SELF-TALK: EFFECTS ON EMOTION IN INTERPERSONAL COMMUNICATION CONTEXT

by

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Abstract

This study examines self-talk within a communication framework and context. The effects of different types of self-talk on emotion are explored. Specifically, this research looks at different types of self-talk based on the language and message aspects of the self-talk including: valence of self-talk (negative vs. positive), and self-talk content (using name vs. second-person pronoun [you] for self-reference). The relative effects of these different types of self-talk on emotion are investigated within the context of interpersonal anger. For control, the study contrasts the effects of self-talk with the effects of thought. Additionally, this study looks at the effects of the different types of self-talk and thought on subsequent interpersonal communication outcomes (perceived satisfaction and effectiveness of written interpersonal communication as well as willingness to communicate interpersonally). Results indicated that valence of self-talk and thought has significant impact on emotional outcomes. Results also indicated an interaction effect between valence and the self-talk/thought manipulation on negative affect. Positive self-talk decreased negative affect more than positive thought. Further results demonstrated a mediated effect of self-talk on subsequent interpersonal communication outcomes. Positive self-talk led to less anger after interpersonal communication which led to greater perceptions of interpersonal communication effectiveness and satisfaction and increased willingness to communicate interpersonally.

*Keywords*: self-talk, emotion, anger, interpersonal communication, intrapersonal communication
“While some contend that language is important for higher states of consciousness, it can be proposed that it is not language per se that is essential, but rather inner speech, our ability to converse with ourselves.”—Briscoe (2002)

The beneficial use and management of emotion is an essential skill of human development. The capacity to maximize positive emotion and minimize persistent negative emotion over time is a critical goal for human beings (Croker & Wolfe, 2001). This research examines self-talk, “the experience of talking to oneself or carrying on an internal conversation with oneself” (Brinthaupt, Hein, & Kramer, 2009, p. 82). Through experimental methods, this research explores the relative effectiveness of different types of self-talk on managing emotion—decreasing persistent negative emotion and potentially increasing positive emotion for individuals.

Individual emotions are not formed and managed within a vacuum, however, but instead are tied to interpersonal experience. People are spurred to emotion—to happiness, anger, sadness, guilt—from interaction with others. Furthermore, intrapersonal emotion (e.g., happiness, anger) may have significant interpersonal outcomes. This research thus focuses not only on the effects of different types of self-talk on emotion for the individual, but also on the broader interpersonal context in which this self-talk takes place. Through experimental methods, I look also specifically at the effects of different kinds of self-talk on subsequent interpersonal communication.

The broad goals of this research are to examine what types of self-talk may be most effective in leading to beneficial emotional outcomes for individuals (less negative emotion and potentially more positive emotion), and also to explore whether there is a connection between different kinds of self-talk and beneficial interpersonal communication outcomes.
Emotion and Self-Talk Overview

Emotion Management

The beneficial management of emotion—increasing positive emotion and decreasing persistent negative emotion over time—is linked to fields such as positive communication (Socha & Pitts, 2012) and positive psychology (Fredrickson, 2001), as well as constructs such as emotional intelligence (i.e., which focuses specifically on the proper perception, understanding, and regulation of emotion) (Salovey, Mayer, Caruso, & Yoo, 2002) and mindfulness (Heppner, Spears, Vidrine, & Wetter, 2015; Hill & Updegraff, 2012; Roemer, Williston, & Rollins, 2015). Socha and Beck (2015), for example, assert the importance of positive communication, which they describe as “messages that [prompt] hedonic happiness (pleasure-based) by means of communication that invites the experience of positive emotional states, positive personal images, and in general assists in helping people to feel good [emphasis added]” (p. 179). Generally, the ability to effectively balance emotion, to maintain positive over persistent negative emotion is shown to have beneficial effects, including increasing level of overall happiness and well-being (Fredrickson, 2000). Positive emotions are linked to greater engagement with the external environment (Avey, Wernsing, & Luthans, 2008; Fredrickson, 2001), broadened and more flexible cognition and creativity (Fredrickson, 2000; Hülsheger, Alberts, Feinholdt, & Lang, 2013), increased resiliency (Tugade & Fredrickson, 2004), better ability to cope in situations of adversity (Aspinwall & Taylor, 1997; Taylor, Kemeny, Reed, Bower, & Gruenwald, 2000), and better ability to undo detrimental physiological effects of negative emotion such as adverse cardiovascular effects and high blood pressure (Fredrickson & Levenson, 1998; Fredrickson et al., 2000). Positive emotions are also correlated with increased performance and productivity,
(Lam & Kirby, 2002), improved decision making (Isen, 2001), and overall better outcomes for a person across the lifespan (Diamond & Aspinwall, 2003; Tugade & Fredrickson, 2002).

Furthermore, beneficial individual emotional management has important social, interpersonal consequences. Rime (2007) asserts that many prominent previous studies over time have demonstrated that emotional episodes normally lead to long-term mental and social consequences and effects. The emotional experiences of individuals often create and lead to significant social behaviors. Positive emotional management is correlated with higher quality of social interaction (Lopes, Salovey, Côté, Beers, & Petty, 2005). Also, different emotional regulation strategies, for example, reappraisal vs. suppression—are demonstrated to lead to distinct interpersonal results and functioning. Reappraisal as an emotional regulation strategy (i.e., restructuring an individual’s view of a negative emotion-inducing situation in a way which shifts or changes its emotional impact) is associated with better interpersonal functioning compared to suppression as an emotional regulation strategy (i.e., the repression or inhibition of expressed emotion) (Gross & John, 2003). Additionally, constructs such as emotional intelligence in which the proper recognition and management of emotion is key, are correlated with important interpersonal results. Schutte et al. (2001) found that emotional intelligence was correlated with higher scores for social skills, more cooperation interpersonally, and more successful interpersonal relationships, specifically closer and more affectionate relationships and higher marital satisfaction scores.

Both positive and negative emotions are critical for human beings and serve key human functions, however, persistent negative emotions or sustained negative emotion over time is linked to deleterious effects for the individual (Eisenberg, Fabes, Guthrie, & Reiser, 2000; Fox & Calkins, 2003; Mikulincer, Shaver, & Pereg, 2003). The persistence of an emotion such as anger
over time has been linked to negative outcomes (Fredrickson, 2000), including poor physical health: high blood pressure (Fredrickson et al., 2000), heart disease (Mittleman et al., 1995), some cancers (Eysenck, 1994; Thomas et al., 2000), and increased, more intense chronic pain (Bruehl, Chung, Burns, & Diedrich, 2007; Janssen, Spinhoven, & Brosschot, 2001; Materazzo, Cathcart, & Pritchard, 2000). Further, the poor management of anger has important social, interpersonal, and behavioral impacts such as greater impulsivity (Colder & Stice, 1998) and increased aggression and violence (Scarpa & Raine, 2000), for both genders—for females (Milligan & Waller, 2001; Wolf & Foshee, 2003), and particularly for males (Archer, 2004; Norlander & Eckhardt, 2005).

In sum, there are benefits to maximizing positive emotion and minimizing persistent negative emotion over time for the individual, which also has important effects interpersonally. The goal of this study is to examine the regulation of emotion (anger in particular) through self-talk, as well as to look at the interpersonal effects of this regulation within a communication context and framework. This experimental study specifically seeks to explore what particular types of self-talk may be most effective in decreasing interpersonal anger and negative affect, and potentially increasing positive emotion and affect. Also, this study explores how these particular kinds of self-talk may affect subsequent interpersonal communication.

Below, I: (1) Define and discuss functions of self-talk, (2) place self-talk within the communication field, and (3) present research hypotheses related to the relative effects of different types of self-talk on emotion and on subsequent interpersonal communication.

Self-Talk Background

**Self-talk definition.** Scholars define self-talk in various ways, yet the generally accepted conceptualization of self-talk is as either vocalized or non-vocalized communication with
oneself, “what people say to themselves either out loud or as a small voice inside their head” (Theodorakis, Weinberg, Natsis, Douma, & Kazakas, 2000, p. 254). Vocate (1994) uses and breaks down this essential definition, describing self-talk as, “a dialogue with the self, existing in two forms: (a) the silent, internal dialogic process of inner speech, and (b) the audible, external dialogue addressed to self although others may hear it [private speech]. In self-talk, the self is both the source and the object of interaction” (p. 7). There are thus numerous particular kinds of self-talk which may be referenced, however for this study I will use Burnett’s (1996) definition of self-talk as: “what people say to themselves, with particular emphasis on the words used to express thoughts and beliefs about oneself and the world to oneself” (p. 57).

**Self-talk functions.** Self-talk serves some very important functions for human beings. Broadly, scholars have looked at the potential of self-talk to both regulate and manage emotion and the self (Depape, Hakim-Larson, Voelker, Page, & Jackson, 2006; Morin, 2005). In this vein, Hackfort and Schwenkmezger (1993) asserted self-talk as, “dialogue [through which] the individual interprets feelings and perceptions, regulates and changes evaluations and convictions, and gives him/herself instructions and reinforcement [emphasis added]” (p. 355). Depape et al. (2006) distinguish self-talk as operating with four key functions, for self-review, self-encouragement (via praising the self), self-regulation, and self-management (via self-instruction and/or self-criticism). Brinthaupt et al. (2009) developed a “Self-Talk Scale” which also categorizes self-talk into four key domains and functions, for self-management (giving oneself instructions or directions or figuring out what to do or say), self-reinforcement (pride about something done or when something good has happened), self-criticism (discourage or criticize oneself), and social assessment (replaying something said to another person and/or imagining other peoples’ responses). Following from the above delineations, this research
focuses mainly on the regulatory and management functions of self-talk, particularly as pertains to the regulation and management of emotion.

Within the field of psychology, scholars have long looked specifically at the potential of self-talk for self-regulation and emotional management. For example, in examining impulse control, Meichenbaum and Goodman (1971) found that programs training impulsive children to talk to themselves were effective in modifying the children's behavior on tests of cognitive impulsivity. More recently, Lee, McDonough, and Bird (2014) examined the employment of self-talk in eight and nine-year-old children’s self-regulation in classroom settings. They found that the children employed self-talk for key self-regulatory functional purposes, including: self-managing, self-correcting, strategizing, focusing, and persevering. Self-talk has further been cited generally, and used as a key and effective emotional regulation strategy, for example, in the regulation of anger (Dangel, Deschner, & Rasp, 1989; Larimer & Palmer, 1999; Medd & Tate, 2000). Self-talk is also indicated as a predictor of, and is positively correlated with emotional intelligence—which signifies the proper awareness, management and optimization of emotion (Depape et al., 2006).

**Self-Talk in the Communication Field**

This study seeks a novel approach in taking self-talk outside of the dominant psychological perspective and frame of research, instead placing self-talk within a communication context and frame.

**(I) Self-talk within communication models and frameworks.** Self-talk can be conceptualized within prominent communication definitions and models. One influential model of thinking about the communication process was presented by Lasswell (1948) who asserted communication as an event or act which could be described by answering and satisfying the
questions of, “Who, says what, in which channel, to whom, with what effects?” (p. 117). Orienting self-talk in this sense, would simply mean that the answers for “who?” and “to whom?” are the same.

Another widely accepted view of communication, is the transactional model (National Communication Association, 2015). In the transactional model (see Figure 1), communication is seen as a dynamic (social) exchange, a process by which individuals are both senders and receivers of messages. Individuals strive to encode messages which will provide an accurate concept of their idea in the receiver’s mind. The encoded message is then sent via some channel (e.g., verbally- face to face, phone, text, email) to the receiver. The receiver must decode and interpret the message and may provide feedback on the original message. In this model, “noise”—external and/or internal—physical/psychological distractions or interference may inhibit the clear transfer of messages. The communication context is also key to this model, the location where the communication takes place and the relationship between interlocutors.

Understanding and fitting self-talk within the transactional model (see Figure 2), thus requires us to again view the sender and the receiver of the message as the same. The medium of the self-talk communication may vary (e.g., can be overt spoken address to the self or covert written address to the self, such as journaling). Internal (psychological) or external noise may also envelop the self-talk communication event. In some ways the transactional model of communication lends itself to the understanding of self-talk in that it stipulates that each individual is both sender and receiver within a communication encounter at any given point in time. In an extended view of this idea, in self-talk, each individual functions as both sender and receiver of a message, but with no additional interlocutor within the encounter. Context, the circumstances or environment in which communication takes place, is also a critical
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collection for self-talk. For this project the *interpersonal* context of self-talk is in particular focus.

