoken. Written communications include handwritten notes to friends such as cards and short messages such as text messages or emails. Verbal communications include phone calls to friends and family members (Guffey & Loewy, 2011).

Upward communication is interactions and communication between people of different levels such as superiors. Horizontal communication is interactions and communication between people of the same level such as communicators and their peers (Pearson, Nelson, Scott & Harter, 2003).

> Communication is important in many ways. Gamble & Gamble state, "Communication is at the core of our humanness. How we communicate with each other shapes our lives and our world. We all rely on our communication skills as we confront events that challenge our flexibility, integrity, expressiveness, and critical thinking skills. By making the effort to become more effective at interacting with persons from diverse backgrounds and by working at developing relationships based on mutual respect and a sense of ethical fairness,

we increase our chances of leading more fulfilling personal and professional lives (Gamble & Gamble, 2002, p. 4)."

Webster's Dictionary defines trend as "the general course or prevailing tendency (Webster's universal college, 1997, p. 839)." Thus, communication trends are tendencies in the way people relay messages and information with each other. The Nielsen Company, a global information and media company, researched communication trends in 2009, specifically, the Nielsen Convergence Audit which researched phone and television usage. Noted in the report is an increase in households that have removed household telephones and now only have cellular phones. In the conclusion, Nielsen predicts that as more services become available and the prices are reduced, more and more houses will have these products and services in their home (Nielsen, 2009).

Intercultural communication is communication between people across borders and all over the world. Different cultures communicate in different ways so to communicate in intercultural way, it is important to understand the other culture. This will eliminate the chance of being judged as culturally confused which can lead to missed opportunities and tension. When a communicator is culturally confused, it means to have a lack of understanding in cultural differences (Gamble & Gamble, 2002).

Effectiveness of communication can be seen when the message sender and the audience both understand of the message. Using the correct channel to send the message is important in increasing the effectiveness. To measure the effectiveness, the sender will need to evaluate the feedback that is being received and determine if it is appropriate. By doing this, the sender will know that the message was received and understood properly (Gamble & Gamble, 2002).

Communication Motives

People communicate daily to interact and exchange information. Why they are communicating is their communication motives. Webster's Dictionary defines motive as something that causes a person to act in a certain way, do a certain thing, etc; incentive. However, motive used in different contexts can mean slightly different things although, generally, can be related back to the same Webster's definition (Webster's universal college, 1997, p. 523).

Brandi N. Frisby and Matthew M. Martin collaborated to write Interpersonal Motives and Supportive Communication where they examine more thoroughly why people are communicating. Frisby and Martin define motives as "the potential for behavior. The situation or environment can arouse motives. Different types of motivation satisfy different needs. Purposive behavior can be understood by identifying the actions that lead to achieving a particular goal (Frisby & Martin, 2010, p. 327)."

Frisby and Martin reference three types of supportive communication: emotional support, social support, and advice support. They also reference to people having six interpersonal communication motives: pleasure, affection, inclusion, escape, relaxation, and control. According to Frisby and Martin, these three types of supportive communication and six interpersonal communication motives are why people communicate (Frisby & Martin, 2010).

Frisby and Martin define the three types of supportive communication as follows. Emotional support communication occurs to assist another with coping when emotional distress is experienced. Social support communication occurs to help people feel

connected through shared activities; thus providing love, security, and status. Advice support communication occurs when information is provided to assist in situation evaluation (Frisby & Martin, 2010).

Frisby and Martin address the six interpersonal communication motives established by Rubin, Perse, and Barbato in their work. Also Punyanunt-Carter references these six motives and defines them as follows. Relaxation motives are to relax and/or rest. Escape motives are used for diversion or avoidance of another activity. Inclusion motives are used to feel linked to another person or persons through expressing emotion. Affection motives are used to express feelings such as love or care for another person or persons. Pleasure motives allow a person to communicate for enjoyment or excitement. Punyanunt-Carter add that communication motives affect what, why, how, and who individuals talk to (Punyanunt-Carter, 2009).

Frisby and Martin state, "Individuals who communicate more frequently for these motives report greater conversation quality, less loneliness, and greater satisfaction with family members, group members, and supervisors (Frisby & Martin, 2005, p. 321)."

Communication brings about social interaction and relationships which are part of a person's everyday life. Interactions can be physical such as running in to someone at the store or non-physical such as a letter or e-mail message. These interactions and relationships play an important role in the lives of people and are often reflected upon in literature (Miell & Dallos, 1996).

Jonathon Turner conducted a study of social interaction where he states "The basic unit of sociological analysis is not action, but interaction." He continues, "Theory must begin with a definition that denotes a timeless and invariant property of the universe. Such a property is "social interaction," which is defined as a situation where the behaviors of one actor are consciously reorganized by, and influence the behaviors of, another actor, and vice versa (Turner, 1988, p. 13)."

Webster's defines social interaction as social, pertaining to, devoted to, or characterized by friendly companionship or relations: friendly or sociable. Interaction, reciprocal action, effect, or influence (Webster's universal college, 1997, p. 426). Thus, social interaction is actions, effects, or influences of friendly companionship or relations.

"A good deal of our lives is taken up with our being in a variety of social and personal relationships; with friends, with intimate partners, with colleagues and with relatives. Even when we are alone, the chances are that we will spend a considerable amount of time mulling over relationships we have been involved in recently, or in anticipating new relationships." These relationships evolve from communications that are intentional and unintentional (Miell & Dallos, 1996, p. 23).

Communication Channel Selection

As previously stated, communication is "the act or process of communicating; fact of being communicating, the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs (Noll, 2007, p. 2)." When people communicate, they can communicate either interpersonally or intrapersonally. They can also

communicate using one-way communication methods or two-way communication methods. One-way communication methods are when the sender relays a message or information to the receiver, the audience. In two-way communication, the sender does the same thing. The only difference is that the audience then gives feedback which is what makes it two-way communication: the communication is going both directions.

The Gruig and Hunt model shows one-way and two-way communication broken down into four different communication patterns. Under one-way communication are both press agentry and public information. Under two-way communication are two-way asymmetric and two-way symmetric. Press agentry, often called propaganda is used in a one-sided manner to gain attention. Public information, often called publicity, is the information itself attracts the attention and helps shape attitudes and opinions. Two-way asymmetric, persuasion, is used to gain understanding from the audience by using the correct message and channel. Finally, two-way symmetric or negotiation, provides a happy ending for both parties involved (Fulginiti & Bagin, 2005).

When communicating, it is important to understand the difference between attitudes, beliefs, and opinions. An attitude is a predisposition to respond favorably or unfavorably to a person, an object, an idea, or an event. A belief is a conviction, often thought to be more enduring than an attitude and less enduring than a value. A value is a deeply rooted belief that governs our attitude about something (Pearson, Nelson, Scott & Harter, 2003).

