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Frequency of Cell Phone Texting and Social Competency in Adolescents

Anita Marie Phillips
Walden University

Walden University

College of Social and Behavioral Sciences

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Anita M. Phillips

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Dr. Marites Pinon, Committee Chairperson, Psychology Faculty
Dr. Patricia Loun, Committee Member, Psychology Faculty
Dr. Stephen Rice, University Reviewer, Psychology Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

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Abstract

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

There is no current research on the relationship between texting frequency, social competency development, and the moderating effect of gender in adolescents. A quantitative study involving a moderation design using multiple regression assisted in determining the relationship between cell phone texting and gender and whether or not the interaction of these variables predicted social competency development. The theoretical base that grounded this study was the taxonomic model of social competence, which identified the importance of examining social awareness abilities such as communication, an essential component for the development of social competency. The study included 74 participants. The participants were parents who completed observation checklists of their adolescent children and reported on skills related to social competency development using the Social Emotional Assets and Resilience Scales-Parent Form. A general measure of cell phone use was also reported by participants. The results showed that frequency of texting and gender predicted adolescent social competency. Adolescents who texted frequently had lower social competency scores. Adolescent females had higher social competency than adolescent males. Gender was not found to moderate the relationship between the variables. The results can be used to development curricula, programs, and screening tools for counseling psychologists and other professionals to use to improve the lives of adolescents.

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Chapter 1: Introduction to the Study

Social competency is defined broadly as a range of cognitive skills and abilities used in effective social interactions (Dow & Rich, 2001). Social competence allows adolescents to relate to peers and adults effectively across a variety of settings. According to research by Carman and Chapparo (2012), schools are requiring children and adolescents to work in groups on socially directed activities to enhance higher level learning and thinking skills. In addition to a school environment, social competency is also closely linked to being part of a social group and forming peer friendships (Carman & Chapparo, 2012). Counseling curriculum is used in schools and agencies to address deficits in social competency.

Liang, Tracy, Kenny, and Brogan (2008) examined the differences in gender as they relate to relational health of adolescents who participated in a program to develop social competency. Specifically, middle school students who previously participated in a social competency program were studied to explore the quality of their relationships with peers. The social competency program was developed to promote positive social skills among children and its goals were to improve communications skills, resolve conflicts, and develop positive peer relationships. The results suggest that participation in the social competency program in elementary school encouraged the development of quality relationships with peers, mentors, and individuals within the community when the same students reached middle school. The impact of the program was more significant in boys. The authors found that girls tended to develop quality relationships even when not

exposed to or with minimal participation in the social competency program (Liang et al., 2008).

Social competency development is related to a number of behaviors and skills that children and adolescents demonstrate (Sullivan-Raino, 2008). Sullivan-Raino (2008) suggested that behaviors and skills such as effective communication and peer relational skills are related to social competency and are important skills for everyday interactions. Similarly, Lane, Hays, Core, and Auerbach (2013) concluded that well-developed communication and peer relational skills are important in the facilitation of effective communicative behaviors. For example, adolescents with effective communication and peer relational skills had a larger repertoire of those behaviors and skills in order to communicate wants and needs to others in a clear and acceptable way (Lane et al., 2013). In addition, factors related to developing peer relationships, such as an adolescent's ability to exchange in social interactions with peers for extended periods of time and to be accepted by peers, is related to the development of social competence (Sullivan-Raino, 2008).

Cell phone texting is a way to communicate with others indirectly. Research on cell phone texting suggested that it is the most convenient form of communication among adolescents and preadolescents (Farber, Shafron, Hamadani, Wald, & Nitzburg, 2012). Farber et al. (2012) concluded that when adolescents choose to communicate using technology, it has the potential to encourage adolescents to continue to be social and, at the same time, keep a safe emotional distance. Although cell phone texting is the most common form of communication among adolescents, scholars and educators know little

about the relationship between texting and social competency development in adolescents. Farber et al. argued that adolescents using technology to communicate are subject to cyber bullying, sexting, harassment, and addiction. These issues impact daily functioning and are routinely addressed in school and clinical counseling settings. Interestingly, when adolescents were surveyed, face-to face communication and a voice telephone call led to feelings of being better understood and more intimate. Farber et al. also found that adolescents choosing to communicate using technology to socialize felt more emotionally protected.

The relationship between what researchers think of as being socially well and media use helped to understand the relationship of technology and communication in a broad sense (Pea et al., 2012). Pea et al.'s (2012) results indicated that finding individuals to be negative in overall social interactions was linked to levels of media use. The authors focused on various types of media and interpersonal interaction. Face-to-face communication was found to be linked to positive social well-being. Owning a cell phone was found to have a limited impact on a young girl's socioemotional well-being (Pea et al., 2012).

Another factor to consider is gender differences in cell phone texting. Hofferth and Moon (2012) studied cell phone use and reading proficiency. Girls were found to use cell phones more frequently for both conversations and for text messaging than were boys (Hofferth & Moon, 2012). Similar research revealed that, in a day, 59% of girls called friends on their cell phone as compared to 42% of boys (Lenhart et al., 2010). In addition, 86% of girls used text messages to indirectly communicate with friends as

compared to 64% of boys (Lenhart et al., 2010). Gender differences occur in the frequency of text messaging, and this may influence the outcome on social competency. In this study, I examined gender as a moderating variable to determine if it influenced the relationship between texting frequency and social competency.

Currently, there has been no research that examined the relationship between texting frequencies on the development of social competence. Spies, Shapiro, and Margolin (2014) examined social networking or Internet use and the impact on adolescent relationships in general. They concluded that social networking sites impacted adolescents differently depending on the number of individuals that an adolescent was socially connected with. For instance, it was found that there was variability in self-esteem of individuals depending on the number of connections the adolescent had on social networking or Internet sites (Spies Shapiro & Margolin, 2014). I conducted the current study to understand the relationship between cell phone texting and social competency development. Specifically, the findings contributed to the knowledge base by identifying if the frequency of cell phone texting influenced skills related to overall social competency development, such as peer relationships and communication. The data and information gained from the research can help adolescents develop positive social competency in school and clinical counseling settings. The data can be used to develop targeted interventions to foster positive social competency skills among adolescents. The information can be used to inform parents, caregivers, educators, psychologists, and other professionals to promote positive social change.

The major sections of this chapter include background on social competency development and cell phone texting as well as a theoretical framework for the study. I also discuss the research questions, the nature of the research, and significance.

Background

Researchers have explored the detrimental effects of underdeveloped social competency as it relates to peer interactions, communication, and adjustment into adulthood. When children and adolescents have underdeveloped social competence, the cycle of negative outcomes can significantly impact overall wellbeing and friendships (Liddle, Batty, & Goodman, 2009). In addition, poorly developed social competency has been found to compound one's ability to develop successful relationships throughout life. In clinical populations, it is imperative to understand the factors associated with social or emotional outcomes, especially for adolescents (Niles, Reynolds, & Roe-Sepowitz, 2008). In one study, Niles et al. (2008) examined the longitudinal outcomes for children and caregivers who participated in a preventative program known as the Chicago Child-Parent Center Preschool Program. The program included a preschool component as well as individual-, family-, and program-based counseling initiatives (Niles et al., 2008). The intent of the research was to determine if the preschool program impacted early adolescent social and emotional competency. The results showed the most differential effects for at risk families. Overall, the therapeutic and intervention-based school model was beneficial for most children (Niles et al., 2008). Early adolescents, with a number of environmental risk factors including low parental education levels and socioeconomic status, were found to benefit more from program participation (Niles et al., 2008).

There is a large research base supporting the negative outcomes of underdeveloped social competency skills in adolescents. Eisenberg et al. (2005) and Hastings, Zahn-Waxler, Robinson, Usher, and Bridges (2000) concluded that individuals with underdeveloped social and emotional competencies elicited higher levels of maladaptive behavior. Specifically, authors of both studies found that children and adolescents with underdeveloped skills were more likely to engage in aggressive and noncompliant behavior defined externalizing problems (Eisenberg et al., 2005; Hastings et al., 2000). Conversely, the literature is insufficient to inform whether the frequency of cell phone texting positively or negatively influences social competency development. With the growing use of cell phones to communicate, it is important to understand factors such as cell phone texting on adolescent social competency development and overall mental health.

Outcomes on social competency and texting in adolescents have not been researched specifically, but there is research related to these variables. Subrahmanyam and Greenfield (2008) conducted a study on electronic communication including instant messages, texting, and other forms of media. Specifically, the authors examined adolescent relationships within the context of their online communication activities. A positive aspect of using online communication tools is to reinforce existing relationships. Negative aspects included sexual predation, racism, and hate messages with the potential to influence mental health (Subrahmanyam & Greenfield, 2008). Issues related to technologically based influences on mental health are in need of more research. Based on the U.S. Surgeon General's report, as many as 1 in 5 adolescents struggle with a mental

health issue while enrolled in school (Whelley, Cash, & Bryson, 2002). Furthermore, researchers found that 70% of children and adolescents in need of treatment including counseling do not receive adequate intervention (Whelley et al., 2002). Whelley et al. (2002) argued that there are several strategies to help protect adolescents involving establishment of positive social competency skulls and emotional well-being.

Individuals with underdeveloped peer relational and communication skills are at risk for social competency deficits (Laws, Bates, Feuerstein, Mason-Apps, & White, 2012). Laws et al. (2012) purported that individuals with underdeveloped social competency skills are more likely to struggle with relating to and interacting with others, making it challenging to develop healthy social relationships. In cases such as this, texting may provide an advantage for teens. According to Farber et al. (2012), adolescents text to keep a safe emotional distance from others while remaining socially protected and connected to peers.

Statement of the Problem

Optimal development of emotional and social competence is a protective measure against mental illness (Dobrin & Kallay, 2013). Individuals with a well-developed social competence have a decreased risk of developing mental illness (Dobrin & Kallay, 2013). There is a need for research to identify the relationship between indirect forms of communication, specifically cell phone texting, and social competency development to guide research-based clinical and counseling interventions targeted to improve social competency development. I examined gender because differences among genders in frequency of cell phone use has been found in the previous literature. There is no current

research on the relationship between texting frequency, social competency development, and the moderating effect of gender in adolescents.

Dobrin and Kallay (2013) supported the need for specific methods to improve social competency and identify positive interventions targeted to develop competency skill deficits. I conducted this research to contribute to the literature related to social competency development and the relationship with cell phone texting. In addition, practitioners can be better informed of the impact of texting on social competency in therapeutic clinical and counseling settings.

Carman and Chapparo (2012) suggested that there is a connection between peer relationships and communication. For the purposes of this research, peer relationships were defined as the ability to demonstrate acceptance by peers, interact with peers for extended periods of time, and display high levels of extroversion (Sullivan-Raino, 2008). Another factor related to social competency development is communication. This includes the ability to understand and use language, regulate emotions, and demonstrate social-emotional maturity such as sensitivity toward others (Sullivan-Raino, 2008). A review of the literature on communication skills among children and adolescents supported a correlation between underdeveloped communication and social, emotional, and behavior difficulties (Law, Plunkett, & Stringer, 2012). Barbarin et al. (2013) also argued that there is a relationship between peer relationships and communication, but they further suggested that factors such as effective self-regulation and attending abilities strongly contribute to social competency development. Barbarin et al. further purported that factors related to peer relationships support its importance in promoting prosocial,

competent behavior. Previous research is lacking in including indirect forms of communication with peers, such as the frequency of cell phone texting, and the relationship to social competency development.

In this study, I intended to specifically examine the relationship between cell phone texting frequency and social competency development. Gaining an understanding of the relationship between the frequency of cell phone texting among adolescents and social competency development leads to increased information on the topic. I conducted the research to promote positive social change for adolescents by providing information, based on empirical evidence, to promote positive social competency development. This benefits practitioners in the field of counseling psychology by providing research-based evidence of the influence of texting on social competency development. When reviewing the previous literature, it was evident that information on the development of social competency, the potential moderating effects of gender, and the frequency of cell phone texting had not been researched.

Purpose of the Study

The purpose of this study was to determine whether gender moderated the relationship between the frequency of cell phone texting and social competency. I used a moderation design using a multiple regression to determine the relationships between cell phone texting and social competency development, as well as gender as a moderating variable. Diebold (2013) suggested that moderation analysis requires two separate regressions. The first regression analyzed social competency and the frequency of cell phone texting and included gender as the moderator. Next, a regression was conducted

between gender and the frequency of cell phone texting to determine whether or not there was a moderating effect.

I used this method to determine the relationship between the frequency of texting and social competency and if gender moderates the relationship between the predictor and outcome variable. A quantitative deign was chosen and I collected data and analyzed it to determine statistical significance. Based on the research question, I incorporated data from the surveys used to obtain information on cell phone texting, gender, and social competency development in quantifiable terms. I used a quantitative design to conduct research that provides empirical evidence based on hypotheses that have not been studied previously. In addition, I made inferences based on the findings to be used for comparison with the general population. I calculated and analyzed the frequency of cell phone texting and score on a measure of social competency development and conducted a moderation analysis using multiple regression. Specifically, I used the data from two separate observational measures, the Frequency of Cell Phone Texting and the SEARS-P published by Psychological Assessment Resources, Incorporated (2011) for the analysis. I used a moderation design using a multiple regression analysis to determine the effects between cell phone texting and social competency development, as well as gender as a moderating variable, based on parent report. I explored the problem statement with focus on the frequency of cell phone texting as in indirect form of communication as it related to social competency development.

Research Questions and Hypothesis

I developed the research questions and hypotheses to determine the relationship between texting frequency and social competency development among genders.

Research Questions

Research Question 1 (RQ1): Is there a relationship between the frequency of adolescent cell phone texting, gender, and social competency development, as measured by the Social Emotional Assets and Resilience Scales-Parent Form?

Null Hypothesis ($H_0$1): There is no relationship between the frequency of cell phone texting, gender, and social competency development in adolescents.

Alternative Hypothesis (H_a1): There is a relationship between the frequency of cell phone texting, gender, and social competency development.

Research Question 2 (RQ2): Does gender moderate the effect between the frequency of cell phone texting and social competency development?

Null Hypothesis ($H_0$2): There is no moderating effect of gender between the frequency of cell phone texting and social competency development (no indirect effect).

Alternative Hypothesis (H_a2): There is a significant moderating effect of gender on the frequency of cell phone texting and social competency development (indirect effect).

Theoretical Framework

The theoretical framework that grounded this study was the taxonomic model of social competence by Greenspan (1981). Based on this contextual framework, there are three behavioral components that contribute to social development including social

awareness, temperament, and character. The three components are described by Greenspan (1981) as important to the success or failure of social interactions and outcomes.

Based on the model, social awareness deficits are most responsible for interpersonal difficulties. Social awareness, as defined by Greenspan (1981), is the level of social sensitivity, insight, and communication an individual is able to display. Adolescents with a lack of social awareness have been found to display greater interpersonal difficulties and communication deficits (Olsen, Parra, Cohen, Schoffstall, & Egli, 2012). Due to this, the purpose of the research was to support the hypothesis that direct communication is an important skill to develop effective social competency. Cell phone texting is an indirect form of communication as it removes the individual from opportunities to develop better verbal skills and social awareness.