![Figure 1. Traditional [Interpersonal] Transactional Model of Communication](image)

**Figure 1.** Traditional [Interpersonal] Transactional Model of Communication

![Figure 2. Intrapersonal [Self-Talk] Transactional Model of Communication](image)

**Figure 2.** Intrapersonal [Self-Talk] Transactional Model of Communication

**II) Placing self-talk within communication literature.** As we consider and place self-talk, and perhaps more specifically—beneficial or positive self-talk within the communication
field, we may consider self-talk alongside literature which discusses positive and/or supportive communication. Positive communication emphasizes how communication may be utilized to promote and facilitate “happiness, health, and wellness” (Socha & Pitts, 2012, p. 5). Positive communication focuses on the use of communication to promote positive emotions, positive attitudes, and more generally to foster stronger, closer, more supportive, understanding, forgiving, intimate, satisfied and overall happier interpersonal relationships. Positive communication scholarship has, thus far, had a strong interpersonal focus.

Sheldon, Gilchrist-Petty, and Lesley (2014) looked, for example, at the connection between positive communication and forgiveness within interpersonal relationships. They examined the connection between tendency to forgive in romantic relationships and the actual communication strategies employed to grant forgiveness (see also: Kelley, 2012). Socha and Beck (2015), asserted the ways in which positive interpersonal communication can serve to fulfill essential human needs, such as, physiological, safety, love/belongingness, esteem, and self-actualization needs (Maslow’s hierarchy). They present specific ways in which positive relational communication may be constructed in order to either facilitate or inhibit the fulfillment of these basic human needs. Thus, the study of positive communication has placed great emphasis on the importance of interpersonal and relational communication in facilitating positive personal and interpersonal results. Although positive communication has been researched and studied at the level of interpersonal communication, we may also examine these concepts and constructs at the level of the individual—with intrapersonal communication and self-talk. What if we placed and considered self-talk within a positive communication framework? How, as this present study explores, in a context of interpersonal anger, may an individual’s self-talk be employed in a way which supports positive personal as well as interpersonal outcomes, less
negative emotion—overall happiness, satisfaction, and well-being for the individual and within their interpersonal communication and relationships?

Furthermore, (positive) self-talk might be considered as a level or specific type of “supportive” communication. Supportive communication is, like positive communication, generally conceptualized at the interpersonal level, as communication, both verbal and nonverbal, which takes place with the goal of helping or providing assistance to another person seen as needing help (MacGeorge, Feng, Wilkum, & Doherty, 2012). Supportive communication is linked to overall well-being and esteem, relieving negative emotions or emotional distress, and positive psychological, physical, and relational outcomes (MacGeorge, Feng, & Burleson, 2011). We might consider and place beneficial self-talk as a level or specific type of “supportive” communication which does not come from an “other” but instead comes from the “self.” Supportive self-talk may function in a similar way to supportive interpersonal talk—to reduce negative outcomes for an individual in distressing situations. For example, in a context of interpersonal anger, an individual may employ self-talk as self-“supportive” communication which allows them to manage negative emotions and outcomes related to a given event. Self-talk as “supportive” self-communication may serve to promote positive emotions and positive attitudes within an individual, and further may help to promote stronger, more forgiving, happier interpersonal relationships. This current study, examines specifically the impact of different types of self-talk—both positive or “supportive” and negative or “unsupportive” self-talk on a person’s emotional outcomes as well as interpersonal communication outcomes within a “distressing” context of interpersonal anger.

(III) Self-talk within the levels of communication. Communication takes place at various interconnected levels and domains. The study of the communication process is popularly
looked at, for example, on the interpersonal, group, intergroup, intercultural, organizational, mass media, and political levels. Self-talk can be conceptualized and categorized as falling within the level of communication engaging or dealing primarily with the self—*intrapersonal* communication. Intrapersonal communication takes place at the level of a single individual, where the individual is both source and object during a communication event (Vocate, 1994).

Within the field of communication, *intrapersonal* communication has been delineated and conceptualized as a critical level of communication for decades. Barker and Wiseman (1966), foundationally, considered intrapersonal communication as operating along a communication continuum. They proposed a model in which intrapersonal communication is integrally connected to other levels of communication, and most importantly, connected to the interpersonal level of communication, “the process of intrapersonal communication *can more adequately be understood when it is considered in relationship to the interpersonal communication cycle. Intrapersonal communication is the foundation upon which interpersonal communication is based, but intrapersonal communication may also occur independently* [emphasis added)” (Barker & Wiseman, 1966, p. 173). Barker and Wiseman (1966) asserted that within the context of interpersonal communication, intrapersonal communication serves mainly for feedback processing. Yet, as an independent level, they maintained intrapersonal communication processes as including message creation and development, message modification and assessment, as well as reaction to stimuli. Thus, self-talk as intrapersonal communication, is conceptualized as interrelated and interconnected to each of the other levels of communication. Intrapersonal communication serves on its own, as a level of message generation, transformation, shaping, and selection undergone by the individual. Yet, intrapersonal communication also plays an integral part in the reception, analysis, and interpretation of interpersonal communication.
Hence, it is important to look at self-talk from a holistic viewpoint, examining the interaction between the micro (intrapersonal) and more macro (interpersonal, intergroup, etc.) levels of communication. In this study, I seek to examine self-talk, as a form of intrapersonal communication, and look more specifically and fully at its connection to interpersonal communication.

Self-talk is, in fact, evidenced to be affected by interpersonal communication (Berk, 1999; Diaz & Berk, 2014). Some studies have looked at the effect of interpersonal communication in shaping an individual’s self-talk. Burnett (1996, 1999, 2003), for example, found that interpersonal communication—such as parental or teacher feedback, or a significant other’s positive and/or negative statements—had a significant impact on a person’s self-talk.

However, previous studies have not looked specifically at the role of different types of self-talk—particularly differences based in the communication, language, and message aspects of the self-talk—on subsequent interpersonal communication encounters and experience. In this study, I examine the communication, language, and message aspects of self-talk—specifically, the valence or frame of the self-talk (positive vs. negative language) and content (use of pronoun vs. name) employed during self-talk. I endeavor to take the model of self-talk to its logical next step, not only looking at the formulation of self-talk (and its potential social/interpersonal origins), but also at the effects of specific kinds of self-talk on both the individual and their subsequent interpersonal communication.

A. Self-Talk vs. Thinking [Control]

For control, this study will contrast the effects of the different types of self-talk outlined below (positive vs. negative; pronoun vs. name) with the effects of simple thought or thinking on
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a person’s emotional regulation. I assert that self-talk is distinct from and will have stronger, more powerful effects on emotion as compared with thought:

I. Self-talk is distinct from thought. There is a distinct developmental sequence of self-talk within human beings which distinguishes it from mere thought or simply thinking. Self-talk has two modes—either aloud, spoken, overt self-talk which is labeled “private speech,” or unspoken, covert self-talk which is labeled “inner speech.” Private speech (overt) is theorized and evidenced to coincide with early developmental stages for children, serving self-regulatory functions (Flavell, 1966; Piaget, 1926; Vygotsky, 1987). Vygotsky theorized private speech as emerging around age two and continuing to approximately age six or seven, serving important purposes for a child’s task performance, for self-guidance, and self-direction (Diaz & Berk, 2014, p. 2). In time, with developmental maturity, private speech goes “underground” and becomes internalized “inner speech” (covert) (Goudena, 1987, p. 422). Scientists have, however, looked at the occurrence of thought and thinking in newborn babies and even established the learning of fetuses (James, 2010; Joseph, 2000; Saffran, Aslin, & Newport, 1996). Therefore, developmentally speaking, it is clear that thought or thinking precedes the emergence of self-talk—of private speech, which develops around age 2, as well as inner speech, which develops around age 6.

II. Self-talk serves a greater self-regulatory role than thought. Above, we have discussed the occurrence of private speech (overt self-talk) in children, which occurs developmentally at a different stage than thought. The evolution to private speech with increased human maturity, marks the development of a greater self-regulatory function (Dolcos & Albarracin, 2014; Larrain & Haye, 2012; Morin & Everett, 1990; Morin, 2009). Overt self-
talk or private speech stems from social speech, and interpersonal regulation which the child begins to adopt and internalize for his or her own intrapersonal/individual self-regulation.

Hardy (2006) presents some considerations for why the initial development of public speech (overt self-talk), specifically functions for and is powerful in self-regulation. Hardy cites MacKay’s (1992; see also: MacKay, 2014) research which points to auditory and articulatory distinctions of overt self-talk. The auditory aspect of overt self-talk, may be considered as being much more similar to the interpersonal speech of an “other.” With overt self-talk (private speech), variations in things such as pitch, tone, speech rate, even idiosyncratic changes in dimensions such as accent, may alter the delivery of the self-talk communication, and can be used to more accurately mimic or produce the social/interpersonal regulating communication of an “other.” This specialized vocalization effect may thus increase the socially reinforcing effects of overt self-talk above and beyond what may occur with simple thought. Also related is, “the production effect”—the finding that vocalization, or saying a word out loud leads to better memorability than reading silently. The production effect underscores mechanisms and functions of vocalization as providing greater distinctiveness and familiarity to what is vocalized compared to what is not vocalized (Macleod, 2011; Ozubko, Gopie, & MacLeod, 2012). An illustration of this is Lantolf and Yanez’s (2003) finding in which private speech led to greater internalization when learning Spanish as a second language, compared with learners who did not engage in self-talk. Therefore, overt self-talk—private speech, may lead to greater behavioral effects and results as compared with simple thought in that the messages are reinforced via vocalization to be more distinctive and [socially] familiar, recognizable, and immediate for the person.
Hardy (2006) further references research by Hayes et al. (1985) which demonstrated that self-reinforcement was supported by public-overt goal setting as opposed to private-covert goal setting. They found that only public goal setting was effective in modifying behavior (Hayes et al., 1985; see also: Kyllo & Landers, 1995). The mechanism behind this effect was that public-overt goal statements were more powerful because they worked according to not just a self-standard, but also a public/social standard, which could be socially reinforced and bear social consequences. Thus, I argue that overt self-talk, although not necessarily heard by others, carries the possibility of being heard by others—and therefore is essentially public, and more powerful than thought for self-regulation. Overt self-talk rather than thought is thus linked to carrying a potential social weight and is more binding for individuals.

III. Self-talk creates psychological self-distancing which thought does not. Further, I reference the concept of psychological self-distancing as a key component of self-talk. Kross et al. (2014) found that specific types of self-talk promoted and enabled self-distancing, which enhanced individuals’ ability to regulate their thoughts, feelings, and behaviors in contexts of social stress (p. 319). Psychological self-distancing is a central component of both overt and covert self-talk (see: Dolcos & Albarracin, 2014; Kross et al., 2014) and is supported as critical to increasing individual self-regulation and control (Kross et al., 2014; Sigel & McGillicuddy-De Lisi, 2003). Self-distancing through self-talk allows for more powerful self-regulatory effects compared with thinking, in which this self-distancing does not occur.

White and Carlson (2015), for example, found that self-distancing improved executive functioning, (age-related) efficacy and performance in young children. White and Carlson assert that psychological self-distancing promotes, “the necessary bird’s-eye view on situations. Once viewed through this wide-angle lens, …[individuals] can see choices more clearly, reflect on
them more fully and, ultimately, exert greater control over their actions” (2015, p. 2). Thus, self-distancing through self-talk is cited as a mechanism for the conscious control of both thought and action. Therefore, self-talk, through self-distancing, allows for greater self-control and self-regulation compared to thought, in which this self-distancing does not take place (also see: Fujita, Trope, Liberman, & Levin-Sagi, 2006).