The Shannon-Weaver Communication Model, as seen below, has six key elements in how a message is sent and received. They are: Source/Sender, Message, Channel, Noise, Receiver, and Feedback (Fulginiti & Bagin, 2005).
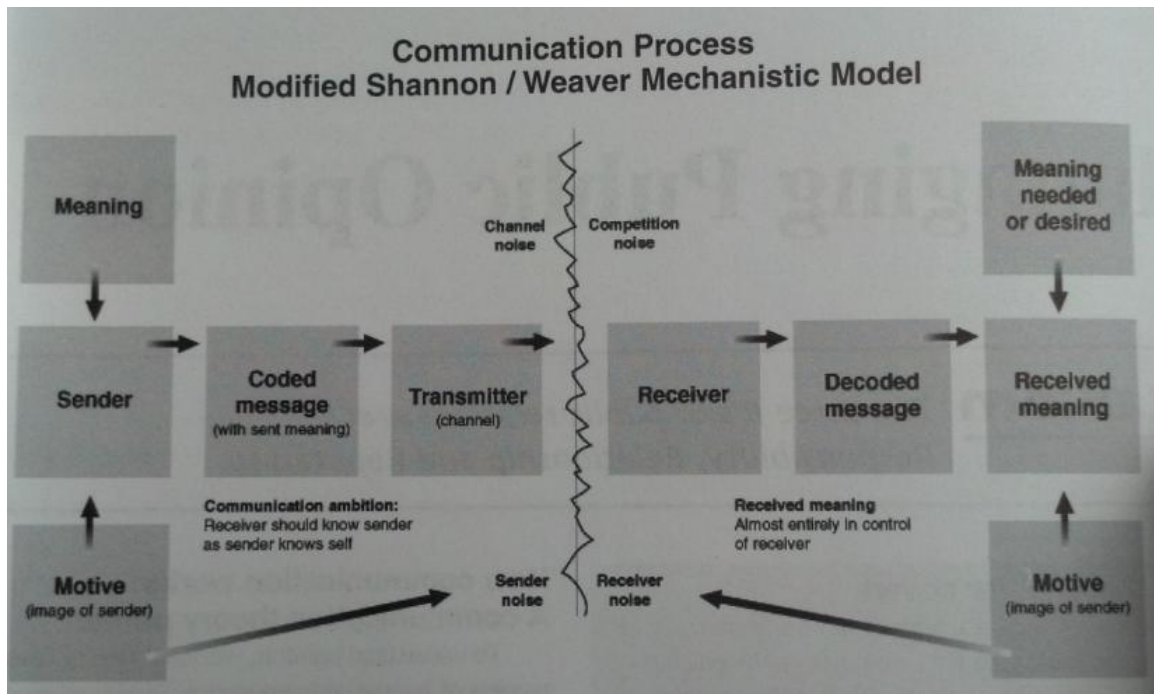
Figure 1 Shannon/Weaver Model (Fulginiti & Bagin, 2005)

The Source, or the sender, originates the message. It is the person or group being sent a message. The source decides how the message is going to be sent and creates a communication using an encoder. The encoder specifies how the message is sent (Fulginiti & Bagin, 2005).

Once the source has shaped the message, it sends the message across the chosen channel. The channel is the medium. So, for example, a tweet would be sent via Twitter to the audience using a computer or a smart phone device. The computer or the phone would be the channel. There can be two types of channels: push channels and pull

channels. A push channel is when the source pushes the message to the receiver. For example, an email or a newsletter that is sent out are push channels. A pull channel is when the receiver has to pull up the message. For example, an Intranet within a company, or a newsletter, would be pull channels. Receivers only get the message in this instance if they retrieve it (Rosenbloom, 2011). Channel Noise, commonly referred to just as noise, is interference that can change or distort the original message (Chaturvedi & Chaturvedi, 2011).

The next element in the Shannon-Weaver Communication Model is the decoder. This element takes the message and arranges it so it in a proper format. In the example using Twitter, Twitter would be both the encoder and decoder.

If the communication was one-way, it would stop here. If the communication is two-way, it would have one additional element, feedback. "Feedback is a powerful too. When it does not exist or is delayed or feeble…then the situation engenders doubt and concern in the communicator, and frustration and sometimes hostility in the audience. Feedback tells the communicator how this message is being received (Broom, 2009, p. 272)."

Feedback is sent from the receiver to the sender which allows the sender to know that the message has been received. They can also determine from the feedback if the message was understood or if there was any confusion. There can be four different categories of feedback: clarifying, interpretive, judgmental, or personal reaction. Feedback can also be either positive or negative (Gamble and Gamble, 2002).

Technology, Social Media, and Web 2.0

"The media and new technologies are a altering the nature of our communication experiences. The content of the media influences our thoughts and feelings about the world we live in. Of course, large numbers of us no longer rely merely on the more traditional media of television, music, radio, film, and print for information about ourselves, each other, and our world; millions of us now also interact with each other in cyberspace. Thus, the media and emerging technologies are bring us new ways of discovering ideas and information, new ways of relating with friends and strangers, and new ways of learning about our world, our identities, and our future. The media and technology are also causing us to reexamine our relationships and redefine our notions of effective and meaningful communication. Because of their presence in our lives, we may think differently about ourselves, each other, and society in general (Gamble & Gamble, 2002, p. 17)."

Technology can eliminate time and space issues which can allow people from all over the world to communicate simultaneously. Rudolf Stober introduced an idea that "new media are not consequence of technical inventions, but derive from a two-stage process of inventing and 'social institutionalizing' those new technologies (Stober, 2004, p. 484)." This idea can be related to cause and effect theory. What people are doing now and how they are communicating now will affect the technology that is introduced for those purposes in the future. New technology is changed based on how people are using current technology and "new" technology is introduced. "Even new media were at one time new. And every new medium will become old at some point in its existence (Stober, 2004, p. 484)."

Mass communication is the use of mass media to send messages to large audiences at the same time. Common mediums for mass communication include television, radio, and the internet. "The important point about mass communication is not

that a given number of individuals (or a specifiable proportion of the population) receives the products, but rather that the products are available in principle to a plurality of recipients (Thompson, 1995, p. 24)."

Typically, mass communication is one-way. In The Media & Modernity, author John Thompson refers to mass communication as diffusion or transmission of media because of it usually being one-way. Thompson discusses the characteristics of mass communication based upon how we use the term. The five characteristics of mass media are: the technical and institutional means of production and diffusion; the commodification of symbolic forms; the structured break between production and reception; the extended availability of media products in time and space; and the public circulation of mediated symbolic forms (Thompson, 1995).

In the 2009 Nielsen Convergence Audit, noted an increase in the number of households disconnecting their house phones and becoming houses with cell phones only. In their conclusion, Nielsen notes that with more services available and prices reducing, the number of households with house phones will decrease while the number of households with cell phones will increase (Nielsen, 2009).

The printing press, introduced in the 1400s, was used to apply inked images to paper or cloth. This led to a mass production of books. Prior to the printing press, books were handwritten copies of the original. The telegraph, signals coded in Morse Code, were written down by the telegraph operator. Prior to the invention of the telegraph, people used smoke signals and light reflections to communicate over vast distances with each other (Rao, 2000).

Later transmissions would include voice and sound over the telephone. This allowed people to speak with each other over great distances instantaneously and without having to send telegrams or letters with a courier. The radio, a wireless form of technology, used radio waves to send voices and sound over the air to a radio receiver. (Crowley & Heyer, 2003). Years later, the invention of the television allowed for the transmission of sound and voice and the transmission of black and white images (Crowley & Heyer, 2003).