Greenspan's (1981) model of social competence identifies the importance of examining social awareness abilities such as communication. Communication is an important factor to consider when examining the development of social competency. As defined in the current research, communication, peer relationships, and social competency parallel Greenspan's (1981) model. Greenspan's (1981) model also emphasized behavioral elements such as social awareness of others and the impact on relating to others. Greenspan (1980) argued that social interactions with peers are valuable and highly relevant in contributing to social competence. Greenspan's (1980) theories further purport that the most serious individuals demonstrate social and developmental success in communicating, getting along with, and influencing peers.

Nature of the Study

I selected a moderation analysis using a multiple regression analysis to determine, based on the data, the relationship between texting frequency, social competency development, and the moderating effect of gender in adolescents. I examined gender because differences among genders in frequency of cell phone use has been found in the literature (Boase & Ling, 2013). The independent variable was the frequency of cell phone texting. The moderating variable was gender and the dependent variable was social competency. Parents volunteered to complete online surveys reporting observations of their child's texting frequency, as a measure of indirect communication, and social competency development, which included questions related to peer relationships and face-to-face communication on the SEARS-P (SEARS-P; Merill, 2011).

Definition of Variables

Communication: Communication includes the ability to understand and use language, regulate emotions, and demonstrate social-emotional maturity such as sensitivity toward others (Sullivan-Raino, 2008). Communication was a component of social competency that was measured using the SEARS-P and included in the social competency T-score.

Gender: Gender was defined as whether the child that the parent reported on was male or female. This was based on the sex of the child and was measured and quantified by checking one response, male or female, on the demographic questionnaire.

Peer Relationships: Peer relationships were operationalized by determining an individual's acceptance by peers. It also includes an individual's interaction skills with

peers for extended periods of time and of skills related to extroversion (Sullivan-Raino, 2008). Peer relationships were a component of social competency that was also measured using the SEARS-P and included in the social competency T-score.

Social Competency: Social competency reflects a range of abilities, skills, and processed involved in effective social interactions (Dow & Rich, 2001). Social competency includes factors such as peer relationships and communication. In the study, social competency was measured and quantified using the SEARS-P (Merrill, 2011). This measure provided a T-score comparison to quantify the social competency variable based on parent report.

Texting: Cell phone texting was defined as use of a cell phone to text/type as a form of indirect communication with others. Cell phone texting is considered a convenient and portable way to inexpensively engage is social experiences while eliminating the need for direct or face-to-face forms of communication (Hanauer, Wentzell, Laffel, & Laffel, 2009). The frequency of cell phone texting was measured using a survey for parents to complete based upon review of the last monthly cell phone bill. A parent reported, based on an interval scale, his or her child's frequency of cell phone texting in quantifiable terms.

Assumptions

I assumed that the parents participating in the study had sufficient knowledge of their child's behavior and responded with accuracy when completing the online surveys. I considered the variability in the parent's understanding of typical developmental characteristics of adolescents and that this may impact the results. Some adolescents are

more verbal than others and this may be perceived as well-developed social competency skills when the child is simply more verbal (Gulay, 2011). The observational checklists that parents completed were specific to the definition of communication including using communication to interact with others.

I used convenience sampling and an attempt was made to eliminate potential bias and confounds, such as choosing a sample with similar opinions, culture, and values. I made use of the Walden University participant pool to obtain a convenience sample and this pool is reflective of a somewhat diverse cultural group with a wide range of opinions. I anticipated that the participants would have varying levels of understanding of child development.

I also assumed that the SEARS-P (SEARS-P; Merrell, 2010) was an appropriate measure of social competence. The SEARS-P has been established as reliable and valid for the population of interest. The reliability coefficient for the SEARS-P is .89 (Merrell, 2011).

I chose to use a moderation design using a multiple regression analysis to assist in determining whether gender moderated the relationship between cell phone texting and social competency development. The eight assumptions of multiple regression were met.

Based upon information reviewed in the SPSS (2013) handbook, when conducting a multiple linear regression analysis, the dependent variable must be an interval or ratio variable measured on a continuous scale. There must be at least two independent variables and they must be continuous or categorical. It is required that there is a linear relationship between each of the independent variables and the dependent

variables (SPSS, 2013). Independence of observations is expected such as the independence of residuals. This may be verified using the Durbin-Watson statistic (SPSS, 2013). This is a test that can be conducted in SPSS Statistics. In addition, there should be no outliers in the data that are of significance. It is important to check that the residuals or errors are normally distributed. This can be analyzed with a histogram and normal P-plot or normal Q-plot (SPSS, 2013). It is also recommended to use Cook's Distance as a method to check for influential points in the data set (SPSS, 2013). Homoscedasticity is also assumed, meaning that the data were normally distributed in relation to the regression line. I assessed this using a scatter plot. No multicollinearity effect was found and this assumption was met. Multicollinearity is an assumption that the predictor variables are not too closely related as assessed by use of variance inflation factors (Statistics Solutions, 2013).

Scope and Delimitations

With regard to delimitations, the current study results focus on the experiences of parents based on a convenience sample. The convenience sample consisted of undergraduate and graduate students from Walden University. The Walden participant pool has historically been comprised of individuals of higher socioeconomic status that speak English (Walden University, n.d.).

I used the questionnaire and survey instrument to gather data from parents on their child's social competency development and on frequency of texting based on experiences and observations of their child or adolescent. Results were generalizable to

the target population consisting of parents of adolescents between the ages of twelve to seventeen. The study results only include parent ratings of adolescents between the ages of twelve to seventeen. Due to this, the results did not include data on adolescents outside the target age ranges that were excluded from the study. Also, the participants from the Walden participant pool may be from specific geographic regions and less representative of the actual population; this may decrease the overall generalizability of the study outcomes.

I limited the focus of the study to examine texting frequency and social competency among adolescents. The results may not be generalizable to children or adults. Data on text length and quality were not gathered for the purposes of this study. In addition, it excludes adolescents that did not use texting as a method of communication. Parents that did not have access to a cell phone bill listing frequency of text message use, to accurately report usage, were excluded from the research as well.

Limitations

I used a convenience sample to gather data from a group including students that were part of the participant pool at Walden University. This may not be representative of the actual population. Data collection methods using participants from the Walden participant pool were unsuccessful. I contacted a local school district to recruit parents of adolescents that attend the school to participate in the research. The school administrator that was contacted declined to participate. Another school administrator was asked for parent volunteers and declined participation as well. I submitted a change form to the IRB to recruit parents employed by a large local government agency. The majority of the

sample collected consisted of parents of adolescents employed by the government agency.

Another limitation may be a parent's inaccurate reporting of their child's behaviors related to social competency. Some parents spend less time than others observing the behavior of their children. In some cases, parents may not have actual experiences of an activity or behavior included in the questionnaires. In these cases, there was a "don't know" option rather than leaving items blank or guessing. In cases where a parent reports "don't know," the data was eliminated from the analysis.

There are some limitations to the moderation design using a multiple regression analysis. I chose the design to determine the effects between cell phone texting and social competency development, and include gender as a moderating variable, knowing there was the potential for limitations. Kenny (2016) argues that moderation is a hypothesis that infers causality. One limitation of the study was the study design. The nature of the variables did not allow for control of extraneous influences and therefore, causality could not be inferred. In addition, a convenience sample was used for participants, and this limits generalizability to the general population.

Significance

Based on a review of the current literature, well developed social competency skills are essential to functional skills used daily. Carman and Chapparo (2012) found that schools are requiring students to work in groups on socially directed activities to enhance higher level learning and thinking skills. Social competency is also necessary to become part of a social group and form friendships (Carman & Chapparo, 2012).

However, until the current study there was no literature on the impact of impersonal and informal communications, such as texting, and the relationship to development of social competency skills and whether it delays or improves social competency development (Carman & Chapparo, 2012). Gerrity and DeLucia-Waack (2007) purport that social competency encompasses social skills, interpersonal problem-solving, communication, and listening skills. Development of these skills depends on various factors and underdeveloped skills have been linked to behavior and emotional problems. In the field of counseling psychology, social competence training varies. Specifically, there are differences in social competency programs depending on the constructs and assessment of the program. The most effective social competency treatments required social cognitive, and interactive skills. Overall, from a counseling psychology perspective, research suggests that customization of social competency programs to skill deficits of participants is essential (Gerrity & DeLucia-Waack, 2007). I hypothesized that social competency development may be negatively influenced by high levels of cell phone texting among genders. This is a new area of research. I intended for the results of the research to assist in identification of another suspected factor that may be impacting adolescents to be addressed by counseling psychologists in schools and clinical settings.

The current study results can be used to increase awareness for parents, practitioners, and adolescents on potential factors that may contribute to social development. The results of the study can be used to make a significant contribution because the data provides evidence to assist in making decisions on factors that may influence social development and foster positive social competency development in

adolescent males and females. Based upon a literature search, there was no research to inform parents, practitioners, and adolescents regarding topics that were included in the current study. Understanding the relationship between cell phone texting and social competency development can benefit parents, educators, and other professionals in counseling and clinical settings that work with adolescents. Social competence is important in school and at home and underdeveloped social competency skills are linked to mental health issues. The results provide valuable information that can be presented for educational purposes at local schools, universities, and clinics to promote positive social change.

In a broader sense, social change implications of my research may include the creation of curricula based on promoting positive social competency development to address social competency deficits. In a larger context, addressing deficits in adolescents can have a positive influence on a school climate both at a school and district level. In a clinic or agency, counselors may benefit from fostering positive social competency development with evidence-based information on texting and incorporate it in group projects within the community. Practitioners can use information gained from my research to promote education of indirect forms of communication, such as cell phone texting, and inform parents and other professionals of the relationship between texting and social development. Practitioners and professionals can also use the findings of the dissertation research can provide a foundation for community based groups to cultivate and develop the variables that contribute to social competency development. The research results have vast implications for the development of positive social change initiatives.

Summary

I used a multiple regression analysis to analyze the relationship between cell phone texting and social competency development among adolescents. I chose to conduct a moderation procedure to assist in determining the potential effects of gender on the variables. Specifically, I conducted a second analysis to assist in determining if gender moderated the relationship between the predictor and outcome variable. There was no previous research that identified the relationship between texting, as an indirect form of communication, and social competency development among adolescents. Gender differences were evident in the previous literature and therefore gender was examined as a moderating variable.

The current chapter provided a brief background of the history of social competency development and cell phone texting. The problem statement, hypothesis, method, and study's significance was included and identified the need to further explore the relationship between texting frequency and social competency development while including gender as a moderating variable.

Chapter 2 provided a comprehensive review of literature related to cell phone texting, peer relationships, communication, and social competency development among adolescent males and females. Specifically, a review of the literature focused on factors related to social competency, gender differences, cell phone texting, and parental influence on social competency development. Chapter 3 described the research design based on the hypothesis. The sample and procedures for participation and data collection as well as validity and ethics were included in the upcoming methods section.

Chapter 2: Literature Review

Introduction

Cell phone texting is considered a socially acceptable way for 12–17 year-olds to communicate. In the literature, I found texting to be preferred over cell phone calling and face-to-face communication (Lenhart, Ling, Campbell, & Purcell, 2010). As many as 75% of adolescents between the ages of 12−17 own cell phones. In addition, as many as 72−88% of adolescents within this age range use texting as a main form of socializing with friends (Lenhart, et al., 2010). More than half of this age group use cell phones daily for texting. I will summarize any related research including texting frequency, and the implications on peer relationships and communication, two important factors in overall social competency development. Lenhart, et al. (2010) found that as many as one out of every three adolescents sends more than 100 messages by text per day. This equates to be approximately 3,000 text messages on a monthly basis. Another source estimated that teens send about 60 texts per day. Also, less than half of 800 teens surveyed reported socializing with friends face-to-face when not in school (Samakaw, 2012).

Generally, when adolescents are able to interact nonverbally, interpret social meaning, display empathy, and reason socially, they are viewed as socially competent (McKown, Gumbiner, Russo, & Lipton, 2009). Influences, such as cell phone texting instead of face-to-face communication, may limit the amount of social interactions among peers. Emotional understanding and control are early predictors of successful social and academic experiences (Leerkes, Paradise, O'Brien, Calkins, & Lange, 2008).

Social competence development has been found to be strongly correlated with understanding emotions (Leerkes et al., 2008). Peer relationships require a child's or adolescent's understanding of social context and the ability to adapt (Chen, Huang, Wang, & Chang, 2012). Specifically, peer relationships have been found to be an important factor in development of a sense of belonging. This includes feeling emotionally supported and secure (Chen et al., 2012). Chen et al. (2012) argued that peer relationships and communication are the main components of social competency development and are important characteristics in childhood and adolescent development. To gain a better understanding of the variables measured in the research, it is important to understand the factors related to social competency development.

I included the literature associated with the variables in the study in this chapter. The literature to be discussed includes the development of social competency, components of social competency, peer relationships and communication as two main components of social competency, cell phone texting, social development theory, and gender differences in the frequency of cell phone texting. The results of this study assisted in determining how texting, as an indirect form of communication, influenced social competency in adolescents. Comparing the frequency of cell phone texting among adolescents and how increased indirect communication may influence social competency assisted in understanding the implications and relationship between texting and social competency development.

Literature Search Strategy

I conducted a search of the literature using online search engines of electronic databases including PsycINFO, PsycARTICLES, PsycCRITIQUES, Google Scholar, ERIC, and Academic Search Premier Databases. The searches included full text, scholarly peer-reviewed journal articles, and dissertations in the behavioral sciences and education. Additionally, I extracted references from related literature reviews and reference tables. The list of terms that I used to conduct the literature search included *cell phone texting*, *peer relationships, communication*, *gender, counseling psychology,* and *social competency development. Cell phone texting* included searches of *indirect forms of communication, uses of texting, advantages and disadvantages of texting and technology, media, gender,* and *text messaging.* I also researched theories of social development as well as parental perception of social development and clinical implications of underdeveloped social competency. The articles and sources that I used in the research were electronically obtained and the most current data were included on the topic of social competency development, peer relationships, cell phone texting, gender, and communication. The literature review includes current articles from 2008-2015 as well as seminal literature.

Components of Social Competency

Factors that relate to social competency include a child's or adolescent's ability to understand and reason with social-emotional information (McKown, Allen, Russo-Ponsaran, & Johnson, 2013). Some adolescents are better able to comprehend social-emotional information. Furthermore, adolescents that have been found to comprehend

and initiate more positive social interactions tend to develop more functional and meaningful peer relationships (McKown, Allen, Russo-Ponsaran, & Johnson, 2013). I examined components of social competency, peer relationships and communication, below. Peer relationships are operationalized by determining the level to which a child or adolescent is accepted by peers (Sullivan-Raino, 2008). Peer relationships are a component of overall social competency development and include an adolescent's interaction skills with peers over an extended period of time, and whether or not high levels of extroversion are displayed (Sullivan-Raino, 2008). I intend to provide an examination of typical and atypical peer relational skills from the previous literature to provide readers with an in depth understanding of peer relationships as a component of overall social competency development. According to Olsen, Parra, Cohen, Schoffstall, and Egli, (2012) current research classifies functional peer relationships by evaluation of friendships and the frequency of befriending. To expand, lower frequencies of befriending and being disliked correlates with poorly developed social competency skills (Olsen, et al., 2012).

