DIGITAL DECEPTIONS: DIFFERENCES IN THE PERCEIVED
EFFECTIVENESS OF MEDIA FOR DECEPTION IN THE
EDUCATIONAL CONTEXT

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Deception in the Educational Context

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DEDICATION

This thesis is dedicated to my beloved family and friends for always supporting me throughout my infinite endeavors, regardless of how eccentric and capricious they may seem at times; for this I remain forever grateful. One person in my life deserves a very special mention. I would like to thank my mother for all the sacrifices she willingly made to provide me with the best opportunities possible in life. Without you none of this would have been possible and your unbounded love will never be forgotten. This is just the beginning.
The truest way to be deceived is to think oneself more knowing than others.
--Francois de la Rochefoucauld
ABSTRACT OF THE THESIS

Digital Deceptions: Differences in the Perceived Effectiveness of Media for Deception in the Educational Context
by
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The evolution and diffusion of technology in educational contexts has changed the communicative relationships between teachers and their students. Students admit to using deception towards their teachers as a common communication strategy for obtaining their desired goals. Traditionally, the use of student deception has occurred through face-to-face interactions with their teachers. As computer-mediated communication continues to be used with greater prevalence in the classroom environment, the influence this emerging medium has on student beliefs and attitudes about using deception deserves considerable attention. Furthermore, understanding the perceptions of student deception from teachers’ perspectives allows greater insight into the nature of deception in an educational context. Analyzing data from a student and a teacher sample, this thesis investigates: (1) Students’ perception on the preference, effectiveness, appropriateness and motives for using deception; comparing face-to-face vis-à-vis computer-mediated communication channels, and (2) teachers’ perception on the acceptability of student deception, and the relative effectiveness of computer-mediated communication and face-to-face for detecting student deceptions.

The main findings of this study from the student sample indicate: (1) Students prefer to use computer-mediated channels of communication when engaging in deceptive behaviors with their teachers, although this medium was not perceived as more effective for successfully using deception, and (2) students perceive altruistically motivated lies as more appropriate than selfishly motivated lies in both, computer-mediated communication channels and face-to-face channels. From the teacher sample, the results show: (1) Teachers perceive greater self-ability to detect student deception when it is employed through face-to-face interactions, compared to computer-mediated interactions, (2) teachers perceive student deception as more effective when enacted through computer-mediated communication channels, and (3) teachers perceive student deception that is altruistically motivated as more appropriate than deception that is selfishly motivated. The implications of this study’s findings and direction for future research are discussed in this thesis.
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the world in such beautiful and rewarding ways. You are a very special person and I can’t wait to grow mentally and spiritually under your guidance. From the bottom of my heart, I love you both!
CHAPTER 1

INTRODUCTION

Honesty is a universal value, despite the fact that deception is an evolved adaptive ability and a relatively common communicative act (Carlson, George, Burgoon, Adkins, & White, 2004; Caspi & Gorsky, 2006; Dongen & Fainzang, 2002; Whitty & Carville, 2008). Deception has been researched in a variety of contexts, including educational (Strong, Green, & Kordinak, 2002; Taylor, Lussier, & Maring, 2003), negotiation (Giordano, Stoner, Brouer, & George, 2007; Schweitzer, Brodt, & Croson, 2002), relational (Anderson, DePaulo, Ansfield, Tickle, & Green, 1999; Battista & Abrahams, 1995; Horan & Dillow, 2009; Lippard, 1988), and organizational (Bryant & Sias, 2011; Dunleavy, Chory, & Goodboy, 2010; Elangovan & Shapiro, 1998; Payne, 2007) settings. Although the act of deception has been traditionally studied in face-to-face interactions, the evolution of computer-mediated channels of communication has increased the potential platforms through which deception can be enacted, detected, and negotiated.