The internet is the channel to which social media and web 2.0 applications are accessed. Web 2.0 are web based applications that allow users to share information and interact. Social media are networking sites that allow users to communicate with one or multiple people and share content including pictures, music, and videos. (Frydenberg, 2011) Common social media sites used are Facebook, MySpace, YouTube, Twitter, LinkedIn, and numerous dating and blog sites.

MySpace was founded in 2003. Facebook was founded shortly after, in 2004 but did not surpass MySpace in rankings until 2008. Both sites allow users to create profiles and share photos and videos. Users can connect to friends, families, or strangers and even bands and celebrities. Originally, Facebook was designed for college students but eventually expanded so that anyone over the age 13 could join. LinkedIn is a social networking site designed for professionals. Profiles on these sites consist of resume style formatting. YouTube was founded in 2005 as a video sharing site where users could upload and share videos or view other users' videos (Frydenberg, 2011). Popular dating sites include eHarmony and Match.com. Both sites require an account set up to use their

services and both have fees related to membership. eHarmony was found in 2000 while match.com was founded in 1994 (Butler, 2009).

"Social networking sites have clearly created a new model for online self-expressionism and a new avenue for marketers to reach their customers. It's a pretty wild scene at the moment but you can also get away with trying nearly anything (Gillin, 2007, p. 32)". Online social media websites are used for members to communicate with other members of the site.

Technology changes the experiences that people have when communicating. It also removes the space element allowing people to communicate with the use of technology in ways not before possible. "Technology continues to speed up communication as it brings the world into our living rooms and bedrooms, offices and automobiles. Instead of valuing sequential understanding and careful logic, we now value immediate gratification and emotional involvement. Technology has also given us the ability to interact in more ways than, more quickly, and with more people than ever before. We now experiences events throughout the world as they happen (Gamble & Gamble, 2005, p. 12)."

Intrapersonal communication is "the process of understanding and sharing meaning within the self." Interpersonal communication is the personal process of coordinating meaning between at least two people in a situation that allows mutual opportunities for both speaking and listening (Pearson, Nelson, Scott & Harter, 2003, p. 134)."

Interpersonal relationships are relationships between two or more people. Interpersonal communication occurs when at least two people interact, exchanging and learning information that helps sustain or terminate relationships. There are many types of interpersonal relationships including friendship, family, romantic and professional (Doyle, 2005). Webster's Dictionary defines each of them as the following:

Friendship is the state of being a friend: a person attached to another by feelings of affection or personal regard. Family is a basic social unit consisting of parents and their children, considered as a group, whether dwelling together or not. Romantic's literal definition is of, pertaining to, or of the nature of romance. When coupled with the word relationship, it would be a relationship where romance plays a key role. Professional is appropriate to a profession. When this is joined with the word relationship as romantic was joined, it would mean simply, a relationship appropriate to the profession. No matter what kind of relationship it is, those involved communicate with each other in a manner appropriate for the bond (Webster's universal college, 1997).

> "As our society places more and more emphasis on technology, it is feared that we will place less and less emphasis on personal relationships. Linguist John L. Locke, for example, argues tat modern technology is robbing people of the inclination to speak meaningfully to one another (Gamble & Gamble, 2002, p. 210)."

Gamble and Gamble present three basic needs or functions of relationships. They are inclusion, control, and affection. Inclusion is the need to be connected to other people socially. Control is the need to influence and have power over relationships. And, affection is emotional connections to other people (Gamble & Gamble, 2002).

A network is "an intricate web of contacts and relationships designed to benefit the participants (Pearson, Nelson, Scott & Harter, 2003, p. 190)." Networks are large groups of people participating in communication via interpersonal relationships. Group members can express their ideas and exchange thoughts and emotions with other group members. Web 2.0 applications and social media make these interactions more possible than ever before with websites such as Facebook and LinkedIn.

Language & Meaning

Webster's Dictionary defines language as "a body of words and the systems for their use common to a people who are of the same community or nation, the same geographical area, or the same cultural tradition." Also, "any system of formalized symbols, signs, sounds, gestures, or the like used or conceived as a means of communicating thought, emotion, etc. (Webster's universal college, 1997, p. 456)"

Language is used to communicate in different ways, written and spoken. There are also specialty languages for the handicapped. Written languages use symbols that represent different words and meanings. In English, and many other languages, we have the alphabet that consists of twenty-six letters. Other languages use symbols to represent whole words, such as Chinese and Japanese. Hieroglyphics are an example of the first written language, using symbols and shapes to represent words. Written language changes at a slower pace than spoken language (Janson, 2002).

> "Written expression differs from oral expression in that it is dependent entirely on the alphabetic word — and not on the visual and vocal elements that help people communicate in face-to-face speech. Writing requires a codifiable medium to convey meaning. Also, it uses a vocabulary, based on known conventions and rules of usage, to create new ideas. In written expression, discrete elements (the

alphabet) are combined and recombined to help convey new ideas, often using new words created to meet the needs of conveying those new ideas. Finally, written language must have a fixed relationship with spoken language, so that people can communicate the same thought in two different media simultaneously — as in reading to one another. These elements give writing its characteristics of permanence and completeness. As opposed to the transience of spoken language, writing has a lasting, permanent quality about it. Written language is less redundant, more planned. Meaning and shades of meaning are conveyed by carefully chosen and placed words. Meaning may be modified by deleting, editing, and otherwise changing the written words, unlike oral language, where once words are said out loud, they cannot be unsaid, only explained. Sequentiality, like the subject-verb-object sequence in English, is important in writing; spoken language is often understood even when the structure of the sentence is fractured. In written language, the presence of the receiver is not required, and the constraints of time and space are removed. Given these factors, writing can be more analytical than oral communication (Ferris, 2002, p. 2)."

Written language can change based on the medium that is being used. Electronic communities use shortened words, or abbreviations, and emoticons to interact with other users. Electronic mediums change the way that an author writes. On the internet, it is said that people use written speech, writing how they speak (Crystal, 2001). Emoticons are symbols used to display different emotions on electronic messages. Included on the next page is a chart of the common emoticons and their meanings. (Crystal, 2001)

Table 1 (Crystal, 2001)

Emoticon	Meaning
:-)	Pleasure, humour, etc.
:-(	Sadness, dissatisfaction, etc.
;-)	Winking (in any of its meanings)
;-(or :~-(	Crying
%-(or %-)	Confused

| :-o or 8-o | Shocked, amazed |
| :-] or :-[| Sarcastic |

Spoken language use vocabulary and structure just as written languages do, the difference is that there are many different dialects when it comes to spoken language. A dialect is a "variety of a language distinguished from other varieties by features of phonology, grammar, and vocabulary and by its use by a group of speakers set off from others geographically or socially (Webster's universal college, 1997, p. 223)." In addition to different dialects of language, there are different spoken languages. Common languages include English, Spanish, French, and Chinese.