Generally, I assert that self-talk—both private as well as inner speech—is distinct from thought in that it is active, directive, and discursive (Larrain & Haye, 2012; Gibson & Foster, 2007). Self-talk is more active than thought in that it clearly signifies, addresses and delineates the self as the object of communication. Self-talk is directive as it develops and functions to serve a self-regulatory role which simple thought does not necessarily have. Self-talk is discursive in that it involves dialogue, a discussion with the self, or perhaps a back and forth between two sides or two competing interests/opinions/options within the self. Simple thought is not necessarily a full discourse, and also with simple thought individuals do not usually have fully grammatically formed sentences as they think, whereas this is most often the case with self-talk which is more dialogic (McCafferty, 1994; Zell, Warriner, & Albarracin, 2012). These qualities of self-talk as being active, directive, and discursive may thus be necessary but perhaps not sufficient conditions in delineating self-talk, and in describing the differences between self-talk and simple thought. I argue that these qualities of self-talk lead to greater and more powerful individual engagement during self-regulation as compared to thought/thinking. With self-talk, the individual must actively communicate with him or herself either covertly or overtly regarding the situation or event and it would follow that this active, directive, discursive verbalization would be more powerful in terms of self-regulatory effects for the individual as opposed to more passive thought.
Overall, for control, this research distinguishes the effects of different types of self-talk from the effects of simply thinking.

**B. Positive vs. Negative Self-Talk [Valence of self-talk]**

The specific language used during self-talk affects the impact of the self-talk. An important dimension and consideration is the “positive” versus “negative” valence of the language content employed during self-talk.

“Positive” and “negative” self-talk are defined by scholars in various distinct yet overlapping ways. Van Raalte, Brewer, Lewis, and Linder (1995) defined and operationalized negative versus positive self-talk in terms of self-efficacy. Pessimistic self-statements such as “you cannot do it,” were deemed negative self-talk, whereas optimistic statements such as “you can do it,” were considered positive self-talk. Language used in self-talk may be designated as “positive” when “indicating a positive- self-enhancing disposition” and designated as “negative” when “indicating a critical, self-defeating outlook” (Burnett, 1996, p. 57). Positive self-talk is further defined as self-talk that is said as a form of praise (Moran, 1996; Weinberg, 1988), and consists of self-talk which stays “appropriately focused in the present, not dwelling on past events and mistakes or projecting too far into the future” (Perkos, Theodorakis, & Chroni, 2002, p. 369). Conversely, negative self-talk is conceptualized as self-talk that is said as a form of criticism (Moran, 1996), “that gets in the way because it is inappropriate, irrational, counterproductive, or anxiety producing” (Theodorakis, Weinberg, Natsis, Douma, & Kazakas, 2000, p. 254). Negative self-talk also may “reflect over-analysis, self-doubt, and inappropriate [self-] questioning which interferes with performance” (Perkos et al., 2002, p. 369).

Building from the previous definitions and operationalizations of positive versus negative self-talk, in this study, positive self-talk is conceptualized and defined as self-talk in which there
is positive self-evaluation—consisting of praise and/or optimism regarding past, present, or future self-efficacy. Negative self-talk is conceptualized as self-talk in which there is negative self-evaluation—criticism and/or pessimism regarding past, present, or future self-efficacy.

Negative versus positive self-talk has been examined in different contexts and fields. Within a competitive sports context, there have, in fact, been many findings which show a difference between effects for “positive” self-talk versus “negative” self-talk. Van-Raalte, Brewer, Rivera, and Petitpas (1994), for example, found that for competitive junior tennis players, negative self-talk was correlated with losing while positive self-talk was correlated with winning. In another example, Hatzigeorgiadis, Zourbanos, Mpoumpaki, and Theodorakis (2009) examined the effects of “motivational” positive self-talk and found motivational self-talk to bring about stronger task performance, greater self-confidence as well as lower cognitive anxiety.

Within the domain of sports more generally, positive self-talk is supported as improving performance, while negative self-talk is inversely correlated with performance (Hardy, 2006; Hardy, Roberts, & Hardy, 2009).

Positive versus negative self-talk has also been examined in various other contexts. Researchers have, for example, measured positive versus negative self-talk of elementary school children and looked at the relationship between parent, teacher, and peer statements and communication on the children’s self-talk (Burnett, 2003; Burnett & McCrindle, 1999). Burnett and McCrindle (1999) found that high positive self-talk, and low negative self-talk was related to positive academic self-concept. Burnett (1994) found that positive self-talk was correlated with self-esteem while negative self-talk was not. Positive and negative self-talk have also been examined within the medical field. For example, Harrington, Lewis, Brinhaupt, and Turnage (2013) examined the connection between positive and negative self-talk of pregnant women and
birth outcomes. Negative self-talk was associated with poorer birth outcomes such as premature birth, low baby weight, and infant mortality. Rogelberg et al. (2013), examined self-talk within a business context, measuring “constructive” or positive self-talk as, “thoughtful, substantive, motivational, insightful, and self-reflective,” while measuring dysfunctional or negative self-talk as, “tendency to focus on and perseverate about the negative aspects of challenging situations” (p. 190). They evaluated self-talk of executive leaders and found that constructive self-talk was positively related to effective leadership, creativity and originality as well as reduced job strain, while dysfunctional self-talk was negatively related to the aforementioned.

In sum, valence of self-talk—the positive versus negative perspective or frame of the language employed—is a key variation of self-talk which may be evaluated in different ways, in different contexts, and for different effects. This research looks to examine the effects of positive vs. negative self-talk on a person’s management of emotion.

**H1:** Individuals in positive self-talk or thought conditions will have less negative emotion (and more positive emotion) than those assigned to a negative self-talk or thought condition.

**C. Use of Pronoun vs. Proper Noun/Name in Self-Talk [Content of self-talk]**

Critical considerations in terms of the language used in self-talk, includes attention to the specific words employed during self-talk. Particularly, the words and parts of speech used for self-reference during self-talk are shown to have a significant impact on the effects of the self-talk.

Researchers have examined the effects of the particular part of speech used for self-reference during self-talk. Dolcos and Albarracin (2014) conducted a study which found that self-talk using the second-person pronoun “you” strengthened task performance as well as behavioral intentions and increased positive attitudes more than self-talk using the first-person
pronoun “I” (p. 640). Dolcos and Albarracin hypothesize the mechanism behind the greater beneficial effects of “you” as being related to the development and function of self-talk for self-regulation. Self-talk stems from social origins, from social regulation (by parents, teachers, etc.) via interpersonal dialogue that eventually becomes internalized via private speech and finally inner speech,

through internalization, individuals gradually integrate parental and societal values, ideals, or standards into their self-system. In time, children become used to responding to directions provided in the second person. The language used in self-talk can be modeled from others (Lantolf, 2006), and thus, the initial external guidance associated with behavior regulation could have been internalized in the second person and may be appropriated and applied in a similar fashion when encountering situations that require self-regulation. (Dolcos & Albarracin, 2014, p. 637)

Therefore, the second-person “you” is more effective than the first-person “I” for self-regulation in that it mimics the initial and powerful social regulation which self-talk stems from. Dolcos and Albarracin, further cite habit theory research (Lally, Van Jaarsveld, Potts, & Wardle, 2010; Wood & Neal, 2007), which maintains that habitual behavior may be triggered by consistent or similar contexts. In this way, if an individual is used to receiving external encouragement and/or regulatory statements from significant others using the language of “you,”—once self-talk develops and is internalized by the individual, the use of “you,” may trigger the associated behaviors and sense of social reinforcement (p. 641).

Kross et al. (2014) looked further into the use and effects of particular language during self-talk, by examining the use of nouns and pronouns. Kross et al. found that the use of non-first-person pronouns (e.g., “you”) and names during self-talk was more effective in self-regulation, compared with the use of first-person pronouns (e.g., “I”). They demonstrated that the use of second-person pronouns and name enabled self-distancing, which enhanced individuals’ ability to regulate their thoughts, feelings, and behaviors in contexts of social stress.
Kross et al.’s findings suggest that the more the language/parts of speech employed during self-talk promotes self-distancing, the more powerful regulatory effect it will produce for the individual. This study therefore extends, the notion that use of language, particularly what parts of speech and words individuals use for self-reference, may have a significant impact on the function and effects of self-talk for emotional regulation.

Research by Pennebaker (2011) also supports the above findings on the importance of function words in influencing and regulating a person’s emotional state and experience. Pennebaker (2013) maintains a person’s use of function words—such as pronouns—shed light on “who people think they are, what their relationships are, how they think about themselves, and how they connect to others.” Thus, the specific words which an individual uses in his or her self-talk may have important effects on the individual, both intrapersonally (e.g., their view of themselves) and interpersonally (e.g., their view of, and relationship with others). Pennebaker (2011) found that individuals who used the first-person pronoun “I” more, were less able to regulate their depression than individuals who used “I” less. Pennebaker and his team evidenced, for example, that poets who were suicidal used “I” more than non-suicidal poets (Stirman & Pennebaker, 2001). Pennebaker’s findings thus add further support to the self-distancing hypothesis.

In their study, Kross et. al (2014) group together the use of second-person pronouns and the use of proper noun/name. They do not specifically distinguish between the effects of the use of second-person pronoun versus name. I hypothesize that greater self-distancing as well as a stronger social-regulatory association is employed with the use of name in self-talk compared with the use of second-person pronouns. The third-person form, signifies even greater grammatical self-distancing than the use of the second-person (e.g., “you”) form. I argue that
using name flags the addressee in a way that second-person pronoun does not—we are called by our names not by ourselves but by others (trying to get our attention, etc). Using “Sam” or “Rebecca” creates greater self-distancing because it mimics how we are called and addressed by others, not ourselves. In using our own name to address ourselves we become an “other”—self-distanced.

**H2:** The effect of valence (positive vs. negative) of self-talk/thought on emotional outcomes will be moderated by part of speech used for self-reference, such that the effect of valence on emotional outcomes is stronger when name is used in self-talk than when pronoun is used, and self-talk will have stronger effects on emotional outcomes than the thought control conditions which use no particular self-reference.

**D. Self-Talk and Interpersonal Communication Outcomes**

Finally, in this research, I examine the effects of the above delineated types of self-talk, within an interpersonal communication context. As discussed above, self-talk as a form of intrapersonal communication should necessarily be related and connected to interpersonal communication. In this study, I seek to explore this connection in more depth. How does engaging in self-talk, and using a particular language content or valence during self-talk, affect the subsequent interpersonal communication of a person? This research will examine perceived satisfaction and effectiveness of interpersonal communication after engaging in specific self-talk interventions. Interpersonal communication satisfaction and effectiveness are both key outcomes of and constructs related to interpersonal communication competence (Spitzberg & Cupach, 2011). More effective interpersonal communication is generally associated with more satisfactory interpersonal communication (Canary, Cupach, & Serpe, 2001; Spitzberg & Cupach, 2011). This research will thus do an exploratory inquiry into whether more effective self-talk
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(lower negative emotion, higher positive emotion) will also lead to more competent—effective, and satisfactory interpersonal communication.

This study looks, in particular, at the function of self-talk within the context of interpersonal anger. Competent interpersonal communication is critical and important for beneficial outcomes in the context of interpersonal conflict, in environments of heightened interpersonal emotion and/or anger (Canary, Cupach, & Serpe, 2001; Cupach, Canary, & Spitzberg, 2010; Guerrero & Valley, 2006). Examining the relative effects of different types of self-talk on subsequent interpersonal communication, within a context of interpersonal anger will thus give us a better sense of whether or not different types of self-talk may have significant positive impact on an individual’s interpersonal communication competence and outcomes. This study also takes an exploratory look at the impact of the different self-talk/thought conditions on willingness to actually engage in interpersonal communication. Logic may be applied that willingness to engage in interpersonal communication may reflect and be impacted by the perceived effectiveness of and satisfaction with the interpersonal communication taking place.

Specifically, I hypothesize that within a context of interpersonal anger, the more effective the self-talk in decreasing negative emotion (such as anger) and potentially increasing positive emotion, the stronger the interpersonal communication outcomes of effectiveness and satisfaction will be for the individual and the more willing an individual will be to engage in interpersonal communication.

H3: The effect of valence of self-talk/thought on interpersonal communication outcomes (satisfaction, effectiveness, willingness to communicate interpersonally) is mediated by emotional outcomes. Positive self-talk/thought conditions will lead to more positive emotional
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outcomes (lower negative emotion) than negative self-talk/thought conditions, which will lead to more positive interpersonal communication outcomes.

**H4:** The effect of self-talk valence on interpersonal communication outcomes (satisfaction, effectiveness) will be mediated by emotional outcomes [H3] and moderated by self-talk content (name vs. pronoun vs. thought control).