Peer relationships also impact school experiences and are based on a child's ability to manage relationships and regulate emotions to negotiate play within a learning environment. In one study by Mathieson and Banerjee, (2010) parents assessed the importance of a child's temperament including understanding emotions. Based on parent and practitioner ratings, there was agreement of the factors needed to negotiate play and develop positive peer relationships. The study results also provided evidence of divergence between the parent and practitioner's ratings of behavior problems.

Practitioners associated behavior problems with poorly developed peer relationships and social competency more significantly than parents (Mathieson and Banerjee, 2010).

Another main component of social competency development is communication. Communication includes an individual's ability to understand and use language, regulate emotions, and demonstrate social-emotional maturity such as sensitivity toward others (Sullivan-Raino, 2008). Young (2009) argued that the communication style of parents is highly correlated with a child's functional communication abilities. Theories of communication styles of parents including person-centered approaches were examined to determine if they foster functional competencies in child development. The researchers found that person-centered approaches or direct forms of communication, which include more conversation and emotional coaching, positively influenced social competency development (Young, 2009). Young's (2009) study provided evidence to support a parent's use of person-centered approaches to foster functional communication among children, which has longstanding effects well into adulthood. The basis of direct functional communication as it related to the study was how effectively a child used language to express his or her wants or needs. The research was closely related to the concepts of Young's (2009) research with regard to studying forms of direct and indirect communication and conversation and the impact of different methods on social competency development.

Communication is a broad variable including understanding and using language, the ability to regulate emotions, and to the ability to show sensitivity toward others (Sullivan-Raino, 2008). It is important to examine a child's peer interactions as well as

interactions with parents because adolescents often seek peer approval and emotional support from peers. In turn, understanding a child's ability to support a peer emotionally is a predictor of positive social competency development (Sullivan-Raino, 2008). Development of positive social competency, including effective communication, may be influenced by indirect forms of communication, such as cell phone texting. Overall, it is evident in the literature that communication and peer relationships are the main components of social competency development and are inter-related.

For the purposes of the research, direct forms of communication include face-to-face verbal interaction and exchanges with others. In comparison, an indirect form of communication includes cell phone texting. Until the current study, there was no research on indirect communication, using cell phone texting, as a means to replace face-to face exchanges.

Cell Phone Texting

Cell phone texting, as a method of communication, has gained popularity among adolescents. It has been found that text messaging and face-to-face communication are the most frequent ways for adolescents to communicate (Farber et al., 2012). Adolescents are choosing to communicate using technology in order to be socially engaged with others. An advantage, according to Farber et al. (2012), is that sending text messages provides adolescents with the ability to keep a safe emotional distance while staying connected to peers. Communicating with individuals face-to-face was found to lead to less misinterpretation and more meaningful back and forth exchanges among adolescents.

There is no research on the advantages and disadvantages of cell phone texting as an indirect form of communication. There are broad studies on increases in technology and the implications of the time adolescents spend on smartphones, computers, and multitasking with different devices (DeWeese, 2014). DeWesse (2014) questioned how technology is impacting adolescent social and emotional health and how individuals learn to communicate in the world. The results, specific to cell phone texting, indicate that only one in 41 students included in the study did not use a cell phone. In addition, adolescents that own a cell phone have been found to both receive and send messages via text. Furthermore, findings suggested that in school, students are less socially competent and less connected to others within the school environment due to increased technology use (DeWeese, 2014).

Research by Pea at al. (2012) examined technology in a broad sense and the relationship between media use and social well-being. Media use in general was associated with negative social well-being. Media use was broadly defined as playing video games, watching videos, texting, video chatting, listening to music, using the computer for reading or homework, and for e-mail or social media sites. The results found an association between negative social well-being with higher levels of media use. This included a cell phone and online communication. The study also found that when adolescents communicated face-to-face, it was correlated with social well-being in a positive way (Pea et al., 2012).

Similarly, Lee and Sun (2009) researched the use of the Internet for instant messaging in an attempt to better understand how it relates to interpersonal experiences

among individuals in real life. Positive effects of instant messaging were found to help define an adolescents' self-identity. The basis of the research was to understand how adolescents form and maintain individual friendships, develop a sense of belonging, and a social-identity while developing interpersonal skills needed in social relationships (Lee & Su, 2009).

Implications of Teens and Texting

Social competency development and its relation to the frequency of cell phone texting in adolescents have not been directly studied. There is a wealth of literature related to use of technology and adolescents in general. Farber et al. (2012) argued that adolescents use a variety of types of technology to communicate. There are many problems with the increase in technology use such as Internet addiction and harassment. Farber et al. (2012) suggested that as technological use increases among adolescents, face-to-face interaction and use of social competency skills when relating and communicating with peers is decreasing. Cell phones are used primarily for texting and social media based on a review of literature (Farber et al., 2012). Research suggests that adolescents prefer cell phone use to text, talk, e-mail, blog, and use other social networking sites to communicate indirectly. Use of technology, in general, is the preferred method for sharing information over face-to-face, direct interaction and communication with peers. Overall, the use of cell phone technology has markedly changed communicative patterns and redefined processes of self-disclosure of information (Farber et al., 2012).

Consequences of Texting

Farber et al. (2012) suggest that psychologists and social scientists in the field are just beginning to evaluate the consequences of the change in technology use for adolescents from a developmental viewpoint. Texting, instead of face-to-face communication, can impact how adolescents socialize, date, and relate to each other on a daily basis. Phrases are included in the professional press concerning adolescents of this generation. Some examples include “kids lost in cyberspace” and “the antisocial effects of social media and technology” as well as “the flight from conversation,” and “Problematic Internet use” (PIU; Caplan, 2003). Further, O’Keeffe and Clarke-Pearson (2011) and Sloviter (2011) argued that excessive use of technology, in any form, results in negative offline consequences such as struggles with relating to others.

In addition, the American Pediatric Association (APA) attributes an increased dependence on using technology to communicate to a rise in clinical symptoms in adolescence. Specifically, Facebook and texting add layers of complications on top of the typical stress of adolescence. The APA indicated that social media and use of technology in general is responsible for clinical symptomology when adolescents are evaluated by clinicians (O’Keeffe & Clarke-Pearson, 2011; Sloviter, 2011).

The decrease in everyday face-to-face interactions has led to an increase in depressive symptomology including sleep difficulties, social isolation, and social anxiety (Leung, 2002; Valkenburg & Peter, 2007). Texting lends itself to sharing personal information, in written form that can be shown to others in the moment or anytime later on, making adolescents vulnerable to having their inner most thoughts and feelings

exposed. The American Academy of Pediatrics also warns that there is an increase in cyberbullying and addiction to the point of severe social isolation (Patchin & Hinduja, 2010). In 2011, the Pew Research Center conducted research on Internet & American Life and it was estimated that 10 % of adolescents were victims of bullying through text messages (Brenner, 2012). Given the rise in text messaging, evaluation of the pros and cons of use and implications on social development must be carefully considered and further researched.

Texting and Communication

Texting is known as the centerpiece of indirect communication among adolescents (Brenner, 2012). It is used to chat, organize events in group texts, and also for sexual exploration. The use of text messaging for sexting to create and share sexual images including nude or provocative photos is also on the rise. The Pew research team conducted a survey and found that between 5−10% of adolescents admit to sending sexual or nude pictures of themselves to other people and 18−20% admitted to receiving such videos or picture texts (Brenner, 2012). Adolescents report that once the texts are sent or received, it sets the precedent for action and puts considerable pressure to join in on the sexual activity. Understanding the use of text messages provides a stronger link to implications for peer relationships and face-to-face communication, the building blocks of social competency development. Cell phone texting lends itself to changes in typical relational and social patterns (Brenner, 2012).

Another implication of using cell phone texting as a mode of communication is that some of the messages sent may lose meaning and be interpreted as something other

than what the individual intended (Thompson & Cupples, 2008). It is argued that information is lost in translation and lacks intimacy and detailed information that can be attained in a face-to-face situation. While texting may allow for a safe emotional distance and the ability to avoid a person if necessary, the experience of the closeness of an interaction requires the right choice of words. Texting, as a form of communication is absent of tonal quality and nonverbal body language that often conveys personal, powerful, and effective messages. Thompson and Cupples (2008) suggests that cell phone texting may also allow for others to be more aware and sensitive to their friends and what is occurring in his or her daily life. The influence and power of technology has created a generation that is known to have been "born digital" (Thompson & Cupples, 2008).

Advantages and Disadvantages of Texting

The use of technology has advantages and disadvantages depending on the coping and social competency skills of the individual (Safran & Muran, 2011). It can be used to avoid intimacy or provide endless opportunities for connection and everything in between. Further research conducted by a team at Columbia University examined the purposes of technology use among adolescents and young adults. Different forms of technology were compared and rated for ease of communication abilities. Types of information and emotional consequences were included in the study. The types included talking on the telephone, texting, use of e-mail, and using the Internet for social networking. Face-to-face communication was also included for comparison. It was reported that sending text messages and engaging in face-to-face communication were

preferred and more convenient. It was also found that face-to-face conversation or phone conversation were rated as the most intimate forms of communication and led to feeling understood and sincere (Safran & Muran, 2011).

Interestingly, despite these findings, the most common form of communication among this age group is texting, especially to as a means to avoid uncomfortable conversations in person. It was found that adolescents had a tendency to over share information face-to-face and through texting. This finding may be attributed to convenience of use and impulsively responding (Safran & Muran, 2011). The types of information shared was also researched and included telling friends about a fight with another person, sharing something positive or a secret, and asking for advice. Results showed that texts and face-to-face talk were the most common ways to share more personal information. Use of a cell phone to talk and engaging in a face-to-face conversation were found to allow for better expression when communicating including changes in the tone of a person's voice or use of facial expressions to show feelings (Safran & Muran, 2011). The researchers concluded that text messages and social media do not effectively communicate complex feelings and emotions often shared in peer relationships. Social competency skills are not as easily demonstrated using technology especially when communicating private, intimate information. Technology companies continually create convenient ways to communicate that appeals to individuals. Information can be communicated without much interaction, expression, or emotion. In contrast, adolescents may feel overwhelmed by emotional stimuli associated with face-to-face communication including facial expressions that are challenging to read, social cues,

and tones of voice. Adolescents that use technology heavily to communicate may misperceive face-to-face communication and feel criticized, rejected, personally or socially inadequate, and too intimate. When adolescents choose to communicate with technology, some become more social by way of sharing information through texting, but the interaction is not face-to-face (Safran & Muran, 2011).

Social Communication and Texting

Adolescents must be cognizant of social communication going awry when using technology and hurting the feelings of others. In group texts, the adolescent must consider all individuals and when a mishap occurs, it may be more difficult to repair and may rupture relationships (Safran & Muran, 2011). When an adolescent sends a text message, there is no expiration date. A text can easily be shown to others or shared on social media. Safran and Muran (2011) purport that adolescents can impulsively share threatening statements or suicidal thoughts that may lead to larger problems. Some adolescents may be guarded with what is shared as a text message and be overly positive. Friends and peers may compare themselves to on another based on the messages and feel like outcasts or not as good as his or her friend. There is pressure to share accomplishments and photos. Texting is a complex form of indirect communication and use of social competency skills to relate to others is modified from typical face-to-face exchanges. A danger is creating a false persona and abandonment of your true self. Adolescents may hide pain or feel unheard when using technology as a primary method of communication (Safran & Muran, 2011).

Cell phone use has significantly changed how adolescents develop and define their personal identities and relationships. Overuse has led to multiple psychosocial and potentially severe clinical problems. The implications are understudied and clinicians, therapists, and other professionals working with children and adolescents are urged to research and inquire about supporting the positive development, both socially and emotionally, of adolescents in this technological era (Safran & Muran, 2011).

To further understand social implications of cell phone use, Reid and Reid (2007) examined social anxiety, loneliness and cell phone preferences of talking and texting. Texting was rated as a less intimate method of contact by individuals with anxiety, but it was found to be the preferred method to communicate among anxious individuals. This research supports the need for investigation of the effects on social competency development.

Short message service or text messages among youngsters is expected to dominate as the way to connect with another person. The rationale for the increase in texting as a preferred method is that it is inexpensive and unobtrusive. Adolescents use it as a source of recreation to fill unoccupied time. Reid and Reid (2007) purport that when considering relationships and communication, texting provides additional time to think about wording than face-to-face communication. Text messages are informal and candid. Some argue that texting supports direct face-to-face interaction because it leads up to eventual intimate interactions. It has been found to support the development of relationships both through the use of technology and face-to-face (Reid & Reid, 2007).

Interestingly, Reid and Reid (2007) found that sending a text message has been reported to help individuals disengage from other demands requiring attention typically associated with real-time social interactions. Texting allows for the individual to focus cognitive functions on the task of texting. Certain groups of users of technology for communication have found positive benefits. Specifically, individuals that are anxious, depressed, and lonely gain from use of technology for interaction with others. There is evidence to suggest that use of technology has the potential to lead to problematic use by this group, but it also has benefits. The excessive use of texting or other forms of technology may impact individuals by making them feel lonelier and more anxious than when talking face-to face. Social anxiety includes feelings of fear, apprehension, and excessive worry. Individuals that suffer from social anxiety at a clinically significant level may feel inadequate or unable to make a positive impression on others.

Reid and Reid (2007) suggest that anxiety such as this may be associated with what the observer's perspective is on the self with implications for the individual to feel overwhelmed. Further implications include delay or elimination of the observer's perspective of normal face-to face interaction. Texting reduces social contact with others and eliminates the fear of being evaluated immediately. It is possible that this may allow for less evaluation and disapproval of the individual sending the text message. When a text is sent, the attention is focused on the content of the text message and not the other person's perspective as it may be in a traditional social interaction. For anxious individuals, text messaging has the potential to effectively reach goals of how to present oneself (Reid & Reid, 2007).

Texting and Loneliness

When considering lonely individuals, there are different implications when text messaging is used. There is an absence of social relationships that typically satisfy the need for attachment and belonging (Reid & Reid, 2007). It is cautioned by Reid and Reid (2007) that more social contact does not protect people from feeling lonely. In fact, it may increase feelings of loneliness. In younger individuals, such as adolescents, the amount of social contact matters because adolescents typically prefer more social contact than adults. For adults, the quality of the contact is more important. The majority of individuals, regardless of age, are more likely to feel lonely when they lack intimacy with others more so than no contact with others in general. Sending a text message may temporarily relieve feelings of loneliness, but it is expected that texting does not address the need for intimacy and verbal exchanges of information (Reid & Reid, 2007). Results suggest that cell phone users that have a tendency to be lonely are not fulfilled socially without direct interaction. Attributes such as shyness and disaffiliation are other factors to consider when individuals integrate into networks of friends. Social groups and one-on-one interaction both have been found to provide feelings of intimacy and affection. Social anxiety, loneliness, and texting have different effects when the variables are examined separately. Anxious individuals that text were found to be motivated to use texting to preserve self-presentation, limit sociable contact, and achieve social contact. Lonely individuals that text were motivated to use text messaging as inferior to direct forms of contact. Voice calls and face-to-face communication were preferred over texting to satisfy social contact among individuals regarded as lonely (Reid & Reid, 2007).