Gamble and Gamble reference the triangle of meaning which includes there elements: thought, word, and thing; the triangle explains the relationship between the three. "The broken line connecting word (a symbol) and thing (a referent, or stimulus) indicates that the word is not the thing and that there is no direct relationship or connection between the two. Thus, when you use words, you must constantly remind yourself that the only relationships between the words you use and the things they represent are those that exist in people's thoughts (including, of course, your own) (Gamble & Gamble, 2002, p. 106)."
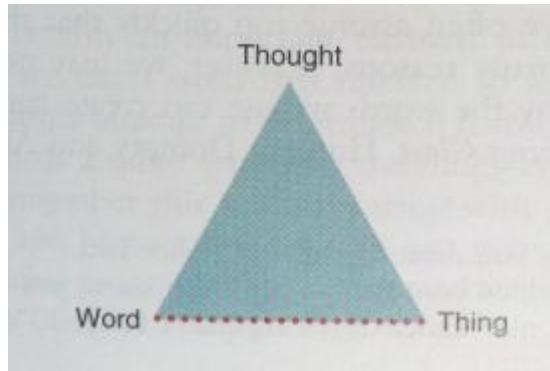
Figure 2 Triangle of Meaning
(Gamble & Gamble, 2002)

Sign language and Braille are two specialty languages for the handicapped. Sign language is the use of hand motions to communicate words and emotions with people who cannot hear. Like spoken languages, different areas can have different variations on sign language. Interpreters will speak what is being signed for those who can hear and sign what is being spoken for those who cannot hear. Braille is a second specialty language. Braille uses the dots to represent different letters to allow blind people to read and write by touch (Davis, 2006, p. 384).

The Importance of Face-to-Face Communication

Communication occurs "when an act of structure: produces a reaction in another organism, was designed to produce such a reaction, and is able to do so because the reaction designed to be so (Scott-Phillips, 2010, p. 78)." It is considered an interactive phenomenon.

Face-to-face communication is important in conversations for many reasons. These conversations can communicate more through interaction than an e-mail message

over the computer. Ron Hess, president of Motiv8, says that personal connections make personal difference. Nonverbal communication can show others how a person feels about another person, a situation, a thought, and so on. Body language includes facial expressions, gestures, and posture. These movements cannot be sent over an email or seen in a text message.

> "Of all the nonverbal channels, the face is the single most important broadcaster of emotions. You may be able to hide your hands, and you may choose to keep silent, but you cannot hide your face without making people feel you are attempting to deceive them. Since we cannot put the face away, we take great pains to control the expression we reveal to others (Gamble & Gamble, 2002, p. 153)."

Verbal communication is instantaneous between the sender and the receiver. It provides the audiences the opportunity to provide feedback as soon as they listen to the message from the sender. Listening is an important piece of the communication process. Hearing and listening are two different things. Gamble and Gamble define hearing as the involuntary, physiological process by which we process sound while they define listening as the deliberate psychological process by which we receive, understand, and retain aural stimuli. Feedback is connected to listening, as you need to listen to give proper and useful feedback to the sender.

> "We constantly provide others with feedback, whether we intend to or not. Everything we do or fail to do in a relationship or interaction with others can be considered feedback. Sometimes we send feedback consciously, intending to evoke a particular response. For example, if you laugh or chuckle at a speaker's joke or story, you may be doing so because you want the speaker to feel that you enjoyed the story and hope he or she will tell more jokes. In contrast, some of the feedback we transmit is sent unconsciously and evokes unintended or unexpected responses… What we intend to convey by feedback, then, maybe not be what

others perceive. Sometimes others intentionally choose not to perceive our messages. At other times, confusion results because feedback that we mean to be nonevaluative in tone is interpreted as evaluative (Gamble & Gamble, 2002, p. 189)."

Feedback and nonverbal communication is what makes face-to-face communication so important. Aside from these nonverbal channels, there are many other reasons that face-to-face communication is so important. A person's voice can also play a role in communicating a message. The speaker's pitch, volume, and rate can also affect a message, an effect that cannot be heard through other means of communication (Pearson, Nelson, Scott & Harter, 2003).

The highness or lowness of a voice is its pitch. Gamble and Gamble mention vocal stereotypes related to pitch. Strength, sexiness, and maturity are often associated with low-pitched voices while helplessness, tenseness, and nervousness are often associated with high-pitched voices. They also discuss volume which is defined as a degree of loudness. With volume, emotional intensity is reflected; vocal stereotypes are also related to volume. Loud volumes are considered aggressive and overbearing while soft volumes are timid and polite. Nonverbal communications also reflect rate, the speaking speed. The different rate that a person speaks at can affect their credibility. Pauses and silence allow listeners and speakers to gather thoughts (Gamble & Gamble, 2002).

Rate, volume, and pitch are all important factors in nonverbal communication and are all factors that cannot be heard through technology oriented communication. However, there are nonverbal communication that can be processed through a technology

based communication. Abbreviations and emoticons are used in text to send different

messages and emoticons.

CHAPTER 3

Methodology

Communication between two or more people has changed over the years and continues to change. Face-to-face communication is decreasing while other means of communication such as text messaging, e-mails, or social media messages are increasing. These changes in how people are communicating also affect how they interact with each other in person. The researcher completed secondary and primary research to look further into these concepts.

Research Design

This study examined the use of technology and its impact on face-to-face communication. Through research, it is known that communicators have motive and reason behind their communications and the medium that they choose.

In order for people to be successful communicators, they need to understand how their audience functions. For example, if they are trying to communicate with an 80-year-old who is not technology friendly, paper communications or phone calls may yield higher results than a text message or email.

Through this survey, the researcher studied student members of the Rowan University population and concerning their motives for communicating, how they communicate, the changes of technology and how it changes communication, the

language used for each medium, networking communications and why face-to-face communication is so important.

Source of Data

The researcher used non-random convenience sampling of Rowan University students between the ages of 18 and 25 using a snowball effect. Convenience sampling is a nonprobability used during preliminary research to gather general information. Snowball sampling is when the researcher identifies members of the population with a specific knowledge and then depends on them to make referrals about the study using a chain letter format. The sample used was non-random, which means that the researcher did not provide all members of the population with a fair chance of completing the study (Jugenheimer, Bradley, Kelly & Hudson, 2010).

The researcher distributed surveys to people within the immediate community via the internet using email and social networking websites. The author used a snowball technique to gather data. The snowball allows the researcher to identify members of a population with particular knowledge and asks them to participate in the study. Those members of the community then will pass the study on to other members of the community that also have knowledge of the subject.

Method of Acquiring Data

The data was collected through surveys and in-depth interviews. The surveys were collected from February 23, 2012 through March 8, 2012. In-depth interviews were conducted during the same date range.

The researcher composed questions for both the survey and the interview. The survey was designed and distributed using SurveyMonkey. The survey was designed by the researcher and pre-tested using graduate students at Rowan University. Pretesting is a fundamental part of implementing a survey. The questions may look good to the researcher but by pretesting the survey, the researcher may come across wording or phrasing that can create bias in the survey. Survey questions included demographic questions along with questions to determine communication habits. The survey concluded with a brief open-ended question.

Personal interview questions further looked at the communication habits of the participants. These interviews will be done in person with participants in a discussion style rather than a question and answer style. Questions for the interview were separated by topic and used only as a guide for the conversation.