**Basic Model**

- **Better/ More effective self talk**
- **More positive emotional outcomes**
- **Better/ More effective interpersonal communication**

**Self Talk Types:**
- Positive/ Negative
- Use of pronoun/ name

**Less Negative Emotion (e.g., Anger),**
[More positive emotion (e.g., serenity)]

**Interpersonal Communication Outcomes:**
- Satisfaction
- Effectiveness
- [Willingness to communicate interpersonally]

*Figure 3.* Basic model of predicted effects of different types of self-talk (positive vs. negative; use of name vs. pronoun) on emotional outcomes (anger) and interpersonal communication outcomes (interpersonal communication satisfaction, effectiveness, willingness to communicate interpersonally).
Method

Participants and Recruitment

Subjects were recruited from the undergraduate student body of a large southwestern university. Students were recruited from active communication courses and were offered course credit for their participation. Study participants signed up for a time to come into the lab and complete an online experiment. Informed consent was obtained for all subjects participating in the study. In total, 221 participants were recruited. Of these, 11 subjects were deleted for failing manipulation checks, 2 were deleted because they indicated that their data should not be used. A final total of 208 subjects were included in analysis, participants were 73.1% female, 26.9% male; 80.9% White/Caucasian, 15.8% Latino/Hispanic, 5.3% Black/African American, 4.8% Asian/Asian-American, 1.9% Hawaiian/Pacific Islander, 1% Native American/Indian, and 1.9% “other” race/ethnicity (race/ethnicity percentages total greater than 100 because participants could select more than one option).

Experimental Procedure and Design

Participants underwent an initial anger induction in which they recalled a recent event when they felt anger because of another person. They were then measured on their current levels of anger as well as other relevant negative and positive emotions. After baseline measurements, participants were randomly assigned to a specific self-talk condition consisting of a particular self-talk valence (positive or negative self-talk) and particular self-talk content (pronoun or name use in self-talk). There were also no-self-talk control groups, consisting of a positive or negative “think” condition. Participants engaged in the specific randomly assigned self-talk or control conditions. Subjects then were measured again on their current levels of anger and other relevant emotions. Finally, participants were asked to write an email message about the situation, to the
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A person who made them angry. Participants were measured a final time on levels of anger, and also asked to rate the experience of writing to the other—satisfaction with, and perceived effectiveness of the written communication, as well as their willingness to send their email (or one like it) to the person who made them angry.

<table>
<thead>
<tr>
<th></th>
<th>Self-Talk using Pronoun</th>
<th>Self-Talk using Name</th>
<th>Thought (control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 4. Experimental (2x3) Design*

**Specific Experimental Procedure**

1. **Anger induction.** Each participant was given an anger induction. The participants were asked to identify a recent event in which someone made them very angry. They were asked to recall the incident and answer some questions regarding the situation (see Appendix A).

2. **Baseline anger and related emotional measurements (T1).** Each participant was measured on current feelings of anger regarding the situation (see Appendix B), and other relevant emotions (see Table 1).

3. **Self-talk manipulations and control.** Each participant was assigned to engage in a particular self-talk manipulation based on valence of self-talk (positive or negative) and content of self-talk (use of pronoun or name) or to a control group (engage in positive or negative thought) (see Appendix C). Valence was coded such that positive valence had a higher score than negative valence (i.e., 1 = negative valence, 2 = positive valence).
iv. **Anger measurement and related emotional measurements (T2).** Directly following the self-talk and control manipulations, participants were measured again on their current levels of anger (see Appendix B), and other relevant emotions (see Table 1).

v. **Interpersonal communication.** Each participant was asked to construct an email message to the person who made them angry (see Appendix D).

vi. **Anger measurement and interpersonal communication outcomes measurement (T3).** Each participant was again measured on levels of anger (see Appendix B), and was also measured on the perceived effectiveness of (see Appendix E) and satisfaction (see Appendix F) with their interpersonal communication as well as their willingness to send the interpersonal email (or one like it) to the person who made them angry.

**Measurement**

**Current anger regarding the interpersonal incident [at time of assessment].** Anger at time of assessment was measured using “State-Anger” items adapted from Spielberger’s (1999) State-Trait Anger Expression Inventory (STAXI). Items such as “I feel irritated” and “I feel angry” were measured on a 4-point Likert scale from 1 = not at all to 4 = very much so (see Appendix B).

**Other relevant emotions [at time of assessment].** Other relevant emotional items were measured, taken from the PANAS-X positive and negative affect schedule (Watson & Clark, 1999) (see Table 1). Subjects were asked how much they felt each of the emotional items (e.g., nervous, distressed, guilty, calm) on a scale from 1 = very slightly or not at all to 5 = extremely.

**Interpersonal communication effectiveness.** Interpersonal communication effectiveness was measured using items adapted from Canary and Spitzberg’s (1987) interpersonal appropriateness and effectiveness scales. Items such as “I achieved what I wanted
to achieve in the email” and “I feel this email would be effective” were measured on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree (see Appendix E).

**Interpersonal communication satisfaction.** Interpersonal communication satisfaction was measured using items adapted from Hecht’s (1978) interpersonal communication satisfaction measurement. Items such as “I would like to write another email like this” and “I am very satisfied with the email I wrote” were answered on a 7-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree” (see Appendix F).

**Willingness to communicate interpersonally through email.** Willingness to send the interpersonal email was measured by asking participants to “Please rate the likelihood you would actually send the email you just wrote [or one like it] to the person who made you angry?,” participants answered by rating on a scale from 0 (Very Unlikely) to 100 (Highly Likely).

**Measurement Scale Reliability**

All multi-item measurement scales which were used in this study were found to be reliable (see Table 1), except for the scales for guilt, hurt, and attentiveness (all adapted from PANAS-X). In analysis, I ran the two-item measure scales which were unreliable, and all results were nonsignificant for the guilt and attentiveness scales, so I dropped these scales. However there were significant effects for the hurt scale, so I broke out the hurt scale item which was accounting for the significant results, item 1-“hurt” not item 2-“injured,” and have reported results on the one-item “hurt” rather than the two-item scale.

**Manipulation Checks**

Manipulation checks were conducted for all self-talk manipulations as well as control groups. For example, manipulation checks consisted of questions such as: “To what extent did you actually talk to yourself about the incident? (1 = not at all, 5 = exclusively);” “To what
extent did you use your **NAME** to refer to yourself as you were talking to yourself about the incident? (1 = not at all, 5 = exclusively);” and “To what extent did you **praise** yourself as you were talking to yourself about the incident? (1 = not at all, 5 = exclusively)” (see Appendix G).

**Manipulation Check Results**

Statistical analysis of the self-talk/thought manipulation checks was completed by one-way ANOVA (see Appendix H), and demonstrated that participants in the name condition did in fact use their name to refer to themselves significantly more during the self-talk/thought manipulation than those in the pronoun and thought conditions. Results also indicated that individuals in the pronoun condition used the second-person pronoun “you” during the self-talk manipulation significantly more than those in the name and thought conditions. Furthermore, independent samples t-test results revealed that participants in the positive valence conditions praised themselves and were more positive and optimistic about the situation during the self-talk/thought manipulation than those assigned to the negative valence conditions. Participants in the negative valence self-talk/thought conditions, on the other hand, were significantly more critical of themselves, more negative and pessimistic about the situation than those assigned to a positive valence self-talk/thought condition.

One-way ANOVA results did not reveal a significant difference between the self-talk/thought conditions on the questions of “To what extent did you actually talk to yourself about the incident?” and “How much did you speak to yourself and hear fully formed words and sentences in your head?” In terms of these results it may be that these manipulation check questions were worded in such a way that there was no clear distinction between the thought conditions and the self-talk conditions. It would likely have been better to word these questions in a way which gave participants the option to select whether they engaged in passive thought vs.
active self-talk, such as, for example, “To what extent did you actually talk to yourself about the incident, speaking directly to yourself using fully formed words and sentences vs. just thought to yourself about the incident?” with response options of engaged in self-talk (“not at all” to “exclusively”) vs. thought (“not at all” to “exclusively”).

**Background Information on Participants and Interpersonal Encounter**

Questions were also included regarding the interpersonal incident and context, for example, “How close are you with the person who made you angry” (rated on a scale from 1 “not at all close” to 5 “extremely close”) and “When did the negative incident happen” (with incremental response options from “within 1 week of today” to “over 1 year ago”) (see Appendices I & J). Other background questions asked participants about their natural tendencies for self-talk in real life, for example, “In your daily life, how often do you talk to yourself in your head using real words and sentences” and “In your daily life how often do you talk to yourself out loud” with response options ranging from “never” to “very frequently” (see Appendices I & K).

**Table 1**

<table>
<thead>
<tr>
<th>Measurement Scale</th>
<th>Reliability-T1 (Cronbach’s Alpha)</th>
<th>Reliability-T2 (Cronbach’s Alpha)</th>
<th>Reliability-T3 (Cronbach’s Alpha)</th>
<th>Number of Items</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anger Measurements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Anger (STAXI items)</strong></td>
<td>.92</td>
<td>.92</td>
<td>.91</td>
<td>6</td>
<td>(See Appendix B)</td>
</tr>
<tr>
<td><strong>Other Affect Items</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Negative Affect (PANAS-X items)</strong></td>
<td>.76</td>
<td>.78</td>
<td>—</td>
<td>3</td>
<td>(Upset, Distressed, Disgusted)</td>
</tr>
<tr>
<td>Measurement Scale</td>
<td>Reliability-T1 (Cronbach’s Alpha)</td>
<td>Reliability-T2 (Cronbach’s Alpha)</td>
<td>Reliability-T3 (Cronbach’s Alpha)</td>
<td>Number of Items</td>
<td>Items</td>
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<td>-------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------------</td>
<td>-----------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Fear (PANAS-X items)</td>
<td>.81</td>
<td>.78</td>
<td>___</td>
<td>3</td>
<td>(Scared, Nervous, Shaky)</td>
</tr>
<tr>
<td>Embarrassment</td>
<td>.83</td>
<td>.85</td>
<td>___</td>
<td>3</td>
<td>(Taken advantage of, Made a fool of, Embarrassed)</td>
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<tr>
<td>Guilt (PANAS-X items)</td>
<td>.59</td>
<td>.60</td>
<td>___</td>
<td>2</td>
<td>(Guilty, Ashamed)</td>
</tr>
<tr>
<td>Sadness (PANAS-X items)</td>
<td>.79</td>
<td>.70</td>
<td>___</td>
<td>2</td>
<td>(Sad; Downhearted)</td>
</tr>
<tr>
<td>Shyness (PANAS-X items)</td>
<td>.86</td>
<td>.92</td>
<td>___</td>
<td>2</td>
<td>(Timid, Shy)</td>
</tr>
<tr>
<td>Assurance (PANAS-X items)</td>
<td>.83</td>
<td>.91</td>
<td>___</td>
<td>2</td>
<td>(Confident, Fearless)</td>
</tr>
<tr>
<td>Hurt</td>
<td>.53</td>
<td>.46</td>
<td>___</td>
<td>2</td>
<td>(Hurt, Injured)</td>
</tr>
<tr>
<td>Attentiveness (PANAS-X items)</td>
<td>.51</td>
<td>.74</td>
<td>___</td>
<td>2</td>
<td>(Determined, Attentive)</td>
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<tr>
<td>Serenity (PANAS-X items)</td>
<td>.96</td>
<td>.97</td>
<td>___</td>
<td>2</td>
<td>(Calm, Relaxed)</td>
</tr>
</tbody>
</table>

Interpersonal Writing Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Reliability-T2 (Cronbach’s Alpha)</th>
<th>Reliability-T3 (Cronbach’s Alpha)</th>
<th>Number of Items</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>___</td>
<td>___</td>
<td>.92</td>
<td>11</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>___</td>
<td>___</td>
<td>.84</td>
<td>9</td>
</tr>
</tbody>
</table>

Note. Description of measurement and reliability for all items and scales including, anger, other relevant emotional outcomes, and interpersonal communication outcomes. Cronbach’s Alpha reliability given for scales, measurement taken at Time 1 (at time of anger induction), Time 2 (after Self-Talk/Thought manipulations), and Time 3 (after interpersonal writing task).
Results

Hypothesis 1

H1 predicted that individuals in positive self-talk or thought conditions would have lower scores on negative emotions and higher scores on positive emotions than those assigned to a negative self-talk or thought condition. H1 was tested by examining the valence main effects from a 2 (valence: positive/negative) x 3 (self-talk/thought: self-talk-name/self-talk-pronoun/thought) factorial ANCOVA. The dependent variables were put in as the specific emotional outcome (e.g., current anger) at Time 2 (directly after the self-talk/thought manipulation), and the control was selected as the specified emotion baseline measurement at Time 1 (before the self-talk/thought manipulation). A main effect for valence (positive vs. negative) was detected for some emotional outcomes but not others, therefore H1 was partially supported.