Texting and Bullying

Dehue, Bolman, and Vollink (2008) also examined cell phone texting and social implications from a parent perspective. Specifically, the prevalence of cyberbullying was examined. Reportedly, 16% of children and adolescents engaged in an act of bullying using technology and 23% were the victim of bullying using this method. This data is another factor to consider when researching peer relationships, communication, and social competency skills of adolescents. Texting and technology in general impacts social relationships and skills in various ways. Texting can be used to bully others and content may include name-calling, gossiping, and other forms of psychological violence. The statements are made and the individual is harassed with intent to insult and hurt the other person (Dehue, et al., 2008).

Dehue, Bolman, and Vollink (2008) discussed the social identity model of deindividuation (SIDE) in their research. The SIDE model implicated that when individuals are visually anonymous, the social influence as exerted by norms developed by groups increase. The SIDE model allows for some level of depersonalization that cannot be achieved in face-to-face bullying. There are no physical or social cues when bullying is done by text message. It does not allow for the victim to react to the statements or harassment. The consequence is a lack of normal social interaction and an increase in aggressive and impulsive bullying behavior. Parents may be uninformed of modern types of communication such as this and may not know that their child is a perpetrator or victim to cyberbullying (Dehue, Bolman, & Vollink, 2008).

As evidenced by this research, social competency skills, peer relationships, and communication are influenced by use of texting for the purpose of bullying others. Texting changes the way adolescents relate to one another. In some cases, bullies may send threats including deadly violence, which has significant social and relational implications. Cyberbullying can be the cause of serious health problems including physical, social, and psychological issues. It impacts the overall well-being of adolescents and increases stress and depression (Dehue, Bolman, & Vollink, 2008).

Frequency of Texting and Addiction

Rutland, Sheets, and Young (2007) examined the compulsive use of short messaging service also known as texting. Data were collected using a self-report measure of time spent text messaging. Results were compared to addictions research. It has been found that people can become addicted to technology. Frequency of texting and positive and negative implications of reducing face-to-face communication is beneficial to further understand social and relational competency. Rutland et al. (2007) conducted research to explore the social and behavioral impact of text messaging and found that there was no research in the literature that explored the use of text messaging compulsively with potential for addiction. It was concluded that text messaging has the potential to become addictive and follows the same pattern as other addictive behaviors. Compulsive use of text messaging can lead to reduced face-to-face social interaction and an increased need for continued texting.

Alternative Uses of Texting

As cited in the literature base, texting is versatile and is used to communicate with peers and many other individuals. In order to understand the ease of use and utility, researchers explored other psychologist's attitudes for using texting as a way to communicate for purposes of e-Therapy (Wangberg, Gammon, D., & Spitznogle, K., 2007). This study relates to the research and provides a better understanding of the ability to develop relationships with others using texting as the method of communication. Text messaging and other forms of technology were studied when used with clients for therapeutic purposes. A questionnaire was provided to members of a psychological association to obtain attitudes and beliefs about text messaging and other forms of technology as a form of therapy. Interestingly, 45% of psychologists responded that he or she used some form of technology to interact with clients and only 3% of psychologists felt that using technology between a client and therapist was unacceptable. Use of text messaging and e-mail for e-Therapy is expected to become more common. Some therapists reported that the use of texting fit their theoretical orientation well and allowed for communication of techniques. Cognitive-behavioral therapists supported its usefulness. In comparison, psychologists using dynamic approached to therapy provided negative feedback about the use of texting and e-mail for therapy and stated that it undermines the therapeutic process of building a relationship in-person (Wangberg, et al., 2007). While text messaging is practical, it does not address intricate clinical and therapeutic matters. The researchers found that 31% of psychologists believed that texting and e-mail could be used as the only form of communication with a client and

64% concluded that it should be coupled with traditional consultation. It is a reality that e-Therapy is becoming the mainstream in current psychology practice (Wangberg, Gammon, D., & Spitznogle, K., 2007).

Texting and Personality

Further research on the overall use of technology to communicate was conducted to determine how it related to personality and self-esteem (Ehrenberg, Juckes, White, & Walsh, 2008). Personality is complex and it was found that disagreeable individuals tended to spend time on phone calls, while extraverted and neurotic individuals spent more time sending and receiving texts. In addition, individuals found to have a low self-esteem used technology for a variety of functions. Individuals with lower self-esteem may rely on technology for social connection and develop an addiction to its use.

Overall, individuals with personality characteristics such as disagreeableness and extraversion use mobile phones more frequently. In comparison, individuals with low conscientiousness and higher levels of neuroticism tend to text as a primary way to communicate. Individuals with low self-esteem reported higher and problematic use of mobile phones for communication. In conclusion, Ehrenberg, Juckes, White, and Walsh (2008) found that high levels of use of technology for communication indicated addictive tendencies. Disagreeable individuals reported a higher level of mobile phone use overall and reported finding it easier to communicate by using technology than face-to-face. The researchers suggest that this finding may be due to underdeveloped social skills. Understanding the implications of the frequency of text messaging and other forms of

communication and the implications on peer relationships, communication skills, and social competency development is in need of additional research.

Attitudes Toward Texting

Understanding attitudes toward texting also provides a rationale for use of texting as a form of communication. Madell and Muncer (2004) researched adolescent attitudes of use of mobile phones and other types of technology. The purpose of the research was primarily to better understand attitudes and time spent on activities requiring technology. It was found that a higher percentage of adolescents own a mobile phone between the ages of 11−16 than adults. Also, girls were found to be more likely to have a mobile phone that boys. While mobile phones can be used for a variety of reasons, the participants reported using it primarily for texting and voice calls (Madell & Muncer, 2004). A small percentage reported not owning a mobile phone and not having a need for one. Overall, a positive correlation was found between e-mail use and texting suggesting that cell phones replace previous use of the Internet on computers. Madell and Muncer (2004) reported that between 1995 and 1999, use of technology for online use increased from 9% to 56% in the United States. This statistic represents a 600% increase since 1995 and provides evidence that the Internet is the fastest growing technology in the world. The US Census Bureau (2001) showed that about half of United States households have Internet access, which is a 26 % increase from 1998 (Madell & Muncer, 2004). It is a major part of daily life and the transition from traditional computers to use of cell phones for online access has led to increased indirect communication with others through various forms of technology including text messaging. Cell phones are portable and make sharing

of pictures, messages, and websites convenient with little effort. Interestingly, Madell and Muncer (2004) shared trend data showing that in 2000, 41% of 12−17 year olds used technology to access music. The frequency of cell phone use and what it is used for was also reported. In 1999, 27% of households used a mobile phone when compared to 69% in 2002. Mobile phone use has increased significantly and is easy to use while in transit, at school, and in public, among other desired places. There is evidence to suggest that adolescents own a cell phone and use it at a higher rate than adults. Among children between 11−16 years old, 76% have a mobile phone. When surveying secondary aged students, 80% of females and 72% of males own a phone (Madell & Muncer, 2004).

Popularity of texting is supported by evidence and 96% of participants use text messaging to communicate. To gain a deeper understanding of the frequency of cell phone use, the pattern and length of time of mobile phone use was examined and it was found that the majority of children began mobile phone use at about age 12. A small number of children and adolescents, less than 9%, do not own a mobile phone (Madell & Muncer, 2004).

It is important to understand the trend data and reason for not owning a cell phone. About 50% of study participants reported not having a need for a mobile phone and 27% reported not getting around to buying one yet. Cost was an issue for some and it was reported by 15% of participants that do not use cell phones that phones cost too much. Also, 11% reported that the bill to have a cell phone line costs too much. Only 9% were concerned that use of a mobile phone may have adversarial health implications. It

was reported that only 2% did not know enough about the technology to use a mobile phone (Madell & Muncer, 2004).

Finally, Madell and Muncer (2004) also provided data on the purposes of cell phone use. Understanding why cell phones are used provides a better understanding to rationalize the frequency of use. A high percentage of participants reported using their mobile phone to make calls and text message, 91% and 89% respectively. Gender differences were noted in sending text messages with males sending texts 85% and females 94%. Only 13 % of the participants used phones to explore the Internet. Text messaging was reportedly used 2−5 times per day. The correlation between call frequency and text message frequency was significant as was text messaging and use of a cell phone to send e-mails. About 8% of participants were found to send 16 texts daily while 68% sent a minimum of one per day. It was concluded that the Internet has become less important to adolescents as mobile phone use becomes more prominent and easy to use (Madell & Muncer, 2004).

Gender Usage of Cell Phones and Texting

Understanding cell phone texting and if it differs among genders is an important consideration. Hofferth and Moon, (2012) examined cell phone use and gender. Girls were found to use cell phones more frequently for both conversations and for text messaging (Hofferth & Moon, 2012). In addition, in a day, 59% of girls placed phone calls to friends using a cell phone as compared to 42% of boys. When examining the data for texting, it was found that 86% of girls used texting to indirectly communicate with friends as compared to 64% of boys (Lenhart et al., 2010). There is a notable difference

in frequency of cell phone use between genders. Due to this, the differential influence of gender was examined as a moderating variable in the research.

Aside from the research that has been summarized in this literature review, there is no literature directly on gender, cell phone texting, and the relationship with social competency. The current study addressed specific questions. Did cell phone texting correlate with social competency development? Was the relationship among the variables bidirectional and did gender moderate the relationship? The bulk of the literature on technology use for communication and social factors contributed to negative outcomes with regard to social relatedness for adolescents. Further research was and continues to be needed to understand positive and negative influences of texting as an indirect form of communication.

Theoretical Framework

Overall, there are a variety of theories related to social development broadly defined as development of values, skills, and knowledge that enables children and adolescents to effectively relate to others in positive ways (Australian Government-Department of Health, 2015). Social development and social competency both encompass an individual's ability to interact and relate to others. Sullivan-Raino (2008) suggests that behaviors and skills such as effective communication and peer relational skills are related to social competency and are important skills for everyday interactions. There was a significant overlap in social competency and social development.

The theoretical base in the scholarly literature that grounded this dissertation was the taxonomic model of social competence by Greenspan (1981). Based on his

framework, there are three behavioral components that contribute to social development. The three components are social awareness, character, and temperament. These behavioral components are important to achieve positive or negative social results. Based on the model, however, social awareness deficits are most responsible for interpersonal difficulties. Social awareness, as defined by Greenspan (1981), is the level of social sensitivity, insight, and communication an individual is able to display, which impacts interpersonal relationships. The model identifies the importance of examining social awareness abilities in social development. Based on the theoretical framework, behavioral components such as social awareness are critical to consider in determining successful or unsuccessful social outcomes among adolescents.

Johnson, Greenspan, and Brown (1984) explored the ability of adolescents to recognize social ineptness and improve social communication. Variables such as social foresight and social-cognitive development as it relates to interpersonal competence later in adolescence were researched. A common barrier in the development of peer relationships was well-intended but inept verbal comments toward others due to misreading social cues. The study focused on inappropriate behavior as it relates to interpersonal awareness versus a lack of impulse control. Results suggest that social development contributes to acquisition of interpersonal competence in adolescence. The gap in social ineptness between understanding that an act could have a negative consequence widens between early childhood and late adolescents (Johnson, Greenspan, & Brown, 1984). As the gap widens, adolescents struggle more with peer relations and effective communication, the main factors of social competency development. Evidence

based research in this area is needed and has the potential to address issues in counseling and clinical populations.

Greenspan (2006) argues that social interactions with peers are highly influential in the development of social competency. Adolescents who are more socially mature demonstrate success in getting along with, communicating, and influencing peers. Greenspan's (1981) model of social competence was chosen as the framework for the study because the theory defines social development empirically and examines the main components related to social competency development. Greenspan's theory provides a strong theoretical framework for the basis of new hypotheses. The research question in my study extended Greenspan's theory by applying it to study the relationship between an indirect method of communication and social competency development. The study builds upon existing theory that has been empirically researched. The difference was that my current study examined whether gender moderated the relationship between the frequency of texting and social competency. There have been no studies that have examined this relationship until now.

Summary

In this chapter, I reviewed the literature related to overall social competency development and the main components of social competency development including indirect and face-to-face communication, and peer relationships. Further research is still needed to determine the relationship between cell phone texting, an indirect form of communication, and overall social competency development among genders.

It is unknown whether peer relationships may be hindered or helped by indirect forms of communication, such as cell phone texting. Further research on the relationship between cell phone texting and social competency is needed. There is a gap in the research with regard to understanding the relationship between cell phone texting, as an indirect form of communication, and overall social competency development.

Functional communication skills are defined as the ability of a child or adolescent to use direct communication or verbal language to express his or her wants or needs. Communication skills are important to building and maintaining positive relationships and fostering appropriate social competency development. Assisting parents, educators, and practitioners in understanding their role in the development of functional communication skills can lead to better developed pro-social behavior for adolescents later in life.

A review of the previous literature assisted in development of a comprehensive understanding of the definition of the variables including cell phone texting, gender, and social competency including the main components, peer relationships and communication. Social development has vast implications for relationships with peers and functional communication. Researchers have focused on cognitive domains and social emotional functioning. Until my study, there was no research on the relationship between the frequency of cell phone texting, as an indirect form of communication, gender as a moderating variable, and social competency development. The research contributed to the gap in the literature.

Chapter 3 provides details on the method used in the study. The type of analysis and comparison of the variables that may influence social competency development were explored. In addition, the research design was described as well as the sampling procedures, research questions, and instrumentation used to measure the variables.

Chapter 3: Research Method

Introduction

In this study, I attempted to identify the relationship between cell phone texting, an indirect method of communication and relating to peers, and overall social competency development in adolescents between the ages of 12−17. The hypothesis that gender moderates the relationship among the variables was explored. This chapter includes information regarding the independent, moderator, and dependent variables as well as the research design connected to the research questions. I reviewed the target population, population size, sampling procedures, and procedure for participation and data collection.

Research Design and Rationale

This quantitative study was correlational with moderation. Specifically, I analyzed the data using a moderation design using a multiple regression analysis. The purpose of using this design method was to assist in determining whether gender moderated the effects between cell phone texting and social competency development. Baron and Kenny (1986) suggest that when a moderator variable, such as gender in the current research, is included in the multiple regression analysis, it alters the strength of the causal relationship. I presumed that the frequency of cell phone texting may impact social competency development more for males than females. I included gender as a moderating variable to allow for analysis of whether or not gender moderates the casual effect of the frequency of cell phone texting on social competency (Baron & Kenny, 1986). The independent variable was the frequency of cell phone texting, a continuous

variable. Frequency was reported in and had the potential to range from 0 to any specified number. I measured the frequency on a ratio scale because it was possible for a parent to report that his or her child did not text and every number thereafter was possible. I measured the dependent variable, social competency development, as a continuous ratio variable, using the Social Competence subscale from the SEARS-P. T-scores from this scale ranged from 0−36.