The evolution and diffusion of technologies over the last few decades has provided multiple ways for deception to occur through computer-mediated communication (CMC). Relatively little is known about the degree to which certain channels of CMC facilitate or delimit deception processes (Carlson et al., 2004) and more research in this regard is clearly needed (Burgoon, Chen, & Twitchell, 2010; Hall, Park, Song, & Cody, 2010; Walther & Parks, 2002). With increasing globalization and technology diffusion, there is an increased need to understand the relationship between technology and deceptive communication.
The student-teacher dynamic in a classroom is a particular context of deception that clearly places a priority on honesty, and yet provides significant incentives for deception. Substantial numbers of students admit engaging in deceptive acts in communicating with their teachers (DePaulo, Ansfield, Kirkendol, & Boden, 2004; Gneezy, 2005; Reinhard, Dickhauser, Marksteiner, & Sporer, 2011). The study on which this thesis is based will investigate the interface between CMC technologies and both the use of deception and perceptions of deception detection in a pedagogical context. Specifically, this study will focus on the medium of e-mail while investigating the role CMC has on student-teacher deception. Although other types of CMC may be prevalent in educational interactions (e.g., Twitter, Facebook), e-mail is presumed to be one of the main technological mediums used for student-teacher communication (Zickuhr & Smith, 2012).

This study will examine two perspectives on deception in the collegiate educational context: those of students and those of teachers. With regards to students the study will examine: (1) The frequency of student-to-teacher deception and (2) students’ perception of the relative effectiveness of CMC channels and face-to-face (FtF) interactions for using deception. With regard to teachers the study will examine (1) teachers’ perception of the acceptability of student deception and (2) teachers’ perception of the relative effectiveness of CMC and FtF for detecting student deceptions.

This thesis will proceed along the following lines. Previous research on deception will be investigated with the intent of formulating a conceptual definition of deception and a typology of its basic classifications. Second, theoretical support will be provided to assist in understanding the characteristics of deception in interpersonal communication. Third, a literature review will be conducted highlighting the frequency of deception and the motives
for why people engage in deception and pursue certain tactics to achieve it. Fourth, the process of deception detection will be reviewed with attention to the contrast between the success of deceptive practices vis-à-vis the success of deception detection. Fifth, the role of deception in CMC relative to FtF contexts will be examined. Finally, a set of specific research hypothesis will be derived from the preceding review and rationale and presented where appropriate.

**CONCEPTUALIZING DECEPTION**

There is vast literature on the types, motives and definition of deception. However, there is considerable redundancy and overlap in these literatures. Even with an abundance of existing literature, the way people define, evaluate and understand deception is confusing (Bryant, 2008). The nature of deception is dynamic and the types of communication that are considered "deceptive" vary from one scholar to the next. Many studies use the word 'lies' in defining deception (Erat & Gneezy, 2012; Horan & Dillow, 2009; Jung & Lee, 2012; Lippard, 1988). In contrast, Hooper and Bell (1984) argue that not all deception requires lies. A potential deceiver may use certain truths as a way of deceiving an individual (e.g., a con artist who strategically tells a potential victim the truth, but with the intention to disguise a hidden agenda). Further, Afifi, Caughlin, and Afifi (2007) explain how the use of strategic truths, such as not telling explicit lies by keeping them a secret (e.g., the cliché example of a spouse asking her husband if her pants make her look overweight), should not be considered deception at all. They argue if being selective with whom to disclose information is an act of deception, then almost all interpersonal communication is deceptive. Goffman (1959) asserted that attempting to manage identity by avoiding a specific impression is deceptive in its own regard (e.g., a student who is able to answer all the questions asked in class by a
teacher, because they are secretly using the internet to quickly find the right answers). Clearly there are different views about the behaviors that constitute deception.

The current parameters and functions of the different types of deception, including the names of the different deception types, have been as inconsistent as the definition of deception itself. For instance, selectivity in what information is included or excluded has been labeled a form of deceptive “withholding” (Dunleavy et al., 2010), “concealment” (Horan & Dillow, 2009), “omission” (Peterson, 1996), and as forms of “subtle” (Feldman, Forrest, & Happ, 2002) or “antisocial” (Bussey, 1999) lies. The various other subtypes of deception often lead to the same over-saturation of definitions, while attempting to explain the same phenomenon. The previous example is just one of many that demonstrate the clear inconsistencies of defining the multitudinous facets of deception (Bryant, 2008; Camden, Motley, & Wilson, 1984; DePaulo, Kashy, Kirkendol, & Wyer, 1996).