Method of Analyzing Data

After the data was collected, the researcher categorized the open ended response question from the survey and the answers from the interview questions. Categories were determined once all responses were read. The survey was analyzed both qualitatively and quantitatively for comparison purposes.

The researcher sorted the responses also by demographic information to determine which groups of people are communicating in different ways and why they are choosing to communicate in that way. The responses were used to help support the hypotheses and research questions outlined in Chapter One.

Summary

Through research summarized in the Chapter Two Literature Review, communication is more extensive than just telling a secret or sending an email. Communication is the act or process of communicating; fact of being communicating, the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs (Webster's universal college, 1997, p. 163)." Every communicator can have a different style and choose to communicate different messages in different ways.

Through primary research, the researcher determined how technology is affecting face-to-face communication. Applying the secondary research, the researcher will gain an understanding of how communication is changing in a select audience.

The results of the primary research study are discussed in Chapter 4. Charts and graphs will be included to compare and contrast results of the data. The results provide insight into how Rowan University students between the ages 18 and 25 are communicating with each other. However, this study cannot be generalized because the researcher used a convenience sampling for both the surveys and the interviews.

CHAPTER 4

Findings

Methodology Review

The researcher conducted surveys and interviews over a two week period. The results which are included in this chapter discuss the findings. Prior to conducting the primary research, the researcher conducted secondary research on the topic to create and develop a complete understanding of prior knowledge and research in order to develop effective research methodology.

The researcher had 104 responses to the survey, which was conducted online using Survey Monkey. The survey was sent out via email, Facebook, and Twitter. The sample was a non-random convenience sample using a snowball effect to get a larger number of respondents. This sample cannot be generalized because the way the researcher conducted the survey, not all of the members of the Rowan University population had a fair and equal chance to respond.

The researcher also conducted interviews during the same two week period that the survey was available on the internet. The interview was conducted with 10 participants. These participants did not know the researcher but were chosen to do the survey based on availability and willingness to do so.

Before the online survey was created and distributed, the survey itself was pretested using a class of ten graduate students. The students completed the survey and

noted any parts that were confusing or raised concern. Through the pretest, the

researcher found questions where students were not sure which parts they had to answer

and also demographic questions that did not include enough answer choices. Pretesting

methodology is important because it helps to eliminate the chance of bias and ensures

that the researcher is not unintentionally guiding the respondents to choose certain

answers.

Data Results

Survey Results

The survey was available online for two weeks and was sent out via email,

Facebook, and Twitter. The researcher asked people to pass the survey on which used a

snowball effect to gain the most respondents possible. To learn a little about the

respondents for analysis purposes, the researcher included demographic questions. Of

the 104 respondents, 51% were male and 49% were female so the researcher got a good

mix of people male and female that answered the survey.

Fifty percent of respondents were employed while the remaining 50% were un-

employed. Of the respondents that were employed, 40.8% worked 10 hours or less every

week. Eighty two point eight percent are working toward a bachelor's degree and 24.2%

of respondents were working toward their master's degree. None were working on their

doctorate.

Ninety two point nine percent of respondents were full time students, 1% were

half time, and 6.1% were part time.   Forty seven percent lived on campus and 53% lived

off campus. A majority of respondents, 83.3%, had between one and three siblings.

Sixty two point five percent were single, 34.4% were in a committed monogamous relationship, and 3.1% of respondents were married. Ninety six point nine percent are not involved in Greek Life and 3.1% are involved at various levels.

Following the demographic information, respondents were asked to rate various statements on a scale from one to seven. One was for strongly disagree and seven was for strongly agree.

The statements that had to be rated are below:

1. I consider myself outgoing.
2. Google's search engine is an essential tool for communication.
3. I prefer text messaging over verbal communication.
4. Social networking sites are useful for keeping in touch with old friends.
5. Cell phones or smart phone devices are essential to communicate with friends.
6. Cell phones or smart phone devices are essential to communicate with family.
7. People over the age of 25 generally prefer spoken communication over text messaging.
8. Technology increases my connectivity with friends and family.
9. Social media has improved my relationship with friends.
10. Social media has improved my relationship with family.
11. Social media has improved my relationship with significant others.
12. Verbal communication skills are essential to maintain relationships.
13. Written communication skills are essential to maintain relationships.
14. The use of social media diminishes the clarity of the message.

15. The use of social media diminishes the persuasiveness of the message.

16. More people should use social media tools to communicate because it is easier than traditional forms of communication.

17. Social media is easier to use than traditional verbal communication.

18. The channel of communication selected affects the quality of relationships.

The average ratings vary for each statement. These statements will be referred to by number in tables when sharing the data. When these ratings were compared with demographic information via a t-test, the results differed. However, below are the rating averages before including any demographic information.

Table 2

Question	Rating Average
1	5.12
2	5.12
3	3.43
4	5.60
5	5.09
6	4.84
7	4.79
8	5.82
9	4.43
10	3.38
11	3.16
12	6.52
13	4.86
14	4.61
15	4.60
16	3.82
17	4.05
18	5.32

After respondents rated the statements, they had to choose what their action would be for four different situational questions. They were provided with four different choices: A.) Call them, B.) Send them a text message, C.) Email them, or D.) leave a comment on their wall on Facebook or another social media site.

The situational questions are on the next page.

1. It is Wednesday night but you are ready for Friday night so you ask your friend what they are up to that weekend. You would…

2. You just found out that there is an important assignment due tomorrow and your friend has been out of class this week. You would…

3. A close relative of a friend just passed away and you want to see if your friend is okay or needs anything. You would…

4. It is a slow Monday at work and you are bored so you want to see if there is anything interesting going on with friends to keep yourself entertained. You would…

The percent that each choice varied for each situational question. These questions will be referred to by number and the choices will be referred to by letter in tables when sharing the data. When these answers were compared with demographic information via a t-test, the results differed. However, below are the percentages before including any demographic information.

Table 3

Question	Choice	Percentage
1	A	17.2%
	B	64.8%
	C	3.2%
	D	14.8%
2	A	37.6%
	B	39.8%
	C	18%
	D	4.6%
3	A	75.7%
	B	15.9%
	C	4.7%
	D	3.7%
4	A	6%
	B	61.6%
	C	6.8%
	D	25.6%

After reviewing the initial results, the researcher completed a t-test in which she compared the results using different demographic information. She compared the results for male and female, employed and not employed, and also the three different relationship status options: single, in a committed monogamous relationship, and married. Below are the rating averages when tabulated with each of the pieces of demographic information mentioned.