Results revealed a significant main effect for valence on currently felt anger, $F(1, 201) = 17.72, p < .001$, partial $\eta^2 = .08$. Participants who were assigned positive valence self-talk or thought ($M = 1.50, SD = 0.54$) were less angry than those who were assigned to a negative self-talk or thought condition ($M = 1.85, SD = 0.81$).

Results also revealed a significant main effect for valence on general negative affect, $F(1, 201) = 4.70, p = .031$, partial $\eta^2 = .02$. People in the positive conditions ($M = 1.58, SD = 0.76$) had less negative affect than those in the negative conditions ($M = 1.93, SD = 0.92$).

Results also revealed a marginally significant main effect for valence on serenity, $F(1, 201) = 3.60, p = .059$, partial $\eta^2 = .02$. Participants in the positive conditions ($M = 2.94, SD = 1.35$) had greater feelings of serenity than those in the negative conditions ($M = 2.45, SD = 1.38$).
Results also revealed a significant main effect for valence on hurt, $F(1, 201) = 9.00, p = .003$, partial $\eta^2 = .04$. Participants in the positive conditions ($M = 1.73, SD = 0.98$) reported less feelings of hurt than those in the negative conditions ($M = 2.18, SD = 1.24$).

The other emotional outcomes had no main effect for valence (see Table 1). I had no hypothesis concerning main effects for talk/thought type, and no such effects emerged except for a single, and uninterpretable main effect on fear, $F(2, 201) = 5.13, p = .007$, partial $\eta^2 = .05$. Individuals in the thought ($M = 1.37, SD = 0.75$) and name ($M = 1.31, SD = 0.57$) conditions had overall significantly higher levels of fear, than individuals in the pronoun condition ($M = 1.17, SD = 0.40$).

**Hypothesis 2**

H2 predicted that the effect of valence on self-talk would be moderated by part of speech used for self-reference, such that the effect of valence on emotional regulation would be stronger when name was used in self-talk than when pronoun was used, and that self-talk would have stronger effects on emotional regulation than thought.

H2 was tested using factorial ANCOVA by analyzing interaction effects of the independent variables (valence and self-talk) on different emotional outcomes as dependent variables. H2 was supported for one emotional outcome, and not for others, therefore H2 was partially supported.

ANCOVA results revealed an overall significant interaction effect (see Figure 5) of valence by self-talk/thought manipulations on negative affect, $F(2, 201) = 3.86, p = .023$, partial $\eta^2 = .04$. In the positive valence conditions, there were overall significant differences between the self-talk/thought conditions, $F(2, 201) = 4.58, p = .011$, partial $\eta^2 = .04$. An analysis of simple main effects from Fisher’s LSD post-hoc tests revealed that, in the positive conditions,
self-talk using name ($M = 1.44, SD = 0.64$) and pronoun ($M = 1.50, SD = 0.64$) both resulted in significantly lower anger than the thought condition ($M = 1.84, SD = 0.95$). There was no significant difference between self-talk using name and self-talk using pronoun. In the negative valence conditions, there were no significant effects for the self-talk/thought variable, $F(2, 201) = 1.64, p = .197$, partial $\eta^2 = .02$.

Analysis of simple main effects through Fisher’s LSD tests also revealed a significant difference, $F(1, 201) = 8.58, p = .004$, partial $\eta^2 = .04$, between the effects of positive name self-talk and negative name self-talk on negative affect. Those in positive name self-talk conditions ($M = 1.44, SD = 0.64$) had significantly less negative affect than those in negative name self-talk conditions ($M = 2.17, SD = 1.07$). Analysis of simple main effects also revealed a marginally significant difference, $F(1, 201) = 3.09, p = .080$, partial $\eta^2 = .02$, between negative pronoun self-talk and positive pronoun self-talk. Participants in positive pronoun self-talk conditions ($M = 1.50, SD = 0.64$) had marginally significantly less negative affect than participants in negative pronoun self-talk conditions ($M = 1.81, SD = 0.76$). There was no significant difference between positive and negative thought on negative affect.

Aside from the above, other tested emotional outcomes (see Table 1) were nonsignificant in terms of an interaction effect of valence by self-talk/thought manipulation.
Figure 5. Interaction Effect [H2]: Self-Talk/Thought Manipulation by Valence on Negative Affect

Covariate appearing in the model is evaluated at the following value: Neg_Aff Time1 = 2.1362

Figure 5. H2 interaction effect between valence and self-talk/thought manipulation on negative affect.

Hypothesis 3

H3 predicted that the effect of valence of self-talk/thought on interpersonal communication outcomes would be mediated by emotional outcomes. H3 was tested using the Process macro for SPSS (Hayes, 2013). Process Model 4 was used to test the mediation prediction of H3. Valence was inserted into the model as the independent variable, the specific interpersonal communication outcomes served as the dependent variables, and the specific emotional outcomes (see Table 1) at Time 2 (after the valenced self-talk/thought manipulations) were inserted into the model as mediators. In these analysis I placed the specified emotion at
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Time 1 (before the self-talk/thought manipulations) as the covariate within the model. Results revealed two significant mediated effects.

Results indicated that the current anger measurement at Time 3 (after the interpersonal communication task) significantly mediated the effects of self-talk/thought valence on interpersonal communication effectiveness (95% CI: [.0216, .1567]), interpersonal communication satisfaction (95% CI: [.0222, .2012]), as well as willingness to communicate interpersonally (95% CI: [.1485, 4.3535]). Positive self-talk/thought led to less anger after interpersonal communication, and less anger led to greater perceptions of satisfaction and effectiveness of the interpersonal communication and greater willingness to communicate interpersonally.

Apart from the above results, other tested emotional outcomes (see Table 1) were nonsignificant in terms of the mediation between valence of self-talk and interpersonal communication outcomes.

**Hypothesis 4**

H4 predicted that the effect of self-talk valence on interpersonal communication outcomes (satisfaction, effectiveness) would be mediated by emotional regulation and moderated by self-talk content (name vs. pronoun vs. thought control). H4 was tested using the Process macro for SPSS (Hayes, 2013). Process Model 10 was used to test the mediated moderation prediction of H4. Valence was placed as the independent variable (X) within the model, interpersonal communication outcomes (satisfaction, effectiveness) were placed as the dependent variables (Y). The self-talk conditions were coded as dummy variables and placed as the moderators (W and Z of the model). Emotional outcomes (see Table 1) were put into the model as mediators (M). I ran both controlled and uncontrolled analyses of each emotional outcome.
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with each interpersonal communication outcome. I tried the specified emotion at Time 1 as control, as well as other controls such as relational length and level of closeness, and participant real-life self-talk traits. Within the analyses, there were some significant results for certain parts of the model (e.g., independent variable to mediator, or mediator to dependent variable, or conditional/moderated direct effects of the independent variable on the dependent variable for particular self-talk/thought conditions) however in none of the analyses was the full moderated-mediation model significant (e.g., independent variable to dependent variable through mediator), therefore H4 was not supported.

**Discussion**

Broadly, this study sought to place self-talk within a communication frame and context. This was done by examining the message aspects of the self-talk and also by emphasizing and highlighting the broader interpersonal communication framework within which the self-talk was taking place. This study looked specifically at different types of self-talk based on the frame or valence (positive vs. negative) and also the parts of speech used for self-reference (name vs. pronoun) in the self-talk. The effects of these different types of self-talk on the emotions of individuals were examined within a context of interpersonal anger. Further, for control, the effects of self-talk were distinguished from the effects of simple thought.

**Findings**

This research examined three main things. (I) First this study looked at the effects of frame or valence on self-talk/thought. In terms of this first focus, results indicated that valence plays a critical part in self-talk/thought and that positive self-talk/thought decreased certain key negative emotions (current anger, general negative affect, and hurt) and increased certain key positive emotions (serenity) compared to negative self-talk/thought. (II) Second, this study
looked at whether part of speech used for self-reference moderated the effects of valence between the self-talk and thought conditions. In terms of the second focus, results showed a critical interaction effect between valence and part of speech used for self-reference in the self-talk vs. thought manipulations. Results indicated that in positive conditions, both self-talk conditions pronoun and name self-talk—led to larger decreases in negative affect than the positive thought condition. (III) Third, this study attempted to look at the broader interpersonal communication context in which self-talk takes place by examining whether differences in the emotional effects of distinct types of self-talk/thought mediated certain communication outcomes for the person—specifically satisfaction with and effectiveness of subsequent written interpersonal communication as well as willingness to engage in interpersonal communication. Regarding this third focus, results revealed that positive valence self-talk/thought led to less anger after interpersonally communicating than negative valence self-talk/thought. This decrease in anger then led to greater perceptions of interpersonal communication effectiveness and satisfaction as well as more willingness to communicate interpersonally. In other words, positive self-talk/thought led to less anger after interpersonal communication, and less anger led to greater satisfaction with and effectiveness of subsequent interpersonal communication and more willingness to actually communicate. However, results did not indicate any significant moderated effects with differences based on the self-talk/thought content [name vs. pronoun vs. thought] on perceptions of subsequent interpersonal communication outcomes.

Theoretical Implications and Future Research

In sum, supporting previous research and theory, positively valenced self-talk/thought was evidenced to lead to more positive emotional outcomes for individuals than negatively valenced self-talk/thought. These results thus may support arguments that particular types of
self-talk based on valence (positive self-talk) may be used to decrease persistent negative emotions for individuals and increase more positive emotions, which has been theoretically linked and empirically shown to increase overall well-being and beneficial outcomes for individuals both intrapersonally (Diamond & Aspinwall, 2003; Tugade & Fredrickson, 2002), as well as within their relationships (Lopes, Salovey, Côté, Beers, & Petty, 2005). However, these results were the case for some, rather than all emotional outcomes. Future research may potentially explore what specific kinds and categories of emotional outcomes are affected differently by valenced self-talk and thought and which are not.

In terms of the moderator effect on valence by part of speech used for self-reference, theory suggested that in general the greater the self-distancing, the greater and more powerful the effects of the self-talk (Dolcos & Albarracin, 2014; Kross et al., 2014). We argued that using name for self-reference would be more active, directive, discursive, and would produce greater self-distancing and stronger effects than using pronoun or simple thought which uses no particular self-reference. Results partially supported this, in the positive condition, positive self-talk—both name and pronoun conditions, were shown to have stronger effects on decreasing negative affect as compared with simple positive thought. However, in this case we did not find a moderation effect with differences between pronoun and name. Also, there was no significant simple main effect in the negative conditions. A limitation of this study is that self-distancing perceptions were not actually measured. It may be that perhaps only using second-person pronouns was in fact creating more self-distancing in certain cases than using name during self-talk. This may be a further area for future study, examining more specifically how in valenced conditions, use of name impacts self-talk effects, and how this may be different than using only
second-person pronouns (such as “you”) or other parts of speech such as first-person pronouns (e.g., “I”), and moreover how this may have distinct outcomes from simple thought.