The multiple approaches to defining deception and to classifying its types are clearly dissonant and a clear definition is necessary for the completion of this study. For the purposes of this investigation, deception will be defined as "a conscious, knowing, intentional, or deliberate action...That action is designed to mislead another, or to get another to believe something that the deceiver believes to be false" (Levine, Massi-Lindsey, & Asada, 2003, p. 210). This definition of deception is consistent with numerous scholarly recommendations regarding which criteria should be included while defining deception, such as; a focus on the deceiver's motive(s) and the intention(s) of the lie (see Dunleavy et al., 2010; Feltzer, 2004; Horan & Dillow, 2009; Lindskold & Walters, 1983).

Several studies have investigated the use of deception in the classroom context and used varying definitions and typologies. Table 1 illustrates a candidate deception typology
Table 1. Typology of Deception Types by Motive

<table>
<thead>
<tr>
<th>INFORMATION MANIPULATION MOTIVE</th>
<th>INFORMATION OMISSION/QUANTITY</th>
<th>INFORMATION FABRICATION/QUALITY</th>
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<tbody>
<tr>
<td>SELFISH (may or may not harm other)</td>
<td>SELFISH OMISSIONS</td>
<td>SELFISH FABRICATIONS</td>
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<tr>
<td></td>
<td>· Bad behaviors</td>
<td>· Bad behaviors</td>
</tr>
<tr>
<td></td>
<td>· Wishes</td>
<td>· Wishes</td>
</tr>
<tr>
<td></td>
<td>· Making oneself look good</td>
<td>· Making oneself look good</td>
</tr>
<tr>
<td></td>
<td>· Exploitative</td>
<td>· Exploitative</td>
</tr>
<tr>
<td></td>
<td>· Hurting another</td>
<td>· Hurting another</td>
</tr>
<tr>
<td></td>
<td>· Influencing officials (no harm)</td>
<td>· Influencing officials (no harm)</td>
</tr>
<tr>
<td>ALTRUISTIC (may or may not disadvantage self)</td>
<td>ALTRUISTIC OMISSIONS</td>
<td>ALTRUISTIC FABRICATIONS</td>
</tr>
<tr>
<td></td>
<td>· Distressing information</td>
<td>· Distressing information</td>
</tr>
<tr>
<td></td>
<td>· Saving/Protecting others</td>
<td>· Saving/Protecting others</td>
</tr>
<tr>
<td>MIXED-MOTIVE (may advantage or disadvantage the self and/or the other at the same time)</td>
<td>MIXED-MOTIVE OMISSIONS</td>
<td>MIXED-MOTIVE FABRICATIONS</td>
</tr>
<tr>
<td></td>
<td>· Wishes</td>
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<td>· Bad behaviors</td>
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<td></td>
<td>· Saving/Protecting others</td>
<td>· Saving/Protecting others</td>
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</table>

based on several existing typologies (Bryant, 2008; DePaulo et al., 2004; Levine et al., 2003; Lindskold & Walters, 1983; Seiter, Bruschke, & Bai, 2002). More complex typologies have also been suggested (e.g., Phillips, Meeks, & Vendemia, 2011), but such typologies often make scholarly distinctions that might be challenging to operationalize in everyday deceivers’ perceptions. The typology in Table 1 provides a good framework that allows richness, yet avoids undue complexity.

Previous research explaining the different motives for deception can be classified into two general themes (Bryant, 2008; DePaulo et al., 2004; Erat & Gneezy, 2012; James, Wood-Mitchell, Waterworth, Mackenzie, & Cunningham, 2006; Seiter et al., 2002): (1)
deception that is intended to be minimally harmless, and perhaps even helpful or benign to others (altruistic), and (2) deception that is intended to be helpful to the self, but may knowingly cause harm or disadvantage to others (selfish). A third category of "mixed motive" is included for motives that may reflect competing, ambivalent or ambiguous motives and effects on interlocutors. An example of a mixed motive deception could be a scenario in which a student is lying to a teacher to cover for a friend who claims to have missed class because of personal illness, when in fact the student was malingering. The lie could be considered harmful (selfish) to the teacher because it is exploiting the teacher’s trust in the student and the teacher’s need to maintain the fairness of academic assessment. At the same time it is altruistic because it is saving a friend from the harmful consequences of missing class.