Table 4

Question	Rating by Demographic Data						
	Male	Female	Employed	Not Employed	Single	In a committed, monogamous relationship	Married
1	5.08	5.15	5.39	4.85	5.10	5.12	5.33
2	5.19	5.04	5.06	5.15	5.45	4.55	5.00
3	3.31	3.54	3.59	3.20	3.57	3.39	1.00
4	5.54	5.65	5.41	5.78	5.64	5.48	6.00
5	5.17	5.00	5.16	5.00	5.48	4.48	4.00
6	4.58	5.11	4.94	4.74	4.98	4.67	4.00
7	4.71	4.87	4.90	4.65	4.83	4.73	4.67
8	5.71	5.93	5.84	5.83	5.88	5.79	5.00
9	4.35	4.50	4.49	4.39	4.59	4.42	1.33
10	3.08	3.69	3.48	3.30	3.53	3.19	2.33
11	3.06	3.27	3.25	3.13	3.33	3.06	1.00
12	6.31	6.73	6.46	6.59	6.69	6.19	6.67
13	4.56	5.18	5.02	4.65	5.28	4.13	4.67
14	4.10	5.16	4.56	4.70	4.76	4.31	5.00
15	4.38	4.84	4.65	4.61	4.83	4.38	2.67
16	3.71	3.93	3.67	3.98	3.88	3.72	3.67
17	3.88	4.24	3.96	4.09	4.28	3.50	5.67
18	5.17	5.49	5.29	5.39	5.34	5.19	6.33

Using the same demographic information, the researcher then compared it with

the situational question data. The results are on the next page.

Table 5

Question	Answer Choice	Rating by Demographic Data						
		Male	Female	Employed	Not Employed	Single	In a committed monogamous relationship	Married
1	A	15.9%	18.6%	19%	15%	12.3%	23.9%	33.3%
	B	66.7%	62.7%	68.3%	61.7%	69.9%	60.9%	0%
	C	3.2%	3.4%	1.6%	5%	1.4%	2.2%	66.7%
	D	14.2%	15.3%	11.1%	18.3%	16.4%	13%	0%
2	A	37.7%	37.5%	36.6%	38.1%	37.6%	37.8%	33.3%
	B	42.1%	37.5%	42.3%	38.1%	41.2%	40%	0%
	C	15.9%	20.3%	16.9%	19%	16.5%	17.8%	66.7%
	D	4.3%	4.7%	4.2%	4.8%	4.7%	4.4%	0%
3	A	78.2%	73.1%	71.2%	81.6%	73.5%	77.9%	100%
	B	14.5%	17.3%	20.3%	10.3%	17.7%	13.9%	0%
	C	3.6%	5.8%	3.4%	6.1%	4.4%	5.6%	0%
	D	3.6%	3.8%	5.1%	2%	4.4%	2.8%	0%
4	A	6.6%	5.4%	6.5%	5.4%	2.9%	9.8%	16.7%
	B	59%	64.3%	67.7%	55.3%	67.1%	56.1%	33.3%
	C	9.8%	3.6%	0%	14.3%	4.3%	7.3%	33.3%
	D	24.6%	26.7%	25.8%	25%	25.7%	26.8%	16.7%

Interview Results

The interview portion of the primary research was completed during the same two week period that the online survey was available. Ten students participated in the interview. Of the 10 students, six were male and four were female. The interview was completed in a discussion style rather than just question and answer style. The researcher had four main topic areas: 1.) technology, 2.) messages, 3.) friend, family, and co-worker communications and 4.) final thoughts and wrap up.

The four topic areas continued some discussion questions. Each discussion point was listed with the results for each below the question. A summarized response for each

participant will be listed in a table with each question. The respondents were listed by number, not name, and their answers will be listed next to the same number for each question.

Topic One – Technology

The first part of the interview was questions regarding technology to get to know the participants more and learn about their habits and thoughts on how technology effects communication or if they even think that.

Question 1 – How heavily do you rely on technology for communication?

   While the respondent's individual answers varied, the theme was that well over
half of communication was done using a form of technology. Most respondents relied
heavily or very heavily on technology to communicate.

Table 6

Respondent Number:	Response (Summarized):
1	All the time for almost all communications.
2	Part of daily routine; rely heavily on technology.
3	Heavily rely on for communication.
4	Heavily: used daily, sometimes hourly to communicate with both friends and family.
5	Relies somewhat on technology to communicate.
6	Essential for long distance communication.
7	Almost always rely on technology for communication.
8	About an eight on a scale from one to ten.
9	Very heavily, especially in relation to work.
10	Very heavily: About 80% of communication is done over technology.

Question 1, Part 2 – What technology do you use?

All the respondents included a phone and either a computer or internet connected device or medium. Some respondents used more means of communication than others. However, their answers were similar with not much variation.

Table 7

Respondent Number:	Response (Summarized):
1	IPhone, Laptop, ITouch
2	Computer, phone, IPod Classic & IPod Touch
3	Email, Phone, Instant Messanger
4	Cell Phone, G-Chat, Facebook Chat, Email, and Video Chat
5	Internet (social networking sites) and cell phone
6	Cell phone, instant messenger, email, and internet
7	Cell phone and computer
8	Cell phone, email, social media (mainly Facebook)
9	Computers, smartphones, tablets, anything with internet connectivity
10	Computer, cell phone, tablet, Facebook, Email, text messaging, instant messaging, Skype, Google Talk, ChatON, and Ventrillo

Question 2 – How often do you call a friend vs. text, IM, email, etc.?

A majority of the respondents call limited times per day and often times had specific justifications as to why they would call. They also claimed that they would text or use other forms of communication more often than calling.

Table 8

Respondent Number:	Response (Summarized):
1	Not so much call but all the others are all day with the exception of when at work.
2	Regularly but more often text, IM, or email
3	Never call.
4	Will call at least once if not several times a day.
5	About the same but a little more text, IM, email over calling
6	1-2 times a day.
7	Only call for homework questions or deep conversations.
8	Use text over phone calls because of convenience for personal conversations
9	Not very often.
10	Text 10 to 1 compared when compared to calling.

Question 2, Part 2 – How often do you text, IM, email, etc.?

      Unlike when they were asked about how often they would call people on the phone, respondents had much more activity with other forms of communication. This was part of their daily routines and was done throughout the day.

Table 9

Respondent Number:	Response (Summarized):
1	Frequently; At least every 5 minutes.
2	Daily at regular occurrences throughout the day.
3	Text about 30 times per day; IM about 3 times per week; Email about 10 times per week.
4	Hourly; usually will text/IM/email/or video chat a minimum of once an hour, usually multiple times in any given hour.
5	At least once a day
6	5-15 times a day
7	Text all day, everyday.
8	Multiple times a day
9	Very often. It's the main/preferred communication.
10	Send and receive messages all day through many different mediums.

Question 3 – Do you feel that technology is having an effect on how you communicate?

        All of the participants responded unanimously that technology does have an effect on how they communicate. Please see the next piece, question 2, part 2 for the participants more specific descriptions of how they feel technology affects their communication.

Question 3, Part 2 – If so, how? Why?

Table 10

Respondent Number:	Response (Summarized):
1	Less communication is done face to face.
2	Technology is essential for communication. Specifically, eliminates feeling of distance and provides the opportunity to use written and spoken words along with visual communication online. This is essential for having family that is out of state.
3	All my communications are done electronically.
4	Communicate more often than otherwise would. Also, still using handwritten letters which are not as common as they used to be.
5	The elimination of distance. The ability to keep in touch with people from other states and other countries.
6	Technology allows people to communicate with each other without having to actually talk to the person.
7	Don't call very often. Text more because it is easier than calling especially for quick questions.
8	It has improved communication ability. Can express thoughts, opinions, etc better in writing/email/text messages better than in face to face conversations.
9	It is unavoidable for it to not have an effect. Technology makes it easier to get in touch with people. However, it also makes us reliant on it and some prefer it. Widespread adoption is also to blame because everyone is using it so you have to use it to get in touch with everyone.
10	Basic structures of communication are shifting. Information can be sent and received quicker. People tend to move on from conversations and block/stop talking to people faster because of the ability to hide behind technology.

