

The Associations between the Psychological
Constructs of Attachment Anxiety and Emotional
Regulation, and Behaviors related to Texting, while
looking at Gender Differences

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Acknowledgements

I would like to thank my mentor, Dr. Leora Trub, for helping me conduct my project, and allowing me to visit her in her office at Pace University. I would also like to thank my teacher, Mr. Michael Inglis, for guiding me through the past three years of the science research program. I would also like to thank my parents for all their support and help.

Abstract

Background: Technology may lead to more subtle psychological harm by distracting and estranging people from their immediate experience, including social relationships and internal physical cues. People use technology to communicate with others. There are many differences between the way boys and girls communicate, and in their motivations and behaviors related to Internet use. To test this, we examined the differences in technology use between adolescent males and females, as well as to explore gender differences in how attachment anxiety and difficulties in emotional regulation are associated with the use of technology.

Methods: A survey that asked questions based on measures of mindfulness, impulsivity, attachment, and emotional regulation, perceived stress, texting behavior and motives was handed to the participants. When the participants finished the survey, it was checked by hand to see if they are engaged in texting behaviors such as, texting while driving, sexting, or texting while angry. The participants were asked if they engage in 2 or more texting behaviors (drunk texting, sexting, or texting while driving)

Results: Bivariate correlations were conducted to determine the correlations between the psychological constructs of attachment anxiety and the three dimensions of emotional

regulation, and texting behaviors such as impulsivity, awareness, and strategies. These correlations were run separately for males and females. T-tests were then run to determine whether boys and girls differed in terms of their behaviors related to texting and impulsivity, awareness, and strategies. Significant differences were found between males and females. Girls were significantly more likely than boys to use strategies via text while being empathetic. ($t(6) = .007$, $p < .00$). Girls were significantly more likely than boys to check their phone in the car while drunk texting. ($t(30) = .009$, $p < .00$). Boys were significantly more likely than girls to have anxiety while sexting. ($t(27) = .001$, $p < .00$). Boys were significantly more likely than girls to gossip about sexting. ($t(27) = .000$, $p < .00$).

Conclusion: This study supports the hypothesis that females were more likely than boys have attachment anxiety; use emotional regulation techniques, and explicit impulsive texting behaviors while communicating with others via text.

I declare this research is my own and that I have given credit to all sources, consultants and references used.

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Review of Literature

Originally, cell phones provided people with the amenity of being able to have immediate contact with whomever they wanted. In a very short period of time, this has changed. Many people now use cell phones to text, look up something, or even play a game. Not only is the cell phone changing but the people behind the phone are too.

The way we communicate with people today is not the same as they we did 25 years ago. (Long, 2010) Research has suggested that one reason people prefer texting is that it helps to hide uncomfortable interactions between people. This limits the growth and empathy that come from being able to talk to someone face to face while seeing how they are feeling. (Turkle, 2012) By 2005, texting has eclipsed calling, due to the fact that most people use texting as a method to expand their social network (Neilson, 2010). According to a study done from Neilsen (2010), the average teen sends 3,339 texts per month (Neilsen, 2010). This study also found that as of 2010, the top reason why teenagers wanted a cell phone was for text messaging.

There are many differences between the way boys and girls communicate, and in their motivations and behaviors related to Internet use. Boys are more likely to use the internet to search for dates, read the news, look for jobs, and get sports information, while girls use it to communicate with other people via email or chatting (Weiser, 2001). Women are also more likely to use e-mail as a way to maintain relationships (Fallows, 2005.) Also girls tend to type longer messages compared to males. Boys tend to type messages that are much shorter, while girls expand their messages by asking multiple questions. (Ling, 2007)

Not only is the cell phone one of the most helpful pieces of technology, but it is one of the most addicting too. Many people use technology to distract themselves from feeling unwanted emotions such as anxiety, loneliness, and boredom. (Jon Kabatt-Zin, 2005) The average student uses their cell phone 9 hours each day. Some cell phone users show the same symptoms that a drug user might have. Some people use their phones as a way to make them happier, and it may take more time on the phone to increase their level of enjoyment. For some people, if their phone dies it may cause them to panic or have anxiety. This is considered withdrawal. (Kowalski, 2014) Since so many people are addicted to their phones, they use it during times that they shouldn't. For example, people use their phone while driving. A survey shows that one fifth to one third of young adult drivers text while driving. Because of this, more accidents are caused. Mindfulness teacher and researcher Jon Kabat-Zinn (2005) recently proposed that promoting mindfulness would help to lower individuals' harmful, over-reliance on mobile communication technology. Thus, people who would rather give their full attention to daily activities such as socializing or attending a lecture without the concurrent distraction of text-messages may also be less likely to divide their attention between texting and driving. (Ophir, Nass, & Wagner, 2009) Mindfulness is the state of being aware or conscious of what is going on around you. Mindfulness is considered a unique quality of consciousness. It is also considered an enhanced attention to awareness of your current experience and present reality (Brown, 2003). Mindfulness may help people to veer away from habits, thoughts, or unhealthy behavior patterns. (Ryan and Deci, 2000) Individuals who are mindful in their daily lives will show greater openness to accepting emotional states rather than suppressing them with high-tech distractions. (Jon Kabatt-