Setting and Sample

I used a convenience sampling procedure to recruit the required number of participants for a moderation analysis using a multiple regression from both the Walden University participant pool and a local government agency. The participants in the sample were asked to review the consent form. Due to the online nature of the study, participants were unable to physically sign consent. Consent was implied when participants accessed the SurveyMonkey link, reviewed the consent and completed the demographics and surveys. All surveys and data including, the Demographic Questionnaire (Appendix B), Frequency of Cell Phone Texting Survey, and the Social Competence (SC) subscale of the SEARS-P (Appendix B) were completed online.

Population and Sampling Procedures

The target population for this study included a sample of parents of adolescents. As part of the Demographic Questionnaire, each participant provided information that showed he or she met the inclusion criteria for this study. The participants were parents of a child between the ages of 12 and 17 that could read in English, and had the ability to complete an online survey related to the study. In cases when a parent had more than one

child in the age range, he or she chose only one child on which to report. Parents that did not have access to a cell phone bill listing frequency of text message use were excluded from the research as noted both in the invitation to participate and demographics. The SEARS-P was normed on participants in the United States (Merrell, 2011). Due to this, the same inclusion criteria were used for the research. No specific groups of people were targeted to complete the survey and there was no payment or compensation for participation in the study.

The population sample consisted of parents of both genders and varied ethnicities, socioeconomic status, and age. Parents had varied levels of education and knowledge of social competency development and the ability to complete an online survey. If an individual was not a parent of a child between the ages of 12–17, he or she was excluded from completing the survey and participating in the study. Parents of adolescents between the ages of 12−17 who did not provide care for a child or adolescent for 5 or more years at the time of data collection were excluded to ensure that the parents had sufficient time to accurately report on behavior observed globally, over-time. I will share the results of the study by posting the findings on a general site for participants to view.

Participants included in the study were expected to complete a Demographic Questionnaire as well as two observational surveys including the Social Competence (SC) subscale of the SEARS-P and The Frequency of Cell Phone Texting Survey. The estimated time to complete these items was 20 minutes.

The SEARS-P consists of three total subscales including Social Competence (SC), Empathy (E), and Self-Regulation and Responsibility (SR/R). While the entire

SEARS-P was administered to participants, only data form the SEARS-P Social Competence subscale was analyzed for the study. I used the SC subscale to measure the adolescent's social competency development and reported the results as a T-score for each case.

I designed The Frequency of Cell Phone Texting Survey (Appendix B) to be completed by parents and to collect data on the frequency of his or her child's cell phone texting. Participants reported on their child's use of a cell phone for texting based on the frequency of texting obtained from a cell phone bill within the last month. The participants were instructed to review the cell phone bill to report the frequency count of texts per month based on the most recent billing cycle for past month.

Participant Sampling

Part of the sample was recruited from the Walden University participation pool. IRB approval was required to use the Walden University participant pool. The participant pool is ever changing and includes approximately 5,000 current users at this time (Walden University, n.d.). The pool includes Walden University students, faculty, and staff. After IRB approval was obtained, recruitment notification was sent to potential participants in the form of an electronic bulletin board announcing a study within the university. After a period of 3 months of using the Walden University participant pool for recruitment, only nine participants were obtained. Due to this, two local school districts were contacted for permission to recruit parents of adolescents that attend the school and both declined the invitation. Participants were recruited from a large local government agency and participated voluntarily.

I computed the sample size based upon review of research by Trafimow, Rice, and MacDonald (2011). Based on power of .80 and an anticipated effect size of .25, to have sufficient power for the moderation analysis using a multiple regression analysis with two predictor variables, a minimum of 70 participants must complete the surveys. I ensured that an adequate sample was obtained, by surveying a minimum of 80 participants. I used a .05 alpha level was used for the analysis.

Procedures

Participants recruited for this study were required to access and complete the Demographic Questionnaire, Frequency of Cell Phone Texting, and SEARS-P via an online link to SurveyMonkey. Permission from the copyright holders was obtained and an online link to the surveys was used to gather all data for the purposes of this study. Prior to providing implied consent, participants read the invitation to participate leading up to the Demographic Questionnaire explaining the purpose of the research, procedures, confidentiality, risks, benefits, and how to refuse or withdraw from the study. By moving forward with the Demographic Questionnaire, consent was implied. Parents that did not have access to a cell phone bill listing frequency of text message use were excluded from the research. Demographic information was collected from the parent on the child that he or she has chosen to report on including the child's ethnicity, gender, age, and grade.

Instrumentation and Operationalization of Constructs

I used The Frequency of Cell Phone Texting Survey (Appendix B) to measure the frequency of cell phone texting. The measure was based on parental report of his or her child's text message frequency within the last month by referencing a cell phone bill. The

most recent cell phone bill including 1 months' worth of data was reviewed by participants and used for accurate reporting. Instructions on the Cell Phone Texting Survey specified how accurate data should be obtained including, referencing the most recent cell phone bill in another browser, by calling the telephone company, or on a paper bill. Only data obtained from these methods were expected to be reported to include the number of text messages the child/adolescent sent in the last month. The data collected was based on a 30−day standard billing cycle. If a parent indicated that his or her child did not use texting as a method to communicate with others on the Demographic Questionnaire (Appendix B), or have access to a bill including texting usage, the parent was excluded from participation in the study. In addition, The Frequency of Cell Phone Texting Survey (Appendix B) also provided an option for parent's that were not certain of his or her child's frequency of texting. If a parent chose "not sure" on the survey, the parent was eliminated from the study.

Additionally, I used a second measure to collect data related to the dependent variable, social competency. The second measure was the SEARS-P. The parent short form was composed of 12 items. The SEARS assessments were researched by the Oregon Resiliency Project at the University. The SEARS scales were developed as a strength based social-emotional assessments for children and adolescents (Endrulat & Merrell, 2009). The Social Competence (SC) subscale of the SEARS-P was used to measure the ability develop friendships with age-related peers, comfort level in groups of peers, and engaging in effective verbal communication in social situations with peers, based on parental report. The scale lists research as an option for use. Parents read and reported on

12 items related to social competency. Items were statements related to social competency and the parent selected choices including Never-0, Sometimes-1, Often-2, and Always-3 to report the frequency of the observed behavior. The ratings were added together to calculate one raw score. The raw score ranges from 0−36 depending on the parent ratings and was then converted to a T-score, using a table in the manual, to allow for standardized analysis. The T-score of the Social Competence (SC) subscale of the SEARS-P was used for the research. The other subscales of the SEARS-P include Self-Regulation and Responsibility, and Empathy. Items that make up these two subscales was collected as additional information, but not analyzed for the purposes of the research.

Reliability and Validity

There was no published reliability coefficient for the on-screen version of the SEARS-P. Merrell (2011) conducted an analysis of the short and long form of the SEARS-P. The correlation between the SEARS-P long and short form is .97 revealing statistically significant associations between the measures. In addition, the SEARS-P internal consistency coefficient for the long form is .96 (Merrell, 2011).

The convergent validity of the SEARS short forms was determined when compared to other frequently used standardized measures of strength-based child behavior rating scales. It was determined, based on correlating the SEARS short forms with other assessments that the SEARS short forms measure the social attributes and emotional components of relationships that they were developed to assess. The correlations ranged from .69 to .84 when compared to similar measures (Nese, Doerner, Romer, Kaye, Merrell, & Tom, 2012).

Data Analysis Plan

The current study was observational and incorporated a moderation design using multiple regression to assist in determining whether gender moderates the effects between cell phone texting and social competency development. Baron and Kenny (1986) developed a multiple regression with moderation analysis and I used this method to determine the impact of gender on the frequency of cell phone texting and the influence on overall social competency development.

My rationale for choosing a moderation, designed by Baron and Kenny (1986), instead of mediation design was to include gender as a moderator in the relationship to analyze whether gender moderates the relationship between the two variables. According to Baron and Kenny (1986), this differs from mediation and the current research would not meet the conditions to conduct mediation. For medication, the casual variable must be correlated with the outcome. In this process, the mediator is treated as an outcome variable. For the current research, this was not possible because the purpose was to determine if the relationship between cell phone texting and social competency was different for male adolescents and female adolescents. When using mediation in multiple regression, it is assumed that the mediator and the outcome may be correlated and caused by the causal variable (Baron & Kenny, 1986). Mediation would not be appropriate for the current research. Therefore, based on Baron and Kenny's (1986) design definition, a moderation analysis using multiple regression was conducted to determine whether gender moderates the relationship between social competency development, cell phone texting, and gender. The design allowed me to determine the relationship between

frequency of cell phone texting, as an indirect form of communication, and social competency development. In addition, I reviewed the sample to determine if it was normally distributed in order to determine that the analysis assumptions were met and to determine if there were outliers. I computed a moderation analysis using a multiple regression using frequency of cell phone texting as the independent variable and social competency development as the outcome variable. In addition, I examined the differential influence of gender by including gender as a moderating variable in the analysis (Baron & Kenny, 1986).

The data, collected online via SurveyMonkey, was labeled by variable and subscale scores were computed and recoded using SPSS, as needed. All items were verified and rechecked for accuracy. I conducted and reported descriptive analyses of the data to assist in determining the distribution, check for outliers, and confirm reliability of the SEARS-P among the study participants. I used the moderation analysis using multiple regression analysis results to assess the relationship between the frequency of cell phone texting and social competency and whether gender moderated the relationship. I eliminated cases with missing data or responses that indicated parents were unsure.

Threats to Validity

I explored threats to validity, or factors that prevent the measurement of the intended construct. I found that a potential threat to the validity of the study to be that parents that completed the social competency measure, could result in over or under reporting on the survey questions. For instance, participants may have falsified responses or made up answers to the survey. It is possible that some participants may not have read

the questions and may have completed the surveys quickly while others may have answered differently from what was considered his or her true belief. These possibilities could lead to issues related to confounding variables that may threaten the construct, internal, and external validity of the study. In addition, the results of the moderation design using a multiple regression method may not have effectively reflected the effects between cell phone texting and social competency development and if gender had a moderating effect.

I examined the reliability of the surveys. The SEARS-P correlation coefficient is .89 and widely used for clinical purposes. A potential threat related to inter-rater or observer reliability could be the variability of raters when providing answers or estimates. The test-retest reliability, or consistency of the SEARS-P over time, should be considered. Although the scale was relatively new at the time of this research, there is a possibility that it no longer accurately represents the population based on the standardization sample. Internal consistency reliability may be a threat as well. This refers to how consistent the results are across items.

Accuracy of parent ratings of levels of social competency development and cell phone texting has the potential to be inaccurate and threaten the validity. Parents were asked to obtain information regarding cell phone texting per month from the last billing cycle based on a billing statement. If this could not be obtained, parents were given the option to withdraw due to the inability to provide accurate information. Even with these protections in place, parents may have inadvertently reported data from the cell phone bill inaccurately. In addition, parents may have inflated or under rated their child's social

competency development based on his or her perception of their child's abilities. This may have potentially impacted the validity of the data collected. The instructions to the participants provided descriptive information relating to the importance of reading and answering questions carefully and answering to the best of his or her ability. Also, instructions included a statement about confidentiality and anonymity to encourage parents to answer truthfully.

I attempted to control threats to validity by setting a .05 alpha level for the data analysis. This alpha level reflects a 95% confidence level meaning that the analysis accounted for 5% of the error in the data collected.

Ethical Procedures

Prior to conducting any recruitment and data collection, the study was reviewed and approved by the Walden Institutional Review Board. As a protection to the participants' rights, the survey results, demographics, and any other identifying factors were not associated with the participants. Informed consent was obtained and included the purpose of the research, a description of the procedures, confidentiality information, benefits, risks, and refusal/withdrawal information. Potential participants were informed that they may withdraw from participation at any time throughout the process. The authors of the instruments did not report any discomfort on the part of the participants when completing the surveys.

Participants completed the Demographic Questionnaire, Frequency of Cell Phone Texting Survey, and SEARS-P within a one-time online session estimated to take no longer than twenty minutes. The participants completed the surveys based on personal

experience and opinion. I kept all information confidential and the data was used for research purposes only. Data collection was anonymous. Participants were offered information to access an online link to view a general summary of the results of the study. Otherwise, the data was only seen by the researcher and the committee reviewing the study. I stored the data safely and password protected the data on a personal computer.

Chapter 4: Results

Introduction

In this quantitative study, I determined whether the moderator, or interaction between gender and frequency of cell phone texting predicts social competency development as measured by the Social Competency subscale of the SEARS-P. This chapter includes details on how data were collected, descriptive statistics for the sample, and results of the analyses that were conducted.

I analyzed the data using a moderation design with a multiple regression analysis. I used this design to determine if gender moderated the relationship between the frequency of cell phone texting and the social competency subscale. I collected the data using the SEARS-P, a parental measure of social competency development and a frequency measure of cell phone texting within a 30-day period.

There were two research questions answered as a result of this study. I used the first to examine the relationship between the frequency of adolescent cell phone texting, gender, and social competency development, measured by Frequency of Cell Phone Texting and the Social Competency subscale of the SEARS-P, respectively. I used the second research question to explore whether or not the moderator, or interaction variables of gender and frequency of cell phone texting, predicted the social competency subscale.

Data Collection and Screening

Data collection occurred from June 25, 2017 to October 31, 2017, a period of approximately 4 months. Recruitment of participants occurred online through the Walden

Participant Pool and after 3 months, only nine participants were recruited. I used a secondary method of recruitment, with IRB approval, and included employees of a local government agency. Data collection occurred via a paper invitation including an online link to participate in the study on the participants' own time. I placed invitations to participate in the study in areas where employees frequently visited, including the break room and entry/exit door counter. I obtained the data for the study by using the Demographic Questionnaire, the Social Competency subscale of the SEARS-P, and the Frequency of Cell Phone Texting Survey. The online link to access the questionnaires was provided to parents of adolescents between the ages of 12−17. The Walden University IRB approved this study (approval # 06−20−17−0191539) prior to data collection. All participants, whether through the Walden Participant Pool or via paper invitation, accessed the same online link including consent procedures, demographics, and online surveys. These forms included information related to limitations, benefits, and study risks.

Prior to analysis of the data, any participant whose surveys were incomplete or missing information were eliminated. I eliminated outliers and analyses were conducted to test for violations of assumptions. In total, 88 participants accessed the online surveys. I excluded nine of the participants because of incomplete or missing data on the surveys reducing the number of participants to 79. Of the 79 participants, a total of five outliers were identified and removed as described below. The final sample included a total of 74 participants and was consistent with the recommended minimum sample size of 70, as

noted in Chapter 3. Parents participated in the study by reporting on adolescents, the target sample.

The participants included parents who reported on one adolescent between the ages of 12−17 years old. Gender was reported as male or female by the parent. In order to participate in the study, parents were required to be over the age of 18 and care for an adolescent between the ages of 12−17 years old for a minimum of 5 years. Parents were also required to have access to the adolescent's most recent itemized cell phone billing statement in order to accurately report frequency of cell phone texting for a 1-month period. Parents who could not accurately report their adolescent's frequency of cell phone texting were asked not to proceed with the surveys.