Finally, I asserted the theoretical linkages between all levels of communication (Barker & Wiseman, 1966), and particularly between intrapersonal communication (e.g., self-talk) and interpersonal communication (Diaz & Berk, 2014; Burnett, 2003). I argued that individual self-talk as a form of intrapersonal communication should be linked to higher levels of communication for a person, and specifically to their interpersonal communication outcomes. In other words, I hypothesized that in an interpersonal context, the more self-talk impacted positive emotional outcomes for the individual, these positive effects would become manifest in more positive interpersonal communication outcomes for the individual, and vice versa. This hypothesis was supported for the emotional outcome of anger after interpersonal communication. Positive self-talk/thought led to less anger which led to greater perceptions of interpersonal communication effectiveness and satisfaction, as well as increased willingness for interpersonal communication. This finding thus provides theoretical support for the connection of effects between levels of communication. This study demonstrated that self-talk as a form of intrapersonal communication has a significant impact on interpersonal communication. This finding therefore further extends previous research (e.g., Burnett 1996, 2003) which showed that interpersonal communication impacts an individual’s self-talk, illustrating on the other hand and vice-versa, that self-talk also impacts an individual’s interpersonal communication. The connection between self-talk and interpersonal communication outcomes with emotional outcomes as a mediator, was supported for valence (positive vs. negative), however the parts of speech used for self-reference in the self-talk/thought manipulation did not serve as a moderator for this effect.
Future researchers may examine more in depth the nature of the interpersonal communicative tasks which may be effected by self-talk. For this particular study, participants engaged in writing an email to the person who made them angry. However, writing itself is evidenced to have therapeutic effects (Pennebaker, 1997; Murphy & Mitchell, 1998), which perhaps served to equalize the effects of the emotional outcomes of the valenced self-talk/thought manipulations. In fact, some respondents commented on writing the email as, “therapeutic,” “cleansing,” and “beneficial.” Perhaps future research could instead examine more direct interpersonal communication, such as a face to face conversation, phone call, or phone message, and measure the communication outcomes from these types of communication.

Another issue in the assessment of interpersonal communication outcomes is that for this current study we did not actually examine the content of the emails which participants wrote. Content analysis of the emails could potentially reveal significant differences between the positive and negative self-talk name, pronoun, as well as thought conditions. Further research might also look more specifically at the emotional outcomes which have theoretically been linked to interpersonal communication outcomes. For example, anxiety (Gudykunst, 1993; Gudykunst, 2005) has been linked to less positive interpersonal communication outcomes, therefore studying the effect of self-talk manipulations on an emotion such as anxiety might lead to an even stronger connection to and impact on interpersonal communication outcomes.

Limitations

Limitations to this study include that the study sample population consisted of all undergraduate students from a large U.S. southwestern university, therefore generalizability to a broader population is challenged. Other limitations to this study include the study design; measurement of certain emotional items were taken three times (e.g., current anger measured at
Time 1, Time 2, and Time 3) while measurement of other emotional items were only taken twice (e.g., PANAS-X items measured only at Time 1 and Time 2). While there were some logical and practical considerations (e.g., length of the questionnaire) behind the measurement design, it may have been more beneficial to have consistent measurement across Time 1 (at time of anger induction), Time 2 (after the valenced self-talk/thought manipulation), and Time 3 (after the interpersonal writing task). For example, had the PANAS-X emotional items been measured at Time 3, results might have indicated different emotional effects and outcomes after the interpersonal writing task, and there may have been more room to examine a mediated moderation effect between the valenced self-talk/thought manipulations and the interpersonal communication outcomes (potentially mediated by emotional changes).

This study was also limited in terms of the precise interpersonal communication outcomes which were examined—interpersonal communication effectiveness, interpersonal communication satisfaction, and willingness for interpersonal communication. Other interpersonal communication outcomes could be examined, for example if a content analysis was conducted we might view differences in the actual words or frame of the interpersonal email messages constructed by individuals in the distinct manipulations. Furthermore, in terms of interpersonal communication outcomes, this study only measured and examined the communication outcomes from the perspective of the sender of the interpersonal communication, not the receiver. It may make sense that perhaps differences in emotional outcomes of the valenced self-talk/thought manipulations may manifest and be perceived not by the communicator but by the individual receiving the communication. In other words, if a particular valenced self-talk/thought condition led to more or less negative affect in an individual, the
individual might not notice differences in their communication, however the person receiving their message may perceive the effects of the negative affect in the communicator.

A further limitation of this study was that a couple of the emotional scales that were used were found to be unreliable. Also, although we found effects for the two-item “hurt” emotional scale, the scale as a whole was unreliable. The scale consisted of items “hurt” and “injured,” it may have been that participants took “injured” in a more physical rather than emotional sense—it would likely have been better to have used an item such as “emotionally injured.” In reporting results we broke up the two-item “hurt” scale, and used the one item “hurt” which was accounting for the significant effects, however, results would have been stronger if we had at least a two-item scale for this emotional outcome.

Conclusions and Practical Application

Previous studies have examined the effect of valence on self-talk outcomes. Previous studies have also examined the effects of part of speech on self-talk outcomes. However, I am not aware of any research which has examined these two self-talk dimensions together, the interaction between valence of self-talk and part of speech used for self-reference. Also, I am not aware of any research which has examined these two self-talk elements within the specific context of interpersonal anger. Furthermore, other studies have not attempted to explicitly differentiate between the effects of using second-person pronouns versus name within self-talk nor have previous studies differentiated between these different kinds of self-talk and thought. Finally, this study is novel in that previous studies have not attempted to directly connect differentiated self-talk effects to subsequent communication outcomes for the individual, and in particular interpersonal communication outcomes.
Overall this research study has demonstrated three key things. First, that message frame or valence has a critical impact on the effects of self-talk. In situations of interpersonal anger, positive self-talk decreases current anger, general negative affect, and hurt significantly more than negative self-talk. Also, positive self-talk increases positive emotions such as serenity significantly more than negative self-talk. Secondly, this study has demonstrated that there are significant differences between self-talk and simple thought. In contexts of interpersonal anger, positive self-talk decreases negative affect significantly more than positive thought. Third, this study has evidenced that self-talk is connected to interpersonal communication outcomes. Positive self-talk led to less anger after interpersonal communication, and less anger led to greater perceptions of interpersonal communication effectiveness and satisfaction as well as willingness to engage in interpersonal communication.

The communication centered study of self-talk, may potentially have significant practical implications. This study sought to emphasize self-talk as a type of intrapersonal communication, highlighting the fact that individuals communicate specific messages to themselves and moreover that the construction of these messages may have significant impact on outcomes for the individual. Examining and illuminating intrapersonal communication, and self-talk as a fundamental and critical level of communication thus provides an opportunity to increase awareness on the importance of the kinds of messages individuals send to themselves and how these messages may provide positive or negative outcomes for the individual and relationally. Results from this study may thus be considered within a framework of positive self-talk as potentially being a form of positive (Socha & Pitts, 2012) or supportive (MacGeorge, Feng, & Burleson, 2011) communication for individuals, at the intrapersonal rather than interpersonal level. This study has clearly evidenced the power of frame or valence—positive vs. negative self-
talk as well as thought, in the context of interpersonal anger. Positive self-talk/thought broadly leads to less negative emotion (such as anger) and more positive emotions (such as serenity). This study has also evidenced, for example, that engaging in positive self-talk using your own name will potentially be more beneficial in decreasing negative affect than simply thinking positively. Also, this study has shown that positive self-talk leads to better interpersonal communication outcomes. Practically speaking, this study and further studies in this direction may help to place greater emphasis on how individuals may utilize self-talk, or active communication with oneself in order to lead to the most beneficial outcomes for the individual and relationally.

The broader goal, was also to see how beneficial outcomes of an individual’s self-talk may also translate to more positive interpersonal (communication) outcomes, in situations such as interpersonal anger. This study has demonstrated that self-talk may be utilized to bring about more positive interpersonal communication outcomes. Future research may also examine other interpersonal contexts, such as contexts of low self-esteem, shame, betrayal, or abandonment—using self-talk, communication with oneself to mitigate persistent negative emotions which these kinds of experiences may cause in a person and also to enhance the interpersonal communication which may take place in these kinds of situations. On the positive or bright side, future research may also examine how different types of self-talk might not only work in negative interpersonal situations, to help minimize negative emotions and outcomes over time, but also how self-talk may be used in positive situations to maximize positive emotions and interpersonal communication outcomes over time—for example with positive intrapersonal or interpersonal contexts of encouragement, acceptance, or trust.
Appendix A: Anger Induction

Instructions:

No matter how well two people get along there are times when they may experience conflict. Please take a few moments right now to recall the most recent time when you experienced a conflict with someone you know—a time when you became truly angry at someone.

Please spend some time answering the following questions.

As you answer these questions, really try to “let go” and experience your feelings about this negative event. Try not to hold anything back. Be honest and candid about this negative event, the negative feelings it created in you, and its negative effects on your life:

1. Who made you angry?
2. How close are you with the person who made you angry?
3. How long have you known the person who made you angry?
4. When did the negative incident happen?

(a) What actually happened to you?
(b) How did you feel about the negative incident right after it occurred to you?

We would like to know especially about the ways in which you felt angry, afraid, disgusted, or upset after the event occurred.

Adapted from:


Appendix B: Anger Measurement

Current Anger Measurement [at time of assessment]:

Please respond to the following statements about *how you feel right now about the incident*:

Answer response options on 4-point Likert Scale: 
1 = Not at all, 2 = Somewhat, 3 = Moderately so, 4 = Very much so

1. I feel irritated.
2. I feel furious.
3. I feel angry.
4. I feel annoyed.
5. I am mad.
6. I feel like yelling at somebody.

Appendix C: Self-Talk (ST) and Control Manipulations

Positive, Name ST Condition

Self-Talk Instructions:

For the next 3-5 minutes, please TALK TO YOURSELF about the experience you just recalled. As you talk to yourself you will need to do two things:

1. Talk to yourself positively about the way you handled the situation. Find something(s) positive to talk to yourself about, even if it is a very small thing.

2. Use your own NAME as you talk to yourself.

For example, if your name was Sam, you might say, “SAM, you did a GOOD job staying calm” or “SAM, you were REALLY GREAT at listening even though you were very angry.”

Also, talk OPTIMISTICALLY about how you will handle future encounters with the individual. For example, as you talk to yourself you might say, “SAM, next time you WILL NOT get into ANOTHER bad argument with [name of other person].”

Positive, Pronoun ST Condition

Self-Talk Instructions:

For the next 3-5 minutes, please TALK TO YOURSELF about the experience you just recalled. As you talk to yourself you will need to do two things:

1. Talk to yourself positively about the way you handled the situation. Find something(s) positive to talk to yourself about, even if it is a very small thing.

2. Use the second-person pronoun “YOU” as you talk to yourself.

For example, you might say, “YOU did a GOOD job staying calm” or “YOU were REALLY GREAT at listening even though you were very angry.”

Also, talk OPTIMISTICALLY about how you will handle future encounters with the individual. For example, as you talk to yourself you might say, “Next time YOU WILL NOT get into ANOTHER bad argument with [name of other person].”

Negative, Name ST Condition

Self-Talk Instructions:

For the next 3-5 minutes, please TALK TO YOURSELF about the experience you just recalled. As you talk to yourself you will need to do two things:
1. **Talk to yourself negatively** about the way you handled the situation. Find something(s) negative to talk to yourself about, even if it is a very small thing.

2. **Use your own NAME** as you talk to yourself.

   *For example*, if your name was Sam, you might say, “SAM, you did NOT DO A GOOD job staying calm” or “SAM, you were REALLY BAD at listening because you were very angry.”

Also, talk **PESSIMISTICALLY** about how you will handle future encounters with the individual. *For example*, as you talk to yourself you might say, “SAM, next time you WILL get into ANOTHER bad argument with [name of other person].”

**Negative, Pronoun ST Condition**

**Self-Talk Instructions:**

For the **next 3-5 minutes**, please **TALK TO YOURSELF** about the experience you just recalled. As you talk to yourself you will need to do two things:

1. **Talk to yourself negatively** about the way you handled the situation. Find something(s) negative to talk to yourself about, even if it is a very small thing.

2. **Use the second-person pronoun “YOU”** as you talk to yourself.

   *For example*, you might say, “YOU did NOT DO A GOOD job staying calm” or “YOU were REALLY BAD at listening because you were very angry”

Also, talk **PESSIMISTICALLY** about how you will handle future encounters with the individual. *For example*, as you talk to yourself you might say, “Next time **YOU** WILL get into ANOTHER bad argument with [name of other person].”

**Control - Positive Thought Condition**

**Thinking Instructions:**

For the **next 3-5 minutes**, please **THINK ABOUT** the experience you just recalled. As you think, you will need to:

Think **positively** about how you handled the situation. Find something(s) positive to think about, even if it is a very small thing.

*For example*, you might think about how you did a GOOD job staying calm, or how you did REALLY GREAT at listening even though you were very angry.
Also, think **OPTIMISTICALLY** about how you will handle future encounters with the individual. For example, you might think about NOT GETTING into ANOTHER bad argument with the person the next time you see them.

**Control - Negative Thought Condition**

**Thinking Instructions:**

For the **next 3-5 minutes**, please **THINK ABOUT** the experience you just recalled. As you think, you will need to:

**Think negatively** about how you handled the situation. Find something(s) negative to think about, even if it is a very small thing.