Zin, 2005) There has been a lot of research that helps demonstrate the efficacy of mindfulness-based treatment for adults with improving their physical and mental health. For example it helps to relieve stress, treat heart disease, lower blood pressure, reduce chronic pain, and improve sleep. There is not a lot of research examining its efficacy with adolescents. (Biegel, 2009)

There are many benefits that go along with increasing mindfulness. Mindfulness can help adolescents when they use their phone because they are able to think before they send a message to someone. They will become aware of their own feelings before communicating with others. If adolescents practice mindfulness while texting, it may help them reflect on a message before they send it. (Calson, 2004) The purpose of this research is to incorporate mindfulness practice via the Mindful Messaging App into texting behavior to see if it could raise awareness about thoughts and feelings surrounding the texts, and could promote greater interpersonal skills and awareness in other contexts as well.

Every person has his or her own attachment style. Insecure attachment styles include attachment anxiety and attachment avoidance. (Fraley, 2008) Attachment anxiety is characterized by excessive need for reassurance and a fear of abandonment. Adults with attachment anxiety are more depressed and tend to react faster to other peoples behaviors, but not as accurately as self- reliant adults. (Brogaard, 2015) Also individuals with a high level of attachment anxiety have higher levels of the stress hormone, cortisol. (Hooper, 2007)

To show how people are dependent on technology, Weisskirch and Delevi conducted a study, which revealed attachment anxiety in adults. (2011) When multiple

regression analyses were conducted on the constructs of attachment style and sexting attitude, those who scored high on anxious attachment style were significantly more likely to send text messages requesting a sexual encounter of a partner (Weisskirch, 2011).

Emotional Regulation is the conscious or non-conscious control of emotion, mood, or affect. Having conscious control over your emotions means that you have an active thought process or a commitment to a behavior to control your emotion. Non-conscious control means thoughts and behaviors you can't control. (Kowalczyk, 2015) The DERS (Difficulties in Emotion Regulation) scale is used to measure ones emotional regulation. In this scale, questions are asked about how one reacts to the many emotions that they may feel. (Gratz, 2004)

Technology may lead to more subtle psychological harm by distracting and estranging people from their immediate experience, including social relationships and internal physical cues. Kabat-Zinn also suggests that the excessive use of communication technology may be driven by a desire to distract oneself from upsetting emotional states such as anxiety, loneliness, or boredom. (2005) Personality traits characterized by difficulty in emotion regulation, such as neuroticism and impulsivity, are associated with greater frequency of texting. (Butt & Phillips, 2008) It has also been found that emotion-regulation motives for texting are linked to texting-while-driving and that emotion regulation motives may influence consumer behaviors that would facilitate more frequent texting. (Feldman et al., 2011)

Bringing these areas of research together, the current study aims to examine differences in technology use between adolescent males and females, as well as to explore gender differences in how attachment anxiety and difficulties in emotional regulation are associated with the use of technology.

Research Question:

How do the associations between the psychological constructs of attachment anxiety and emotional regulation, and behaviors related to texting, differ by gender?

Hypothesis:

H0: Boys will significantly more likely than boys have attachment anxiety, use emotional regulation techniques, and explicit impulsive texting behavior while communicating with others via text.

H1: Girls will significantly more likely than boys have attachment anxiety, use emotional regulation techniques, and explicit impulsive texting behaviors while communicating with others via text.

Methods

Participants

Many people enlisted to fill out the consent form. Each classroom in my school was informed about the study and how it can help them improve their mindfulness. From there, the participants who filled out the consent form were emailed through wallkrissy@gmail.com with the survey attached. The survey asked questions based on measures of mindfulness, impulsivity, attachment, and emotional regulation, perceived stress, texting behavior and motives. When the participants finished the survey, they were looked at by hand to see if they are engaged in texting behaviors such as, texting while driving, sexting, or texting while angry. The participants who engaged in 2 or more texting behaviors (drunk texting, sexting, or texting while driving) were asked to participate in the study. Eligible individuals were sent a link to download the Mindful Messaging app from my mentor's colleague. The participants were given an access code, which enabled them to use the application. There was complete confidentiality of all the names of any participant using the app.