Once I completed the data collection process, I calculated the Social Competence subscale, as measured using the SEARS-P, by adding the total sum of the item scores for each case. I converted these raw scores to T-scores (M=50, SD=10). The SEARS-P manual provided the raw scores to T-scores norms tables for the Social Competency subscale. I used age-normed scores to minimize variance in raw scores due to age-related differences in social competency.

Demographic Characteristics of the Adolescent Sample

Descriptive statistics including gender, age, and race/ethnicity were collected using the Demographic Survey. The overall mean age of the adolescents was 14.72 years. Adolescent males constituted more than half of the frequency count for gender (Male, *n = 42, 57%*), while adolescent females constituted less than half (Female, *n = 32, 43%*).

The gender and ethnicity of the parents who completed the questionnaires were not collected.

Parents reported the race and ethnicity of the adolescents. The sample, as reported by parents, was primarily Caucasian (73.86%), with the next largest proportion being Hispanic (6.82%). Table 1 includes information on the race and ethnicity of the adolescents, by percentage, compared to demographics of adolescents included in the United States 2010 census. The comparison of race and ethnicity between the U.S. Census and the study sample is not similar. Due to this, generalizability to the population is limited.

Table 4.1

Demographics of Adolescents in the United States based on the 2010 Census Bureau Data Compared to the Adolescent Sample by Percentage

Race and Ethnicity	Demographics of Adolescents in 2010 US Census Bureau Data (%)	Adolescent Sample (%)
Caucasian	54	73.86
Hispanic	23	6.82
Asian/Pacific Islander	4	3.41
Black/African American	14	4.55
Native American/Alaska Native	1	5.68
Other/Multi-Racial	4	5.68

Statistical Assumptions

Moderator Analysis using Multiple Regression

I conducted a moderation analysis using multiple regression to assess whether the moderator, gender, predicts the relationship between the frequency of cell phone texting and the social competency subscale. Based upon information reviewed in the SPSS handbook (2013), when conducting a multiple regression analysis, the dependent variable must be an interval or ratio variable measured on a continuous scale.

Next, the assumption that there were at least two independent variables that must be continuous or categorical was met (SPSS, 2013). The independent variable, frequency of cell phone texting, was continuous and the moderator variable, gender, was dichotomous and categorical. Independence of observations was expected in order to conduct a multiple regression analysis. This was verified using the Durbin-Watson statistic conducted in SPSS statistics (SPSS, 2013). The normal range for the Durbin Watson statistic is 1.5 to 2.5. In SPSS, the assumption of independent errors of residuals was conducted by choosing the linear regression and Durbin-Watson options for analysis of the data set. A value of 1.8 suggests that the residuals are uncorrelated (SPSS, 2013). This assumption was met because no autocorrelation was found in the sample.

Outliers

Prior to conducting the regression analyses, outliers were identified and removed from the data set. I used SPSS to generate box plots to visually determine if there were any existing outliers in the Frequency of Cell Phone Texting and the Social Competency subscale. I did not find outliers in the Social Competency subscale. Based on the results of a box plot analysis of Frequency of Cell Phone Texting, I identified five cases as outliers and removed them from the data set (Figure 1). The box delineates the 25th percentile to the 75th percentile, with the median as the central horizontal line. Cases marked with an asterisk were extreme outliers and cases marked with a circle were considered outliers falling outside of the 75th percentile. I excluded the five cases that I identified with scores on the Frequency of Cell Phone Texting beyond the 75th percentile

known as outliers. After I excluded the outliers, the final number of participants included in the regression analyses testing the two hypotheses was 74.

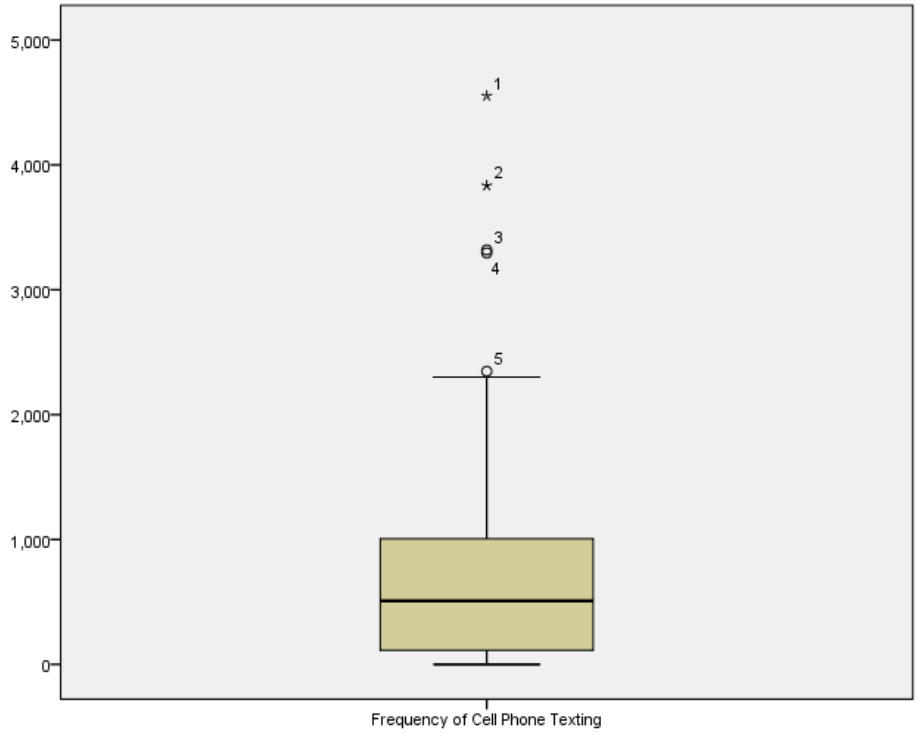

Figure 4.1. Boxplot Frequency of Cell Phone Texting

Normality

Next, prior to analysis of the data, it is assumed that there is a normal distribution of data for each of the variables (SPSS, 2013). Initially, there was not a normal distribution of the frequency of cell phone texting. The value of skew and kurtosis were 1.950 and 4.232, respectively for frequency of cell phone texting. This distribution shown in the histogram is not normal and considered positively skewed (Figure 2). Once I divided values for skewness and kurtosis by their standard error, I identified any value

less than -2 or greater that +2 that was considered outside of the range of normal as shown.

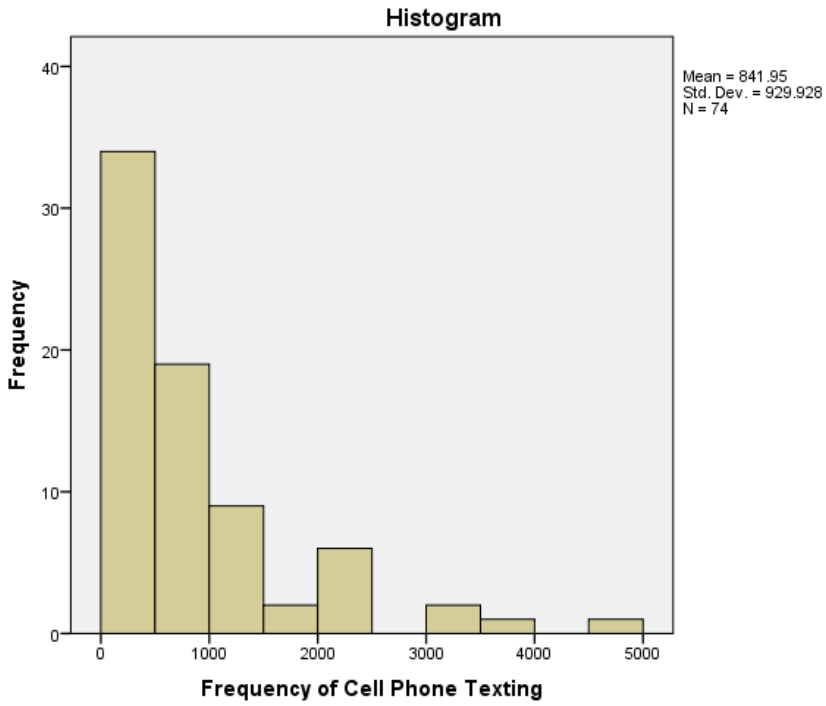

Figure 4. 2. Histogram for Frequency of Cell Phone Texting (Positive Skew*)*

Log Transformation

The Frequency of Cell Phone Texting data was positively skewed and not normally distributed. Due to this, I conducted a LOG 10 transformation to attempt to normalize the distribution. In SPSS, I used transform and compute options and generated a new variable Frequency of Cell Phone Texting named LogFOT. Next, I generated an additional histogram to determine if LogFOT was normally distributed (Figure 3). I found that the value of skew and kurtosis were -.563 and -.495, respectively for frequency of cell phone texting. The distribution shown in the histogram is a normal distribution.

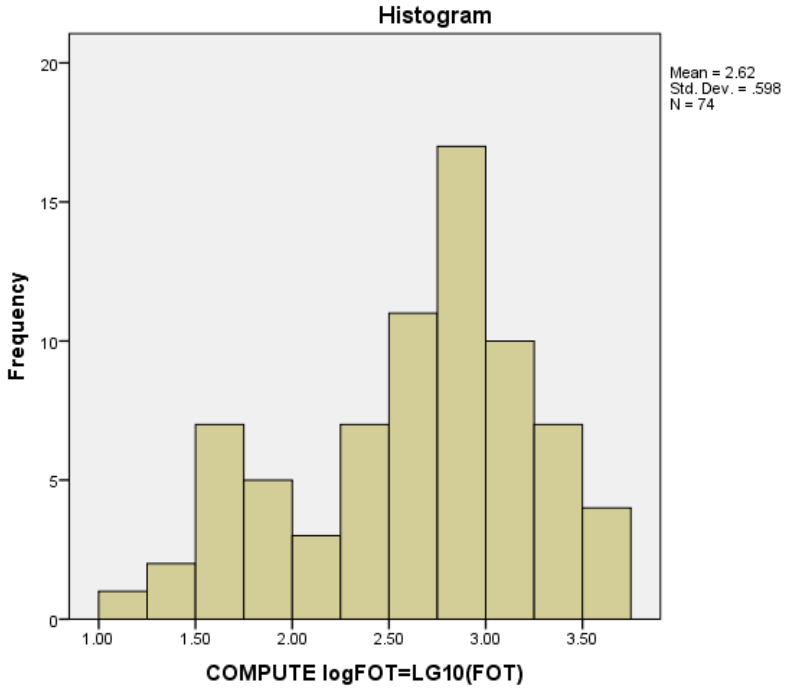

Figure 4. 3. Histogram for Frequency of Cell Phone Texting (Normal Distribution)

Additionally, I generated a histogram to determine if the Social Competency subscale was normally distributed (Figure 4). The value of skew and kurtosis were .271 and -.383 respectively for the Social Competency subscale. This distribution shown in the histogram is a normal distribution.

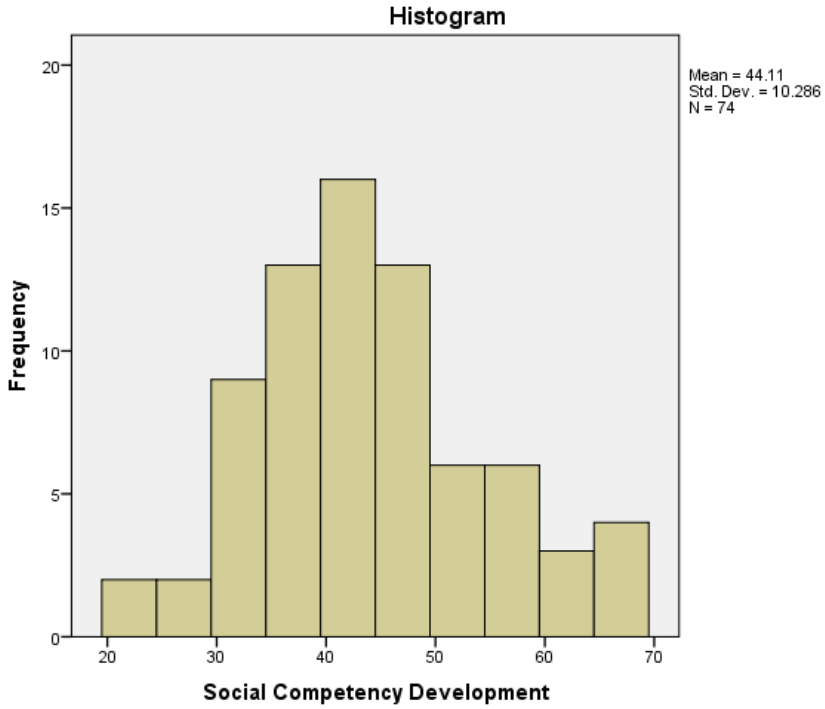

Figure 4. 4. Histogram for the Social Competency Development subscale (Normal Distribution)

Linear Relationship

Another assumption to be met prior to conducting the analyses and hypothesis testing is to determine if there is a linear relationship between the variables. I tested for a linear relationship between the Frequency of Cell Phone Texting and the Social Competency subscale was tested. I used a P-P scatterplot to evaluate the linear relationship (SPSS, 2013). I compared the results of the P-P scatterplot to assess the distribution of the residuals with a normal distribution. In the P-P scatterplot, the solid line represents a normal distribution. A linear relationship can be assumed if the points form a relatively straight line. The P-P scatterplots show a linear relationship between

Frequency of Cell Phone Texting and the Social Competency subscale (Figure 5) and the breakdown for males (Figure 6) and females (Figure 7).