*For example,* you might think about how you did NOT DO A GOOD job staying calm, or how you were REALLY BAD at listening because you were very angry.

Also, think **PESSIMISTICALLY** about how you will handle future encounters with the individual. *For example,* you might think about GETTING into ANOTHER bad argument with the person the next time you see them.

**Adapted from:**


http://dx.doi.org/10.1037/a0035173
Appendix D: Interpersonal Writing Instructions

Writing Instructions:

For the next 3-5 minutes, please write a hypothetical email addressed to the person who made you angry. You should write to the other person about the incident which occurred. You may say whatever you want to the other person. Please take the time to fully and completely convey any thoughts, ideas, and feelings you have to the other person.

Please note: this is a hypothetical email. YOU WILL NOT BE REQUIRED TO ACTUALLY SEND THIS EMAIL TO THE PERSON.
Appendix E: Interpersonal Communication Measurement - Interpersonal Communication Outcomes - Interpersonal Communication Effectiveness

Instructions:

Please respond to the statements below regarding the email message you just wrote to the person who made you angry.

Please indicate your level of agreement or disagreement with the following statements:

Answer response options on 5-point Likert Scale:
1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree

1. I achieved what I wanted to achieve in the email.
2. Writing this email was useless for me.
3. I feel this email would be effective.
4. This email would be very unsuccessful.
5. I got what I wanted out of this email.
6. Writing the email was not beneficial for me.
7. I achieved my goal in the email.
8. I was ineffective in my email.
9. I felt rewarded by writing the email.
10. I found writing the email to be very useful and helpful. I found writing the email very unrewarding.

Appendix F: Interpersonal Communication Measurement - Interpersonal Communication Outcomes - Interpersonal Communication Satisfaction

Instructions:

Please respond below regarding the email message you just wrote to the person who made you angry.

Please indicate your level of agreement or disagreement with the following statements:

Answer response options on 7-point scale: from Strongly Disagree (1) to Strongly Agree (7)

1. I would like to write another email like this.
2. I was very dissatisfied with the email I wrote.
3. I feel that in the email I was able to present myself as I wanted the other person to view me.
4. I am very satisfied with the email I wrote. I did NOT enjoy writing the email.
5. I felt I could say anything to the other person in the email.
6. I felt I could be honest about my feelings in the email.
7. My writing flowed smoothly.
8. I wrote about something I did NOT want to write about.

Appendix G: Manipulation Check Questions

Manipulation Checks:

1. “To what extent did you actually talk to yourself about the incident?” (1 = not at all, 5 = exclusively)
2. “How much did you speak to yourself and hear fully formed words and sentences in your head?” (1 = not at all, 5 = exclusively)
3. “To what extent did you use your NAME to refer to yourself as you were talking to yourself or thinking about the incident?” (1 = not at all, 5 = exclusively)
4. “To what extent did you use the second-person pronoun “YOU” to refer to yourself as you were talking to yourself or thinking about the incident? (1 = not at all, 5 = exclusively)
5. “To what extent did you use the first-person pronoun “I” to refer to yourself as you were talking to yourself or thinking about the incident?” (1 = not at all, 5 = exclusively)
6. “How well do you feel you followed the instructions for thinking or self-talk about the incident?” (1 = not at all well, 5 = perfectly well)
7. “During the prompt, to what extent did you praise yourself about the incident?” (1 = not at all, 5 = exclusively)
8. “During the prompt, to what extent were you optimistic/positive toward yourself about the incident?” (1 = not at all, 5 = exclusively)
9. “During the prompt, to what extent did you criticize yourself about the incident?” (1 = not at all, 5 = exclusively)
10. “During the prompt, to what extent were you pessimistic/negative toward yourself about the incident?” (1 = not at all, 5 = exclusively)
11. “During the prompt, to what extent did you vocalize (speak out loud) about the incident?” (1 = not at all, 5 = exclusively)
12. “During the prompt, to what extent did you think or speak to yourself silently (no-vocalization)?” (1 = not at all, 5 = exclusively)
### Appendix H: Manipulation Check Results

#### To what extent did you use your NAME to refer to yourself as you were talking to yourself or thinking about the incident? (1 = Not at all, 5 = Exclusively)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Self-Talk</td>
<td>3.36</td>
<td>1.10</td>
</tr>
<tr>
<td>Pronoun Self-Talk</td>
<td>1.64</td>
<td>1.01</td>
</tr>
<tr>
<td>Thought</td>
<td>1.57</td>
<td>0.99</td>
</tr>
</tbody>
</table>

**Name vs. Thought vs. Pronoun**

- ANOVA test of equality of means: P < .001, $\eta^2 = .39$
- Tukey HSD/ LSD mean difference test: P < .001

**Name vs. Pronoun**

- Tukey HSD/ LSD mean difference test: P < .001

**Name vs. Thought**

- Tukey HSD/ LSD mean difference test: P < .001

* Statistically significant difference

#### To what extent did you use the second person pronoun “YOU” to refer to yourself as you were talking to yourself or thinking about the incident? (1 = Not at all, 5 = Exclusively)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Self-Talk</td>
<td>3.18</td>
<td>1.11</td>
</tr>
<tr>
<td>Pronoun Self-Talk</td>
<td>4.16</td>
<td>1.03</td>
</tr>
<tr>
<td>Thought</td>
<td>2.36</td>
<td>1.39</td>
</tr>
</tbody>
</table>

**Name vs. Thought vs. Pronoun**

- ANOVA test of equality of means: P < .001, $\eta^2 = .29$
- Tukey HSD/ LSD mean difference test: P < .001

**Name vs. Pronoun**

- Tukey HSD/ LSD mean difference test: P < .001

**Name vs. Thought**

- Tukey HSD/ LSD mean difference test: P < .001

* Statistically significant difference

#### To what extent did you use the first-person pronoun “I” to refer to yourself as you were talking to yourself or thinking about the incident? (1 = Not at all, 5 = Exclusively)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Self-Talk</td>
<td>2.33</td>
<td>1.28</td>
</tr>
<tr>
<td>Pronoun Self-Talk</td>
<td>2.40</td>
<td>1.22</td>
</tr>
<tr>
<td>Thought</td>
<td>3.49</td>
<td>1.16</td>
</tr>
</tbody>
</table>

**Name vs. Thought vs. Pronoun**

- ANOVA test of equality of means: P < .001, $\eta^2 = .16$
- Tukey HSD/ LSD mean difference test: P > .05

**Name vs. Pronoun**

- Tukey HSD/ LSD mean difference test: P < .001

**Name vs. Thought**

- Tukey HSD/ LSD mean difference test: P < .001

* Statistically significant difference
### Appendix H: Manipulation Check Results

<table>
<thead>
<tr>
<th>During the prompt, to what extent did you praise yourself about the incident? (1= Not at all, 5 = Exclusively)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong></td>
</tr>
<tr>
<td><strong>Negative</strong></td>
</tr>
<tr>
<td><strong>Positive vs. Negative</strong></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>During the prompt, to what extent were you optimistic/positive toward yourself about the incident? (1= Not at all, 5 = Exclusively)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong></td>
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<tr>
<td><strong>Negative</strong></td>
</tr>
<tr>
<td><strong>Positive vs. Negative</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During the prompt, to what extent did you criticize yourself? (1= Not at all, 5 = Exclusively)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong></td>
</tr>
<tr>
<td><strong>Negative</strong></td>
</tr>
<tr>
<td><strong>Positive vs. Negative</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During the prompt, to what extent were you pessimistic/negative toward yourself about the incident? (1= Not at all, 5 = Exclusively)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong></td>
</tr>
<tr>
<td><strong>Negative</strong></td>
</tr>
<tr>
<td><strong>Positive vs. Negative</strong></td>
</tr>
</tbody>
</table>

*Statistically significant difference*
### Appendix H - Manipulation Check Results

#### To what extent did you actually talk to yourself about the incident? (1 = Not at all, 5 = Exclusively)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Self-Talk</td>
<td>3.41</td>
<td>0.86</td>
</tr>
<tr>
<td>Pronoun Self-Talk</td>
<td>3.39</td>
<td>0.97</td>
</tr>
<tr>
<td>Thought</td>
<td>3.25</td>
<td>0.99</td>
</tr>
</tbody>
</table>

- **Name vs. Thought vs. Pronoun** ANOVA test of equality of means: $P > .05$
- **Name vs. Pronoun** Tukey HSD/ LSD mean difference test: $P > .05$
- **Name vs. Thought** Tukey HSD/ LSD mean difference test: $P > .05$
- **Pronoun vs. Thought** Tukey HSD/ LSD mean difference test: $P > .05$

* Statistically significant difference

#### How much did you speak to yourself and hear fully formed words and sentences in your head? (1 = Not at all, 5 = Exclusively)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Self-Talk</td>
<td>3.48</td>
<td>0.93</td>
</tr>
<tr>
<td>Pronoun Self-Talk</td>
<td>3.48</td>
<td>1.13</td>
</tr>
<tr>
<td>Thought</td>
<td>3.25</td>
<td>1.13</td>
</tr>
</tbody>
</table>

- **Name vs. Thought vs. Pronoun** ANOVA test of equality of means: $P > .05$
- **Name vs. Pronoun** Tukey HSD/ LSD mean difference test: $P > .05$
- **Name vs. Thought** Tukey HSD/ LSD mean difference test: $P > .05$
- **Pronoun vs. Thought** Tukey HSD/ LSD mean difference test: $P > .05$

* Statistically significant difference

#### During the prompt, to what extent did you vocalize (speak out loud) about the incident? (1 = Not at all, 5 = Exclusively)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Self-Talk</td>
<td>1.67</td>
<td>1.04</td>
</tr>
<tr>
<td>Pronoun Self-Talk</td>
<td>1.88</td>
<td>1.30</td>
</tr>
<tr>
<td>Thought</td>
<td>1.70</td>
<td>1.18</td>
</tr>
</tbody>
</table>

- **Name vs. Thought vs. Pronoun** ANOVA test of equality of means: $P > .05$
- **Name vs. Pronoun** Tukey HSD/ LSD mean difference test: $P > .05$
- **Name vs. Thought** Tukey HSD/ LSD mean difference test: $P > .05$
- **Pronoun vs. Thought** Tukey HSD/ LSD mean difference test: $P > .05$

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>1.85</td>
<td>1.21</td>
</tr>
<tr>
<td>Negative</td>
<td>1.67</td>
<td>1.16</td>
</tr>
</tbody>
</table>
## Appendix H- Manipulation Check Results

### Positive vs. Negative
ANOVA test of equality of means: \( P > .05 \)

<table>
<thead>
<tr>
<th>*. Statistically significant difference</th>
</tr>
</thead>
</table>

### During the prompt, to what extent did you think or speak to yourself silently (no vocalization)?
(1= Not at all, 5 = Exclusively)

| Name Self-Talk | Mean: 4.45 | SD: 0.86 |
| Pronoun Self-Talk | Mean: 4.16 | SD: 1.08 |
| Thought | Mean: 3.90 | SD: 1.26 |

**Name vs. Thought vs. Pronoun**
ANOVA test of equality of means: \( P = .013, \eta^2 = .04 \)

| Name vs. Pronoun | Tukey HSD/ LSD mean difference test: \( P > .05 \) |
| Name vs. Thought* | Tukey HSD/ LSD mean difference test: \( P = .009/ .003 \) |

**Pronoun vs. Thought**
Tukey HSD/ LSD mean difference test: \( P > .05 \)

### Positive Mean: 4.10 | SD: 1.09 |
### Negative Mean: 4.23 | SD: 1.11 |

**Positive vs. Negative**
ANOVA test of equality of means: \( P > .05 \)

| *. Statistically significant difference |

### How well do you feel you followed the instructions for thinking to self-talk about the incident?
(1= Not at all well, 5 = Perfectly well)

| Name Self-Talk | Mean: 3.86 | SD: 0.82 |
| Pronoun Self-Talk | Mean: 3.64 | SD: 1.10 |
| Thought | Mean: 4.06 | SD: 0.69 |

**Name vs. Thought vs. Pronoun**
ANOVA test of equality of means: \( P = .022, \eta^2 = .04 \)

| Name vs. Pronoun | Tukey HSD/ LSD mean difference test: \( P > .05 \) |
| Name vs. Thought | Tukey HSD/ LSD mean difference test: \( P > .05 \) |