The population demographics are shown in Table 1 - 5:

Statistics						
		What is your age?	What is your gender?	How do you identify?	How do you identify?- TEXT	How would you describe your sexual orientation?
N	Valid	64	68	69	69	69
	Missing	5	1	0	0	0
Mean		16.70	1.60	1.48		1.06
Std. Deviation		.683	.493	1.421		.379

How do you identify?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Caucasian	58	84.1	84.1	84.1
	Hispanic or Latino	5	7.2	7.2	91.3
	Asian / Pacific Islander	3	4.3	4.3	95.7
	More than one race (Please specify which in space)	2	2.9	2.9	98.6

How do you identify?-TEXT					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		66	95.7	95.7	95.7
	Armenian	1	1.4	1.4	97.1
	Asian, White	1	1.4	1.4	98.6
	Irish, West Indian (white and black)	1	1.4	1.4	100.0
	Total	69	100.0	100.0	

How would you describe your sexual orientation?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Heterosexual	67	97.1	97.1	97.1
	Gay	1	1.4	1.4	98.6
	Bisexual	1	1.4	1.4	100.0
	Total	69	100.0	100.0	

Frequency Table

What is your age?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15	1	1.4	1.6	1.6
	16	24	34.8	37.5	39.1
	17	32	46.4	50.0	89.1
	18	7	10.1	10.9	100.0
	Total	64	92.8	100.0	
Missing	System	5	7.2		
Total		69	100.0		

What is your gender?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	27	39.1	39.7	39.7
	Female	41	59.4	60.3	100.0
	Total	68	98.6	100.0	
Missing	System	1	1.4		

Measures

Measures: The following measures will be administered in both the initial survey and follow-up survey:

Emotional regulation (DERS). DERS stands for difficulties in emotion regulation scale. This scale will ask the participate questions based on the emotions and how they control them. Within this scale we looked at awareness, impulsivity, and strategies.

Attachment anxiety (ECR-RS). This questionnaire is designed to assess the way in which you mentally represent important people in your life. The main target for the questionnaire is the participants' parents, friends, siblings, or significant other. We looked at who the participant texted the most and second most.

How impulsive texting behaviors are related to mindfulness. A scale was created for this study to measure this.

Procedure

The app offers users a series of short lessons and mindfulness based practices, geared at shifting their relationship to texting. Users move sequentially through the content over a period of three weeks. Topics address the impact of technology upon various phenomena, including multi-tasking and attention, the capacity to be alone, friendships and romantic relationships. Short mindfulness practices are included throughout all three weeks.

During weeks two and three, subjects are invited to use the app to compose at least five text messages a day. In this exercise, the app offers a short guided meditation after the messages is composed and prior to its delivery. The meditation helps ground users identify the impulses and relational needs that might be driving this particular communication. After this reflection, subjects are asked to assess both their own state of mind and the type of interaction (eg. formal, close friend, new dating partner), followed by a tailored audio message offering the individual the opportunity to reconsider the communication in light of their increased awareness regarding what they want or need from the interaction.

Finally, subjects responded to questions each night regarding their experience of using the app and their level of mindfulness (awareness and non-judgment) during text exchanges over the course of the day. Mindful Messaging attempts to incorporate awareness of self and other in text message-based interactions to trigger more thoughtful and responsible behavior related to texting while also promoting greater interpersonal skills and awareness in all aspects of life.

Results

Bivariate correlations were conducted to determine the correlations between the psychological constructs of attachment anxiety and the three dimensions of emotional regulation, and texting behaviors such as impulsivity, awareness, and strategies. These correlations were run separately for males and females. T-tests were then run to determine whether boys and girls differed in terms of their behaviors related to texting and impulsivity, awareness, and strategies. Significant differences were found between males and females.

Males:

Boys were significantly more likely than girls to have anxiety while sexting ($t(27) = .001$, $p < .00$). Boys were significantly more likely than girls to gossip about sexting ($t(27) = .000$, $p < .00$). Boys were significantly more likely than girls to gossip while sharing confidential information ($t(33) = .006$, $p < .00$).

Females:

Girls were significantly more likely than boys to gossip about other people via text ($t(54) = -3.87$, $p < .00$). Girls were significantly more likely than boys to use strategies via text to improve their relationship satisfaction with others ($t(3) = .007$, $p < .00$). Girls were significantly more likely than boys to use strategies via text while being empathetic ($t(6) = .007$, $p < .00$). Girls were significantly more likely than boys to check their phone in the car while drunk texting ($t(30) = .009$, $p < .00$). Girls were significantly more likely than boys to send messages while walking without pausing, while gossiping ($t(36) = .001$, $p < .00$).

Conclusion:

This study supports the hypothesis that females were more likely than boys have attachment anxiety; use emotional regulation techniques, and explicit impulsive texting behaviors while communicating with others via text.

Future research of this project can be done on the differences of the way boys and girls communicate within the text, between males and females. For instance, it would be interesting to see if females send longer texting messages than boys, or what both genders tend to talk about while text messaging. I would like to see if there is a difference between female-to-female communication vs. female to male communication, and the opposite male-to-male communication vs. male to female communication.

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