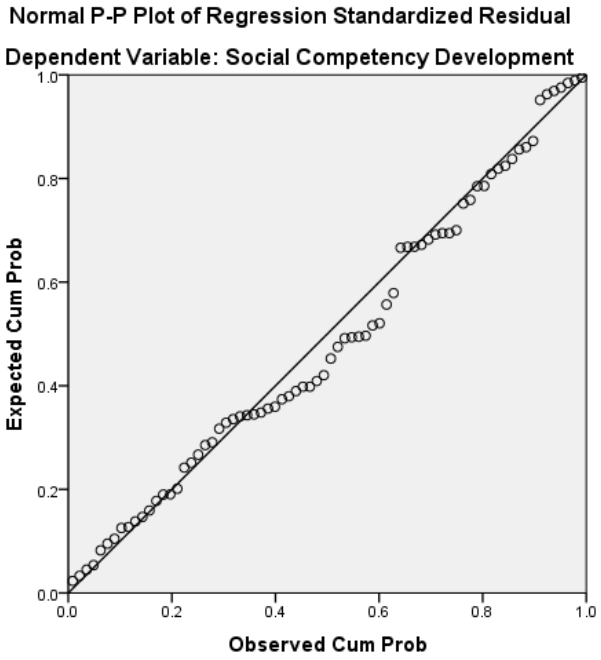

Figure 4. 5. P-P scatterplot for Linear Relationship of Frequency of Texting and Social Competency Development subscale

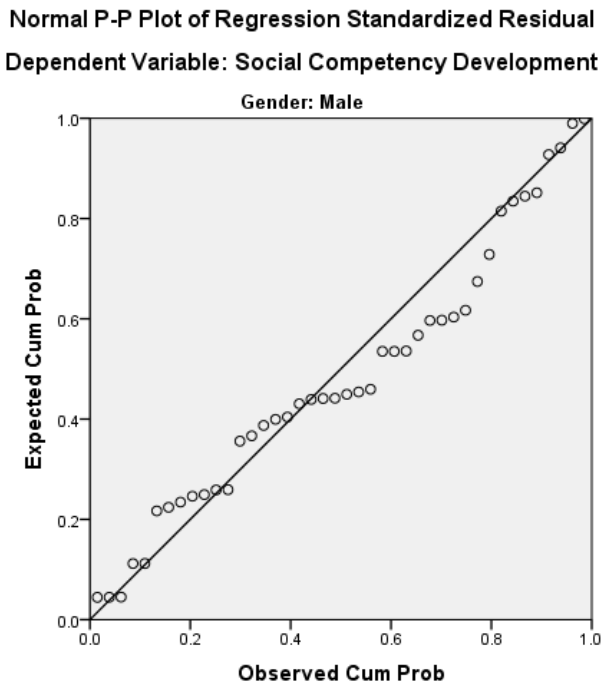

Figure 4. 6. P-P scatterplot testing for Males

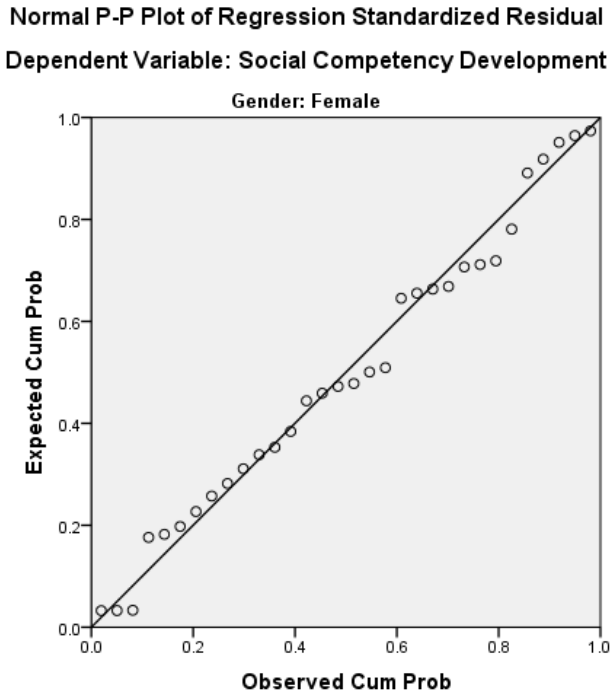

Figure 4. 7. P-P scatterplot testing for Females

Multicollinearity

I calculated the Variance Inflation Factor (VIF) to detect the presence of multicollinearity between the independent variables. A high VIF indicates increased effects of multicollinearity in the model. A VIF greater than five is cause for concern and a VIF of 10 is considered the maximum upper limit (Menard, 2009). The VIF between the Gender and the Frequency of Cell Phone Texting was less than 10. Table 2 presents the VIF between the two variables.

Table 4. 2

Variance Inflation Factor for Gender and Frequency of Cell Phone Texting

Variable	VIF
Gender and Frequency of Cell Phone Texting	1.05

Homoscedasticity

I evaluated homoscedasticity by plotting the residuals against the predicted values (Field, 2009). This assumption was met because the points appear randomly distributed with a mean of zero and no apparent curvature is present. Figure 8 presents a scatterplot of predicted values and model residuals.

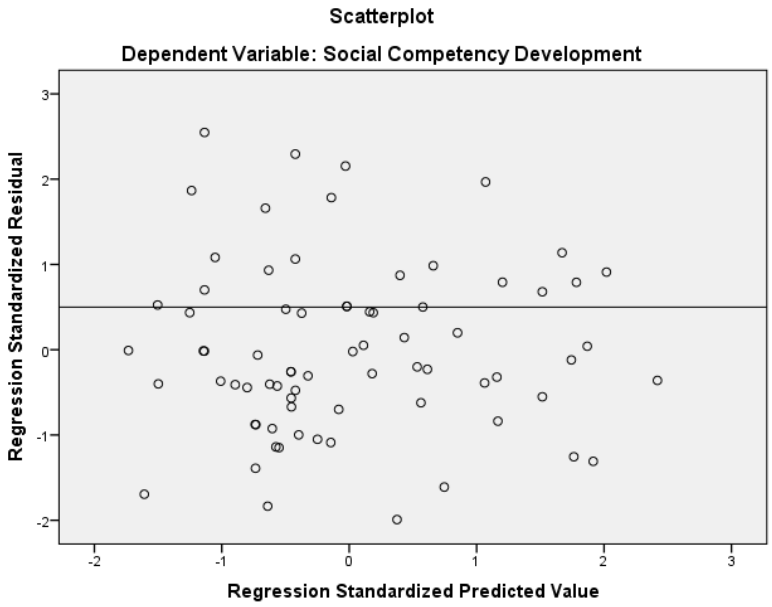

Figure 4. 8. Residuals scatterplot testing homoscedasticity using Frequency of Cell Phone Texting

Results

Research Question 1

Is there a relationship between the frequency of adolescent cell phone texting, gender, and social competency development, as measured using the Social Competence Subscale of the Social Emotional Assets and Resilience Scales-Parent Form?

I used a multiple regression analysis to determine the relationship between frequency of cell phone texting, gender, and the social competency subscale. Due to finding positive skewness in the data, I transformed the frequency of cell phone texting data using a Log10 analysis to normally distribute the data for this variable. Next, I conducted a multiple regression analysis to predict the value of the dependent variable, the social competency subscale, based on the value of the independent variables,

frequency of cell phone texting and gender (SPSS, 2013). I entered the independent variables, gender and frequency of cell phone texting, also known as the predictor variables into SPSS. I also entered the dependent variable, the social competency development subscale scores, also known as the outcome variable into SPSS. I used a multiple regression analysis to assist with determining the overall fit or how the variance of the model is impacted by each of the variables. Table 3 includes descriptive statistics for the variables included in this analysis.

Table 4. 3

Descriptive Statistics for Gender, Frequency of Cell Phone Texting, and Social Competency Subscale

Variable	*N*	*Mean*	*Standard Deviation*
Gender	74		
Male	42		
Female	32		
Frequency of Cell Phone Texting	74	841.95	108.10
Social Competency Subscale	74	44.11	10.29

The results of the linear regression model were significant, $F(2,71) = 14.70$, $p < .001$, $R^2 = 0.29$, indicating that approximately 29% of the variance in the Social Competency subscale is explained by the independent variables Gender and Frequency of Cell Phone Texting. Gender was found to significantly predict the Social Competency subscale, $B = -8.94$, $t(71) = -4.24$, $p < .001$. Adolescent females scored higher on the

social competency subscale than adolescent males. I also found that the Frequency of Cell Phone Texting significantly predicted the Social Competency subscale, B = -4.15, $t(71)$ = -2.36, p = .021. As the frequency of cell phone texting increases, social competency decreases. Table 4 summarizes the results of the regression model.

Table 4. 4

Results for Linear Regression with Gender and Log Frequency of Cell Phone Texting predicting the Social Competency subscale

	R	R^2	F	P	
Overall Model		*0.29*	14.70	<.001	
Variable	*B*	*SE*	B	T	*P*
Gender	-8.94	2.11	-0.43	-4.24	<.001
Log Freq.of Texting	-4.15	1.76	-0.24	-2.36	.021

Research Question 2

Does gender moderate the effect between the frequency of cell phone texting and the social competency subscale? I conducted a second multiple regression analysis to assess whether or not gender had a moderating effect on the social competency subscale. By definition, moderator analysis is used to determine whether the relationship between two variables depends on the value of an additional variable (Aguinis, 2004).

First, I created a moderator variable to be one variable representing the interaction between the Frequency of Cell Phone Texting and Gender. In general, testing for an interaction effect involves analysis of the relation or strength between two variables and if it changes as a function of a third variable known as the moderator (SPSS, 2013). I

multiplied Gender and the Frequency of Cell Phone Texting to create the Moderator variable. Next, I conducted a regression analysis by entering Gender, Frequency of Cell Phone Texting, and Moderator as predictor variables, and the Social Competency subscale as the outcome variable.

The results of the moderator analysis using multiple regression were not significant. The moderator, or interaction between the Frequency of Cell Phone Texting and Gender, was not found to significantly predict the Social Competency subscale (B = 0.53, t= 0.48, p = .636). The results are included in Table 4. No moderating relationship was found between gender, the frequency of texting, and the social competency subscale. As shown in the previous regression analysis, gender, was found to significantly predict social competency, B = -8.93, t = -4.21, p < .001, with females having higher social competency scores than males. Frequency of Cell Phone Texting was a negative predictor of social competency scores, B = -4.12, t = -2.33, p = .023. Overall, both adolescent males and females with higher frequencies of cell phone texting had lower scores on the social competency subscale.

Table 4. 5

Results for Linear Regression with Gender, Log Frequency of Cell Phone Texting, and Moderator predicting the Social Competency Subscale

Variable	*B*	*SE*	B	*t*	*P*
Gender	-8.93	2.12	-.433	-4.21	< .001
Log Freq. of Texting	-4.12	1.77	-.240	-2.33	.023
Moderator	0.53	1.11	0.05	0.48	.636

I conducted a t-test to further examine the difference in the Frequency of Cell Phone Texting between adolescent males and females. Table 4.6 summarizes the means by gender for the Frequency of Cell Phone Texting as well as the results of the t-test comparing males and females (n = 74). No significant difference was found in the Frequency of Cell Phone Texting between adolescent males (M=956.93, SD=858.08) and females (M=691.03, SD=1010.52); *t*(72) =-1.223, p=.225. The implications of this finding will be discussed further in Chapter 5.

Table 4. 6

Table of Means by Gender for the Frequency of Cell Phone Texting and Social Competency Subscale and P-Value for t-test

Frequency of Cell Phone Texting	N	Mean	Standard Deviation	P	t
Males	42	956.93	858.08		
Females	32	691.03	1010.52		
Total	74		929.93	.225	-1.223

I generated scatterplots by gender to examine the relationship between the Frequency of Cell Phone Texting and Social Competency development separately for adolescent males and females Figure 4.9 and Figure 4.10. There was no significant difference in the relationship between the Frequency of Cell Phone Texting and Social Competency Development by gender. I interpreted the results of the moderation analysis and the results suggest that higher levels of texting are related to lower social competency subscale scores regardless of gender.

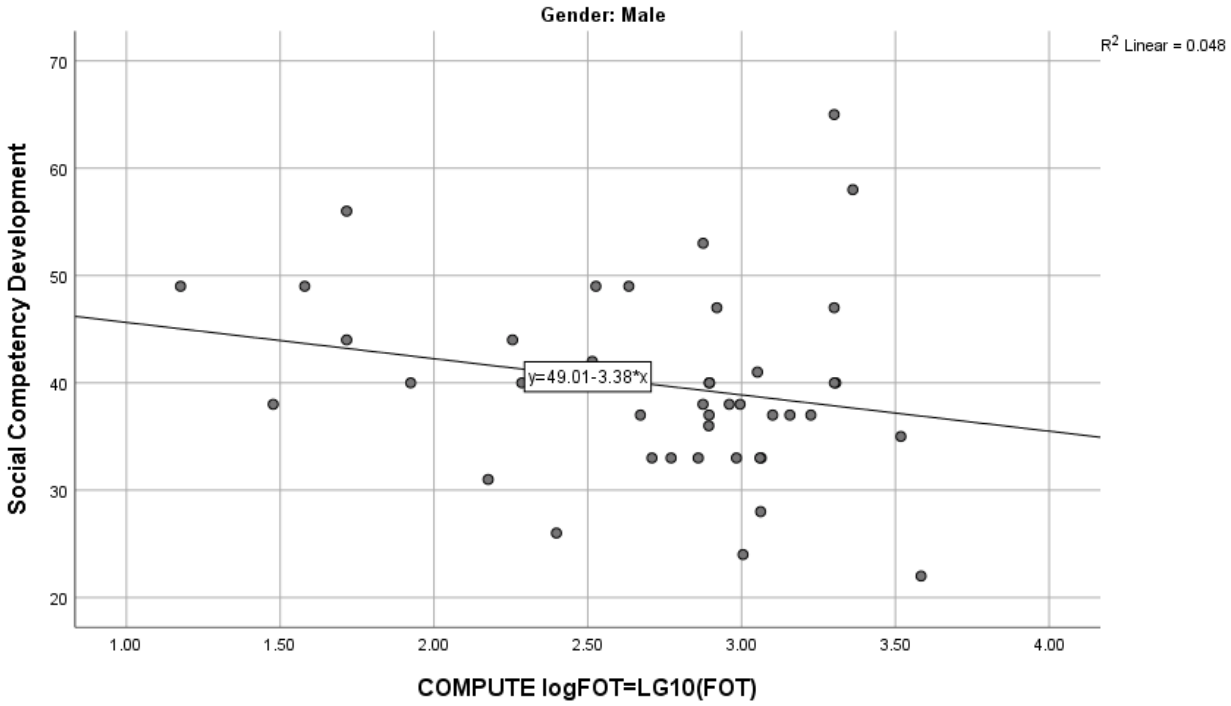

Figure 4. 9. Scatterplot for males showing the relationship between the Frequency of Cell Phone Texting and Social Competency Development

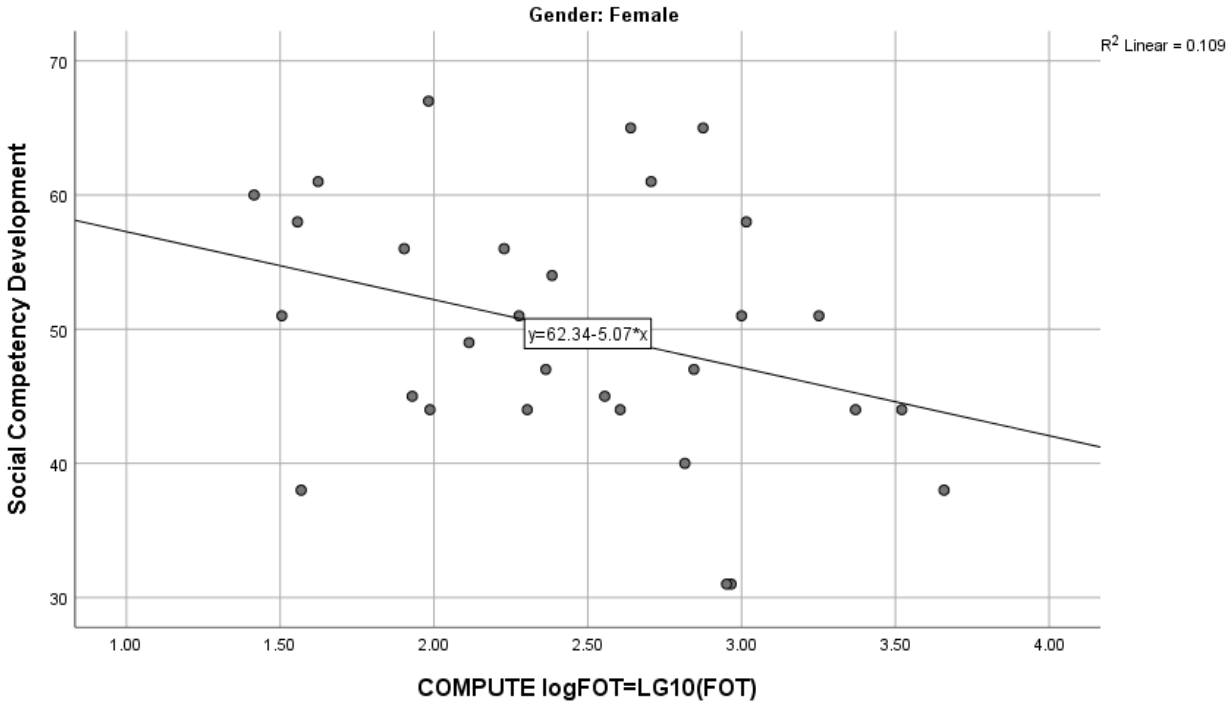

Figure 4. 10. Scatterplot for females showing the relationship between the Frequency of Cell Phone Texting and Social Competency Development

Summary

In Chapter 4, I examined the results of the data analyses related to the research questions and hypotheses that were explored. Research question one questioned the relationship between the frequency of cell phone texting, gender, and the social competency subscale. The results of the multiple linear regression were significant. The null hypothesis of research question one was rejected. I analyzed the data and 29% of the variance in the social competency subscale was explainable by gender and the frequency of cell phone texting. I interpreted the results and the results suggest that higher levels of texting are related to less developed social competency development. Gender was found

to significantly predict social competency development. Adolescent females scored higher overall on the social competency subscale than males. I generated the second research question to examine whether or not gender moderated the effect between the frequency of cell phone texting and social competency development. The null hypothesis was supported. The moderation variable, or interaction effect between gender and the frequency of cell phone texting was not found to predict the social competency subscale based on the analysis. To further examine the difference in the frequency of cell phone texting between males and females, I conducted a t-test and no significant difference was found in the frequency of texting between genders.