Topic Two – Messages

The second portion of the interview was to discuss messages.   The purpose of this was to see how they would act in different situations just as the survey asked in the situational question portion.

Question 1 – If you have to tell someone something urgent, how would you contact them?

All of the participants, with the exception of respondent number six, said that they would call them. Some of the respondents gave more detail that included everything from the relationship with the person to the severity of the message.

Table 11

Respondent Number:	Response (Summarized):
1	Most likely call them.
2	Call them
3	Extremely urgent, call. However, it depends on my relationship with the person. If it's personal, just a text message or business/school related just an email.
4	Phone Call
5	Call, text, or email. All forms, not just one specific.
6	Text message
7	Phone call
8	Phone call, if no answer then text or voice message. (unless in walking distance)
9	Extremely urgent, phone call but if just minor urgency, text message.
10	Call if it is personal, otherwise just send a text message because it

	is less obtrusive and people respond better.

Question 2 – If you have to tell someone something emotional, how would you contact them?

All of the participants, with the exception of number six and number two, responded that they would call them. Number two preferred to do emotional things in person to deter from any confusion. While this is different from the other answers because it does not include calling, it is similar in that many of the participants said they would call for reason of being able to express emotions which you cannot do in writing.

Table 12

Respondent Number:	Response (Summarized):
1	Call them.
2	Call them
3	Everything emotional, I do in person because messages can get misconstrued via email or text since there is no tone in either and can be difficult over the phone.
4	Phone Call – More Personal
5	Call them or video chat.
6	Email or text
7	Phone call
8	Face to face or phone call. Cannot convey emotion via text or email.
9	Depends on kind of emotion. For example, awkward situations are difficult to deal with so non-immediate methods of communication like email.
10	Text if its someone that was recently met, if it is someone that

	has been known for a while, then a in person or on a phone call.

Question 3 – If you want to ask someone something about something that is not soon, how would you contact them?

        All of the participants, with the exception of number two and number six, included text messaging in their answer. Many respondents also included other mediums such as Facebook and/or email.

Table 13

Respondent Number:	Response (Summarized):
1	Text them.
2	Call them
3	Text or email depending on the relationship with the person.
4	Depends on person and topic. If a friend, text message unless planning something then phone call. If close friend or girlfriend, call. If professional contact, email.
5	Text them or email them.
6	Email
7	Text message
8	Text, email, or Facebook message
9	Text, email, or social media depending on relationship with person. Professional relationships would be email or phone if other options were not available. Text or Facebook for friends.
10	Text, Facebook, or Email

Question 4 – How do you feel what you need to get across affects your choice of communication?

      The participants concluded that the message plays a large part in how they decide to communicate. They also all would have agreed on emotions being an important part of a message that cannot be expressed in writing as a majority of them all included a reference to emotions in their responses.

Table 14

Respondent Number:	Response (Summarized):
1	Anything that is more emotional or detailed would be over a phone call but anything quick would be done via text messages.
2	Nature of the message, the targeted audience, technology in terms of if the recipient will be able to decode the message, urgency of the information and if it needs to be communicated in a certain time frame.
3	Urgent – Call, Emotional – In person, Otherwise electronic forms are OK. It is easier to get thoughts organized and that way, there is a copy of what was said for reference.
4	Very Much. If it is something personal, a phone call is always preferred.
5	Emotion, sarcasm, etc. are not easily portrayed in text, voice and video chat are best for this.
6	Technology makes it convenient to get your thought across by providing multiple options to relay a message depending on the situation.
7	If something is complicated or emotional, always a phone call.
8	The message affects choice of communication because one way may be more sufficient for specific types of messages and to convey the message correctly.
9	The message itself plays a large role in the means of communication chosen.
10	If the subject matter needs to be more personal that you need to put in the extra effort but if it is less important than less confrontational communication is OK.

Topic Three – Friend, Family, and Co-Worker Communication

Question 1 – Please describe your friends' communication habits.

All of the respondents included text messages in their answers. Some also included Facebook and/or other social networking sites as part of the descriptions on how their friends communicate.

Table 15

Respondent Number:	Response (Summarized):
1	Most communication is done with texts or Facebook.
2	Mostly email and Facebook or other social networking sites. About half of friends will use text messaging and IM. A third of friends will use voice-to-voice conferencing such as Skype.
3	Mostly text messages.
4	Texting, IM, and calling frequently. Not as reliant on email.
5	All forms but mostly text messaging and social media sites.
6	Text or facebook messages.
7	Many only text.
8	Text, facebook, call, or face to face
9	Text or Facebook/Twitter/Google+
10	Text or Facebook

Question 2 – Please describe your family's communication habits.

All of the interview participants had similarities and differences in their descriptions about how family members participated. When the participants would talk about specific family members, the parents usually would use phone calls over other mediums while siblings would used text messages or social networking sites like Facebook.

Table 16

Respondent Number:	Response (Summarized):
1	Mostly text messages or phone calls.
2	Internet based services such as Skype and email.
3	Parents text but will call 9 or 10 times. Brothers text message.
4	Brother texts with little reliance on email, calling, or IM. Mother texts and calls. Father texts and emails regularly with little phone calls.
5	Mostly calls or video chat.
6	Text messages and email
7	Sister always texts with little phone calls. Mother always calls with minimum texting.
8	Older family members via email or phone calls, younger family members via facebook. Very close family members, text messaging.
9	They prefer phone but are starting to use text messages more.
10	Phone Calls but more recently more Facebook and text messages.

Question 3 – Please describe your co-worker's communication habits.

When asked to describe co-worker's communication habits, the answers varied. However, all of the participants with the exception of number three who is unemployed, included a written form of communication.

Table 17

Respondent Number:	Response (Summarized):
1	Mainly text messages.
2	Most frequently email. However, some use Facebook and text messaging.
3	Currently unemployed. N/A.
4	Similar to self with greater dependence on email and phone over text and IM.
5	Some text and social media. Others call depending on age.
6	Text messages and emails.
7	Text and Facebook.
8	Mostly email. Occasionally text or phone call.
9	IM or email for work related emails.
10	Email.

Question 4 – Compare and Contrast how you choose to communicate with family vs. friends vs. coworkers.

The majority of respondents answered that they spoke face-to-face or over the phone with family members while friends and co-workers they would tend to use email, social networking sites, or text messaging.