**Pronoun vs. Thought**
Tukey HSD/ LSD mean difference test: \( P = .016/ .006 \)

### Positive Mean: 3.84 | SD: 0.87 |
### Negative Mean: 3.85 | SD: 0.95 |

**Positive vs. Negative**
ANOVA test of equality of means: \( P > .05 \)

| *. Statistically significant difference |
Appendix I: Background Questions for Participants

1. “Who made you angry?” (Options included: Mother, Father, Guardian, Brother, Sister, Other family member, Friend, Acquaintance, Schoolmate, Co-worker, Other)

2. “How close are you with the person who made you angry?” (Response options range from 1 = Not at all close to 5 = Extremely close)

3. “How long have you known the person who made you angry?” (Response options included: Less than 1 year, 1-2 years, 2-3 years, 4-5 years, 5-10 years, over 10 years)

4. “When did the negative incident happen?” (Response options included: Within 1 week of today, 1-2 weeks ago, 3-4 weeks ago, 1-2 months ago, 3-4 months ago, 5-6 months ago, over 6 months ago, over a year ago)

5. “In your daily life, how often do you talk to yourself in your head using real words and sentences?” (Response options range on 6-point scale from “Never” to “Very Frequently”)

6. “In your daily life, how often do you talk to yourself out loud?” (Response options range on 6-point scale from “Never” to “Very Frequently”)

7. “In your daily life, how often do you use your own name if/when talking to yourself?” (Response options range on 6-point scale from “Never” to “Very Frequently”)

8. “In your daily life, how often do you use the second-person pronoun “you” if/when talking to yourself?” (Response options range on 6-point scale from “Never” to “Very Frequently”)
Appendix J: Anger Induction Background Questions-Participant Results

<table>
<thead>
<tr>
<th>How close are you with the person who made you angry?</th>
<th>Frequency</th>
<th>Percent (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Not at all close)</td>
<td>9</td>
<td>4.3</td>
</tr>
<tr>
<td>2 (Slightly Close)</td>
<td>13</td>
<td>6.2</td>
</tr>
<tr>
<td>3 (Moderately Close)</td>
<td>20</td>
<td>9.6</td>
</tr>
<tr>
<td>4 (Very Close)</td>
<td>67</td>
<td>32.2</td>
</tr>
<tr>
<td>5 (Extremely Close)</td>
<td>99</td>
<td>47.6</td>
</tr>
<tr>
<td>Total</td>
<td>208</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How long have you known the person who made you angry?</th>
<th>Frequency</th>
<th>Percent (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>26</td>
<td>12.5</td>
</tr>
<tr>
<td>1-2 years</td>
<td>38</td>
<td>18.3</td>
</tr>
<tr>
<td>2-3 years</td>
<td>59</td>
<td>28.4</td>
</tr>
<tr>
<td>4-5 years</td>
<td>16</td>
<td>7.7</td>
</tr>
<tr>
<td>5-10 years</td>
<td>17</td>
<td>8.2</td>
</tr>
<tr>
<td>Over 10 years</td>
<td>52</td>
<td>25.0</td>
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<tr>
<td>Total</td>
<td>208</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When did the negative incident happen?</th>
<th>Frequency</th>
<th>Percent (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 1 week of today</td>
<td>78</td>
<td>37.5</td>
</tr>
<tr>
<td>1-2 weeks ago</td>
<td>41</td>
<td>19.7</td>
</tr>
<tr>
<td>3-4 weeks ago</td>
<td>26</td>
<td>12.5</td>
</tr>
<tr>
<td>1-2 months ago</td>
<td>25</td>
<td>12.0</td>
</tr>
<tr>
<td>3-4 months ago</td>
<td>10</td>
<td>4.8</td>
</tr>
<tr>
<td>5-6 months ago</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>over 6 months</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Over 1 year ago</td>
<td>20</td>
<td>9.6</td>
</tr>
<tr>
<td>Total</td>
<td>208</td>
<td>100</td>
</tr>
</tbody>
</table>
### Who made you angry?

<table>
<thead>
<tr>
<th>Who made you angry</th>
<th>Frequency</th>
<th>Percent (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>21</td>
<td>10.1</td>
</tr>
<tr>
<td>Father</td>
<td>14</td>
<td>6.7</td>
</tr>
<tr>
<td>Brother</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>Sister</td>
<td>8</td>
<td>3.8</td>
</tr>
<tr>
<td>Other Family Member (e.g., cousin, aunt, uncle)</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Friend</td>
<td>99</td>
<td>47.6</td>
</tr>
<tr>
<td>Acquaintance</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Schoolmate</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>Co-worker</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>Other [Entries below]:</td>
<td>46</td>
<td>22.1</td>
</tr>
<tr>
<td>Boyfriend</td>
<td>24</td>
<td>11.5</td>
</tr>
<tr>
<td>Ex-boyfriend</td>
<td>7</td>
<td>3.4</td>
</tr>
<tr>
<td>Roommate</td>
<td>8</td>
<td>3.8</td>
</tr>
<tr>
<td>Roommates mother</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Significant Other</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Random person at bar</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Boss</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>
## Appendix K: Self-Talk Traits Participant Results

### In your daily life, how often do you talk to yourself in your head using real words and sentences?

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>Very Rarely</td>
<td>6</td>
<td>2.9</td>
</tr>
<tr>
<td>Rarely</td>
<td>8</td>
<td>3.8</td>
</tr>
<tr>
<td>Occasionally</td>
<td>58</td>
<td>27.9</td>
</tr>
<tr>
<td>Frequently</td>
<td>72</td>
<td>34.6</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>62</td>
<td>29.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>208</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### In your daily life, how often do you talk to yourself out loud?

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>21</td>
<td>10.1</td>
</tr>
<tr>
<td>Very Rarely</td>
<td>54</td>
<td>26.0</td>
</tr>
<tr>
<td>Rarely</td>
<td>45</td>
<td>21.6</td>
</tr>
<tr>
<td>Occasionally</td>
<td>57</td>
<td>27.4</td>
</tr>
<tr>
<td>Frequently</td>
<td>20</td>
<td>9.6</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>11</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>208</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### In your daily life, how often do you use your name if/when talking to yourself?

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>61</td>
<td>29.3</td>
</tr>
<tr>
<td>Very Rarely</td>
<td>66</td>
<td>31.7</td>
</tr>
<tr>
<td>Rarely</td>
<td>38</td>
<td>18.3</td>
</tr>
<tr>
<td>Occasionally</td>
<td>33</td>
<td>15.9</td>
</tr>
<tr>
<td>Frequently</td>
<td>7</td>
<td>3.4</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>208</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
In your daily life, how often do you use the second-person pronoun "you" if/when taking to yourself?

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>32</td>
<td>15.4</td>
</tr>
<tr>
<td>Very Rarely</td>
<td>40</td>
<td>19.2</td>
</tr>
<tr>
<td>Rarely</td>
<td>30</td>
<td>14.4</td>
</tr>
<tr>
<td>Occasionally</td>
<td>67</td>
<td>32.2</td>
</tr>
<tr>
<td>Frequently</td>
<td>31</td>
<td>14.9</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>8</td>
<td>3.8</td>
</tr>
<tr>
<td>Total</td>
<td>208</td>
<td>100</td>
</tr>
</tbody>
</table>
### Time 1 Measurement-Descriptive Statistics

<table>
<thead>
<tr>
<th>T1 Measures</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Anger</td>
<td>1.77</td>
<td>0.78</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>2.14</td>
<td>1.00</td>
</tr>
<tr>
<td>Fear</td>
<td>1.48</td>
<td>0.79</td>
</tr>
<tr>
<td>Embarrassment</td>
<td>2.02</td>
<td>1.13</td>
</tr>
<tr>
<td>Sadness</td>
<td>1.91</td>
<td>1.07</td>
</tr>
<tr>
<td>Shyness</td>
<td>1.28</td>
<td>0.68</td>
</tr>
<tr>
<td>Assurance</td>
<td>1.92</td>
<td>1.17</td>
</tr>
<tr>
<td>Hurt (2-Item Scale)</td>
<td>1.88</td>
<td>0.95</td>
</tr>
<tr>
<td>Hurt (1-Item)</td>
<td>2.50</td>
<td>1.44</td>
</tr>
<tr>
<td>Serenity</td>
<td>2.50</td>
<td>1.41</td>
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</table>

### Time 1 Measurement-Pearson Correlations

<table>
<thead>
<tr>
<th>Time 1 Measures</th>
<th>Current Anger</th>
<th>Negative Affect</th>
<th>Fear</th>
<th>Embarrassment</th>
<th>Sadness</th>
<th>Shyness</th>
<th>Assurance</th>
<th>Hurt (2-Item Scale)</th>
<th>Hurt (1-Item)</th>
<th>Serenity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Anger</td>
<td>--</td>
<td>.65**</td>
<td>.50**</td>
<td>.34**</td>
<td>.49**</td>
<td>.30**</td>
<td>.07</td>
<td>.42**</td>
<td>.46**</td>
<td>-.37**</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>--</td>
<td>--</td>
<td>.68**</td>
<td>.53**</td>
<td>.61**</td>
<td>.38**</td>
<td>.10</td>
<td>.62**</td>
<td>.63**</td>
<td>-.45**</td>
</tr>
<tr>
<td>Fear</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.46**</td>
<td>.55**</td>
<td>.61**</td>
<td>.07</td>
<td>.58**</td>
<td>.57**</td>
<td>-.34**</td>
</tr>
<tr>
<td>Embarrassment</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.51**</td>
<td>.42**</td>
<td>-.11</td>
<td>.57**</td>
<td>.56**</td>
<td>-.23**</td>
</tr>
<tr>
<td>Sadness</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.37**</td>
<td>-.15**</td>
<td>.81**</td>
<td>.77**</td>
<td>-.39**</td>
</tr>
<tr>
<td>Shyness</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-.02</td>
<td>.48**</td>
<td>.39**</td>
<td>-.21**</td>
</tr>
<tr>
<td>Assurance</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-.09</td>
<td>-.11</td>
<td>-.26**</td>
</tr>
<tr>
<td>Hurt (2-Item Scale)</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.93**</td>
<td>-.39**</td>
<td></td>
</tr>
<tr>
<td>Hurt (1-Item)</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-.43**</td>
<td></td>
</tr>
<tr>
<td>Serenity</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

Note. **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). N = 208.
### Time 2 Measurement-Descriptive Statistics

<table>
<thead>
<tr>
<th>T2 Measures</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Anger</td>
<td>1.68</td>
<td>0.71</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>1.76</td>
<td>0.86</td>
</tr>
<tr>
<td>Fear</td>
<td>1.28</td>
<td>0.59</td>
</tr>
<tr>
<td>Embarrassment</td>
<td>1.78</td>
<td>1.01</td>
</tr>
<tr>
<td>Sadness</td>
<td>1.66</td>
<td>0.88</td>
</tr>
<tr>
<td>Shyness</td>
<td>1.22</td>
<td>0.62</td>
</tr>
<tr>
<td>Assurance</td>
<td>1.94</td>
<td>1.25</td>
</tr>
<tr>
<td>Hurt (2-Item Scale)</td>
<td>1.56</td>
<td>0.74</td>
</tr>
<tr>
<td>Hurt (1-Item)</td>
<td>1.96</td>
<td>1.15</td>
</tr>
<tr>
<td>Serenity</td>
<td>2.68</td>
<td>1.38</td>
</tr>
</tbody>
</table>

### Time 2 Measurement-Pearson Correlations

<table>
<thead>
<tr>
<th>T2 Measures</th>
<th>Current Anger</th>
<th>Negative Affect</th>
<th>Fear</th>
<th>Embarrassment</th>
<th>Sadness</th>
<th>Shyness</th>
<th>Assurance</th>
<th>Hurt (2-Item Scale)</th>
<th>Hurt (1-Item)</th>
<th>Serenity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Anger</td>
<td>--</td>
<td>.77**</td>
<td>.52**</td>
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Note. **. Correlation is significant at the 0.01 level (2-tailed). *, Correlation is significant at the 0.05 level (2-tailed). N = 208.
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### Time 3 Measurement-Pearson Correlations

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Note. **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). N = 208.
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