Next, in Chapter 5, I will provide an interpretation of the data as well as limitations and implications of the study. I will explore ideas for areas of future research based on the findings. I will also explore social change implications and the potential impact on adolescents in the following chapter.

Chapter 5

Introduction

The purpose of this study was to determine if gender had a moderating effect on the frequency of cell phone texting and social competency development. The interaction between gender, social competency development, and frequency of texting has not been examined. The previous literature suggests that the rate of cell phone use differs by gender, with girls using cell phones more frequently than boys for both conversations and for text messaging (Hofferth & Moon, 2012; Lenhart et al., 2010). Additionally, Pea et al.'s (2012) results indicated that individuals with high levels of overall media use tended to be negative in overall social interactions (Pea et al., 2012). Pea et al. (2012) examined various types of media and interpersonal interaction. Interestingly, the researchers found that face-to-face communication was linked to positive social well-being. This study, among others, raises questions about specific types of media and the implications on social competency and overall social-emotional well-being among genders.

For the current study, I hypothesized that gender moderated the relationship between cell phone texting and social competency. The key findings of the study suggested that while both gender and texting were significant predictors of social competency, the current study results did not support a moderation effect. In addition, no significant difference was found in the frequency of texting between genders and adolescent females scored higher than males on a measure of social competency. I found that higher amounts of texting were related to lower social competency.

Interpretation of the Findings

There were two research questions for this study. I examined the data for the first research question to determine the relationship between gender, the frequency of cell phone texting, and social competency development. Secondly, I examined the data for the second research question to better understand whether or not gender moderated the relationship between the frequency of texting and social competency development. I used a multiple regression analysis and a moderation analysis using multiple regression to answer the research questions.

The results of this study provide evidence to support a relationship between gender, the frequency of cell phone texting, and the social competency subscale. The results of the multiple linear regression were significant; the null hypothesis was rejected. I analyzed the data and found that 29% of the variance in the social competency subscale was accounted for by gender and the frequency of cell phone texting. I also found that gender significantly predicted social competency development, with adolescent females scoring higher on the social competency subscale than males. Liang, Tracy, Kenny, and Brogan (2008) examined the differences in gender as it relates to relational health of adolescents who participated in a program to develop social competency. Interestingly, the impact of the program was more significant for boys than for girls. The authors found that girls tended to develop quality relationships even when not exposed to or with minimal participation in the social competency program (Liang et al., 2008). This may be the reason that adolescent females scored higher than males on the SEARS-P in the current study.

The current study's findings related to texting were consistent with Greenspan's (1981) model of social competence, which identifies the importance of examining social awareness abilities such as communication. As defined in the research, communication, peer relationships, and social competency parallel Greenspan's (1981) model. Greenspan's (1981) model also emphasized behavioral elements such as social awareness of others and the impact on relating to others. Greenspan (1980) argued that social interactions with peers are valuable and highly relevant in contributing to social competence.

I examined the data to answer the second research question to determine whether or not gender moderated the effect between the frequency of cell phone texting and social competency development. The null hypothesis was supported because I found that the moderator variable, or interaction effect between gender and the frequency of cell phone texting, did not significantly predict the social competency subscale based on the analysis. The null hypothesis could not be rejected. This finding was not in line with the previous literature because there are notable differences between genders and the frequency of cell phone texting. Hofferth and Moon (2012) examined cell phone use and gender and found that girls used cell phones more frequently than boys.

I found no significant difference in the frequency of cell phone texting between males and females. Overall, I found adolescent females to have higher social competency development subscale scores. The previous literature suggests that females tend to have higher social competency than males and the current study supports this (Liang et al.,

2008). The results of the moderation analysis showed that higher levels of texting are related to lower social competency subscale scores regardless of gender.

I found no difference between adolescent males and females in the frequency of cell phone texting and this contradicts the previous literature. The literature suggests that there are gender differences in cell phone texting. Research conducted by Hofferth and Moon (2012) found that girls use cell phones more frequently for both conversing and texting. A similar study found that 86% of females used text messages to indirectly communicate with friends as compared to 64% of boys (Lenhart et al., 2010). Gender differences occur in the frequency of text messaging, and this was not the case for the sample of adolescents in the current study.

Theoretical Implications

The results provide evidence to support the hypothesis that gender and the frequency of cell phone texting do significantly, but independently, predict social competency development. Greenspan's (1981) theories support the idea that face-to-face or traditional forms of communication are a key indicator linked to a person's social competency development. Texting is an indirect form of communication and the study provided evidence to show a negative relationship between high levels of texting and less developed social competency. Based upon a review of the literature, less developed social competency has vast implications on overall mental health due to challenges with relating to others and communication (Mathieson and Banerjee, 2010). Adolescents with diminished social competency development are at risk for a myriad of difficulties in social functioning impacting overall quality of life. Social competency is influential in all

relationships and, if not well developed, increases risk of mental health issues significantly. When children and adolescents have underdeveloped social competence, the cycle of negative outcomes can significantly impact their overall wellbeing, mental health, and relationships (Liddle, Batty, & Goodman, 2009).

Limitations of the Study

Next, I will explore limitations of the current study to better understand the impact that the limitations may have on the overall generalizability of the study and to provide information on considerations for future research. As with most research, respondent bias may have contributed to the results of the study. Specifically, parents may have responded inaccurately due to respondent biases or access to incorrect data. Inaccurate reporting such as guessing when reporting the frequency of cell phone texting is a potential source of error. Parents also may have reported more positively on the measure of competency so that the adolescent did not appear socially incompetent, reflecting social desirability bias.

In addition, there is a possibility that the parent who completed the surveys was not the primary caregiver for the adolescent. In this case, the parent or caregiver may not have been familiar enough with the adolescent to report results, impacting the accuracy of survey responses. Another limitation is that this study was completed from a parent's perspective as opposed the adolescent self-reporting information. While the SEARS-P is standardized and intended for use by parents to report behavior, there are limitations to the accuracy of the information depending on parent perspective of adolescent behavior.

I attempted to mitigate limitations by examining and eliminating outliers from the sample. I identified five of the cases with scores on the Frequency of Cell Phone Texting beyond the 75th percentile and excluded them. No outliers were identified in the SEARS-P data. The reliability coefficient for the SEARS-P is .89 (Merrell, 2011). The SEARS-P is highly reliable instrument and this mitigated potentially significant measurement errors.

Delimitations

Some delimitations of the study were due to the necessity of the convenience sample and the accessibility of participants. The participants that were recruited for the study were English speakers who were also parents of adolescents, and the majority were from one region in the United States. It would be interesting to examine more diverse populations from various parts of the world in future studies to expand the scope of study.

Recommendations for Further Research

This study has provided information related to gender, the frequency of cell phone texting, and social competency development. It was the first study to examine these variables and provides other researchers with interest in this topic insight for further research. Due to the limitations and delimitations identified with this study, there is a need for additional studies with a more diverse, and generalizable sample. As a follow-up study, a causal relationship between the frequency of cell phone texting and social competency development could be examined. It is possible that low social competency may lead adolescents to use texting as a more comfortable mode of communication, because it removes the face to face aspects of conversation. Additional measures, focused

on reasons for use of texting and social outcomes, would be interesting to study. Examining length of text messaging and finding another method to report frequency of texting, without having to have access to a cell phone bill, are possibilities for future research as well. Additionally, future studies could broaden the definition of social competency beyond the scope of the SEARS-P definition. Social competency is multifaceted and additional studies using multiple measures with varying content validity would broaden the findings.

Implications

Counseling psychologists and clinicians who intervene with adolescents and their families can begin to understand the effects of the frequency of cell phone texting, an indirect form of communication, on overall social competency development. Using texting as a method to indirectly communicate could diminish face-to-face communication. Adolescents could become more socially competent and improve peer relationships and communication skills with increased face to face communication. The frequency of texting can be used as a screener for potential social competency issues. Specialized, individual treatment can be developed to meet the needs of the adolescents. Educational materials for parents and educators can be developed to inform individuals that provide education and care for this population.

The study findings are meaningful and when presented by professionals may have the potential to improve the lives of adolescents, and inform caregivers, and other stakeholders interested in adolescent well-being and development. I found that about 29% of the variance in the social competency scores was explained by gender and frequency

of cell phone texting. The study provides a starting point for counselors, educators, and caregivers to use to better understand factors associated with the overall development and well-being of adolescents. From a counseling psychology perspective, the findings can be used as psychoeducation for the adolescent population to better understand how texting is related to social competency development and adolescent behavior including mental health. I found that adolescents who text more frequently may have less developed social competency than adolescents who text less frequently regardless of gender. The study results could be summarized and shared by educators at school assemblies, embedded in health curricula, or incorporated into topics for students within the school district's student portal. Adolescents may not have thought about their own social competency as it relates to peer relationships and communication. In addition, adolescents may not have considered the differences in face to face communication and how texting, an indirect form of communication, may impact peer relationships and communication. Programs designed to inform adolescents on the advantages and disadvantages of under or overreliance on texting as a means of communication could be designed as an informational or intervention tool to promote adequate social competency development.

The study results can be used as a means to enrich the lives of adolescents by providing evidence of a relationship among the variables and to foster awareness of factors influencing social competency. Based on the results of the study, I found that higher frequencies of cell phone texting are related to lower social competency. On the positive side, texting can be used as a protective factor for adolescents with lower than average social competency to use as a means to communicate without face to face

conversation. The impact of the frequency of texting and gender on social competency development in adolescents is vast and has a variety of implications.

Conclusion

The current study results contribute to implications specific to the field of counseling psychology, in addition to implications for other areas of psychology. This study was the first to explore if gender moderated the relationship between the frequency of cell phone texting and social competency development. The findings can be used by professionals to assist with understanding a potential need for screening and social change related to addressing the needs of adolescents that may be struggling with social competency development.

This information gained from this study can be used to shed light on the relationship between gender, frequency of cell phone texting, and social competency development. Additionally, the results provide a framework for researchers interested in further studying the implication of the frequency of cell phone texting on social competency development in adolescents, among genders. Psychometricians of standardized measures may consider incorporating frequency of cell phones use and other electronic devices intended for adolescent communication as a factor influencing overall social well-being. Researched interested in conducting additional research could investigate effectiveness of interventions associated with improving face-to-face communication and reduction of use of devices associated with forms of indirect communication that contribute to decreased social competency development. Educational program materials and curricula can be developed and used schoolwide to raise

awareness of the potential issues associated with overuse of texting, positive implications of texting, and the relationship to social competency in social situations. There are a myriad of variables that impact social competency development. High levels of texting are one factor to consider when adolescents present with less developed social competency development. The overall wellness of adolescents is a driving force for clinicians, parents, educators, and community members to continually evaluate influences such as use forms of indirect communication among others. Counseling, education, and advocacy from various stakeholders, related to improving social competency in adolescents, can help improve overall quality of life in our future generation.

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Appendix A: Demographic Questionnaire, Texting Information, and SEARS-P

Demographic Questionnaire

Instructions: Please proceed and complete each item and respond as accurately as possible. This section includes questions about you and questions based on observation of your child's behavior. If you are a parent of more than one adolescent age 12−17, please choose one of your children to report on.

1. I am over the age of 18: _____Yes _____No

2. I am the parent of a 12−17-year-old child and have cared for him/her no less than 5 consecutive years: _____Yes _____No

3. I can read in English: _____Yes _____No

4. I am a Citizen of the United States _____Yes _____No

5. What is your child's gender? (Circle one) Male Female

6. What is your child's age (check one):

_____12

_____13

_____14

_____15

_____16

_____17

7. What is your child's race/ethnicity? (Check all that apply):

_____Asian/Pacific Islander

_____Black/African –American

_____Caucasian

_____Hispanic

_____Native American/Alaska Native

_____Other/Multi-Racial

_____Decline to Respond

8. What is your child's current grade? (During summer please enter the last grade completed): _____

9. Does your child use a cell phone for texting purposes? _____Yes _____No (if not, you will be excluded from the study because this data is required)

10. Do you have access to an itemized cell phone bill to accurately report text message usage for your child? _____Yes _____No (if not, you will be excluded from the study because this data is required)

Frequency of Cell Phone Texting Survey

Please reference the most recent cell phone bill in another browser, by calling the telephone company, or on a paper bill and report the number of text messages your child/adolescent sent in the last month (must be a complete billing cycle=30 days). Please be sure to consult the most recent cell phone bill for an accurate response:

My child made _____ texts in the last 30-day billing cycle based on data obtained from the most recent cell phone bill (insert number of text messages).

OR please check one of the following:

_____My child did not text in the last 30-day billing cycle.

_____I am not sure of the number of texts my child made in the last 30-day billing cycle.

Social Emotional Assets and Resiliency Scale-Parent Form

Next, please click on the link to be directed to the Social Emotional Assets and Resiliency Scale-Parent Form. Once you click on the link and another browser pops up, please ensure that you submit your answers on this survey.

(INSERT LINK HERE)

Thank you for your participation!