Table 18

Respondent Number:	Response (Summarized):
1	More emotional or detailed would be via the phone; something quick would be done via text messaging.
2	Use the same methods for every group. Does not use Facebook because respondent does not have an account.
3	Rarely communicate with immediate family other than in person but will call or text message when needed. Extended family, communication is done through text messages.
4	All forms of communication minus email for family. For coworkers, email and phone calls.
5	Call and video chat with family. Only talk in person to co-workers.
6	Facebook or text messages with friends. Texting with family. Emails with coworkers.
7	Calls are more appropriate with family while usually text with friends.
8	Facebook or texts for friends and close family. Distant family members via phone calls or emails. Coworkers are usually face to face.
9	Family is the only group of people that phone communication is used usually. Everyone else, usually other digital means.
10	It is easier to communicate vocally with family while friends it is easier to send a text message.

Topic Four – Final Thoughts & Wrap Up

The last portion of the interview process was to gather final thoughts from the interview participants consisting of three questions. The questions and the respondents answers follows.

Question 1 – Do you think that if more people were asked about their communication habits it would make them think about how they communicate?

Two participants did not think that people would think about how they communicate if asked about their habits while eight thought that it would make them think about how they communicate. They also thought it would make people consider how they communicate think that it would make people change slightly but not permanently. Most of the participants agreed the way people communicated was subconscious.

Table 19

Respondent Number:	Response (Summarized):
1	Yes – people do not realize how much they rely on technology to communicate
2	Yes – and ultimately they would probably change how they communicate after talking about it.
3	Yes – they would be surprised at how much subconscious thought goes into their means of communication and what affects it.
4	Yes – people generally subconsciously choose their medium by how they want to come across or how they feel comfortable with little thought put in the process.
5	Yes
6	No
7	No – They would consider their habits for a moment but they wouldn't change their habits
8	Yes – but it will not change the way they have adapted to communicate.
9	Yes – many people don't even realize how much communication changes.

10	Yes but many people would not change their communication methods, maybe just slight changes.

Question 2 – Do you think that technology is disconnecting people from each other?

Six of the 10 respondents agreed that technology disconnects people and four did not. Two of the participants began their responses with "absolutely." The participants were then give the chance to expand on their thoughts.

Question 2, Part 2 – If so, how? Why? (If not, how? Why?)

The participants mostly agreed that it gives the opportunity to be more connected to different mediums. However, people are disconnected by the technology because there is less face-to-face communication and people will choose different ways to communicate without needing to actually speak to another person. One respondent even said that people hide behind technology.

Table 20

Respondent Number:	Response (Summarized):
1	Ever since the eighties when technology became more available, people are using it more than face to face communication
2	Technology prevents a clear message being relayed. It allows people to communicate but without depth and substance. People become disconnected to neighbors and even family members.
3	It connects them more. You know more about a person because you don't have to call them or be in person to communicate with them. IM leads to random chats, Facebook shows what they have been doing recently, and texting people can get everything in between.
4	Many people hide behind the safety of text messaging and IM without having to be "real". However, when methods are used as a tool in combination with others, they strengthen relationships to maintain contact with people you aren't in direct contact with.
5	It is disconnecting people from having the ability to add new people to talk to.
6	Technology enables people to stay in touch no matter where they are. It provides more advantages than disadvantages.
7	Technology eliminates face to face bonding time and there is less verbal communication.
8	It is connecting more people. On social media, you don't need to have their phone number, you can just look them up and send them a message. You can find out what they are up to without talking to them.
9	Communication has changed that the norms have become different. Because social media is available, it allows you to connect with and get to know people and family you wouldn't get to be as close to without it.
10	People don't feel as responsible or close to new friends. It is much easier for people to forget about people nowadays. Reference to a TV show: change the channel quickly if there is nothing shocking or amazing.

Final Thoughts and Comments Summary

After speaking with all 10 of the interview participants and reviewing all of the responses and notes there are some recurring themes between the participants and their thoughts on the topic. A summary of some of their final thoughts follows.

While technology does provide people the opportunity to connect through various mediums that were previously not available, it also disconnects people because people do not speak with each other as often, especially not face to face. This technology that is evolving year after year has advantages and disadvantages. However, without the technology, society would not be where it is today. Technology is often times used to hide behind, especially in uncomfortable situations or topics.

In the future, the interview participants agree that people need to make sure they are paying more attention to how they are communicating and try to communicate more via face to face communication, especially in respect to the elder community who may have trouble trying to learn the new technology.

CHAPTER 5

Conclusions and Recommendations

Hypothesis Statements

The researcher had multiple hypothesis statements prior to researching. The hypothesis statements dealt with how people were communicating and why they were choosing to communicate this way. After completing both primary and secondary research, the researcher is able to accept all four of the hypotheses.

After completing and analyzing the online survey and interviews, the researcher found that many of the respondents used technology to communicate on daily basis. The amount of time spent using the technology depended on other things that they had to do, such as work, throughout the day. Respondents to the survey had to rate statements while interview participants were asked questions to compliment the statements and were able to expand on the answers providing the researcher with further insight.

Survey respondents and interview participants had similar thoughts on the effectiveness and clarity of messages when it came to the use of technology. This also had an effect on how they were communicating. During the interview process, the researcher was able to determine that one factor playing a role in how they were communicating was emotion. Respondents and participants felt that there was no way to express tone or emotion in writing so there were some instances where it was important to communicate verbally.

Study Successes and Failures

        The study was designed to see how young adults are communicating and what is making them communicate this way. Through research, the author was able to see how much the message was the underlying factor in why and how people were communicating. However, even with all of this research, there was not specific information from other audiences as the focus of both primary research method tools were aimed at the specific target audience.

Main Findings

        What communicators are trying to relay plays a role in how they communicate the message. Also, how important or urgent a message is can also influence their choice on the medium to communicate. Emotions involved with the message also plays a part in how the person decided to communicate a message. When something is not urgent, people are likely to communicate via text message, but when it is urgent, they are more likely to call the person; however, they will still text them for this as well. Whenever dealing with something emotional, people will communicate via a phone call and some will even wait to talk face to face. According to the respondents, different mediums affect the clarity and persuasiveness of the message.

        The author was also able to determine that who the researcher is communicating with helps determine the communication. This was able to be seen when respondents were asked about communicating with family members versus friends and co-workers. Relationships are affected by how communication occurs. However, many respondents

felt that technology has both positive and negative effects. Some felt it connects people more but provides communicators with a place to hide.

Strengths and Weaknesses

The study itself was well designed and the primary research tools were well implemented. However, the sample size was small. The author had only 104 people participate in the survey.

The author also did receive some questions about the survey where people were confused about statements that had to be rated. Overall, the author received good feedback and was able to still compare the data.

Meanings of Conclusions

The author concludes that technology has an impact on communication. Sometimes it is a good effect in allowing people to communicate more often but other times it misconstrues a message making people unsure of what is being communicated. Technology does not provide means to display different emotions so face to face, or verbal communication at a bare minimum, are still important to communicate different types of messages.

Suggestions for Further Research

To improve upon this study, the author would suggest opening up the survey to all respondents. Design it to have questions that both Rowan and non-Rowan students could both answer but could be analyzed separately. The author also suggests to try to get a larger sample size for the survey by leaving it up longer and sending it out to people who are even outside of the target audience asking for them to pass out the survey to increase the sample size for the data. By doing this and not eliminating participants who were not Rowan students, the researcher could have had more data to compare and analyze.

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