**THEORETICAL FRAMEWORK**

The multifaceted nature of deception has created a phenomenon that has become elusive of an interdisciplinary agreed theoretical explanation. Multiple theories explaining deception in human behavior have been presented in the past, but the majority of these theories are developed to support deception detection in FtF contexts (Guerrero & Floyd, 2006; Levine et al., 2003) and even less is known about how the use of CMC influences interpersonal deception and deception detection. Although no theory of deception will be presented that claims to account for all of the hypothesis in this study, three prominent and uniquely applicable theories will be identified.

This study does not set forth to test any of the theories presented. These theories are provided for a greater understanding into the process of detecting deception and the motives and rationalizations of a deceiver. The main focus of this study is on deception detection and
an individual’s motivation(s) to deceive, making the following theories relevant for this thesis. The first theory presented below focuses on deception detection from the standpoint of the receiver. The second and third theories focus on the motives and cognitive rationalizations of the deceiver.

One of the first scholarly explanations on the process of detecting deception in interpersonal communication is Ekman and Friesen's (1969) Leakage Hypothesis. Although this explanation is titled as a hypothesis, scholars often refer to it as a theory because of its prominence in deception detection research (see Bond & DePaulo, 2006; Warren, Schertler, & Bull, 2009). Leakage hypothesis assumes when an individual engages in deception there will be physiological arousal for the deceiver that can be identified through their facial expressions. These facial expressions are categorized into subtle expressions and micro-expressions. Subtle expressions are associated with low intensity emotions and are fragments of natural muscular expressions. Micro-expressions are full muscular expressions that are only noticeable for a fraction of a second (Warren et al., 2009). Two studies have shown these expressions to be highly correlated with detecting deception in FtF contexts (Ekman & O’Sullivan, 1991; Frank & Ekman, 1997), however these results have not been replicated since (Warren et al., 2009).

Additionally, recent studies have demonstrated physiological arousal occurs in many interactions where no lie is being told, and using physical indicators to detect deception is an inadequate means of detection (Akehurst, Kohnken, Vrij, & Bull, 1996; Park, Levine, McCormack, Morrison, & Ferrara, 2002). Furthermore, when an individual uses CMC as the medium for deception there are often little to no observable physical signs. Leakage hypothesis is limited in its ability to explain deception detection when nonverbal cues are
absent. When a teacher is attempting to detect student deception that is employed through an e-mail channel, the scope of leakage hypothesis is breached. Since the primary means of detecting deception are through nonverbal cues and e-mail is absent of these cues, students will likely find e-mail channels most enticing when sending deceptive messages. With teachers believing they will have less ability to detect student deception when the message is employed via e-mail compared to FtF.

Interpersonal Deception Theory (IDT), developed by Buller and Burgoon (1996), attempts to explain how deception is used in human interaction, taking into account individual factors such as emotion, context, motivation, goals, and cognitive abilities. IDT is the primary theory explaining how deception functions in interpersonal communication, on a macro-level. The basic assumption of IDT is deception is a dynamic communicative process between a sender and a receiver, with deceptive communication being categorized by three dominant strategies; falsification, concealment and equivocation. IDT posits eighteen propositions that frame the relationship of deception in interpersonal communication, specifically focusing on the motives of a deceiver.

According to IDT the motives of a deceiver are largely influenced by preinteraction factors, such as goals, knowledge and expectancies. If a student has a goal to receive an “A” in their class and believe they are only capable of achieving this grade by cheating, they will then rely on their knowledge and expectancies of deception to accomplish this goal. Extending from leakage hypothesis, students may realize using e-mail eliminates a teacher’s ability to rely on nonverbal indicators when attempting to detect deception. If a student believes the most effective way to deceive their teacher is through email, this would be the medium used.
DePaulo, Ansfield, and Bell (1996) compliment Buller and Burgoon's (1996) IDT for its comprehensive overview of how deception functions in interpersonal communication, but question its explanatory power due to conceptual ambiguity. While IDT does a laudable job in explaining interpersonal deception, it still remains vulnerable to the complexity of deception in human communication. There is a plethora of factors that affect an individual’s motivation to use deceptive behavior (e.g., intimacy between sender and receiver, perceived credibility of deceiver, receiver’s truth biases, role of CMC, etc.), however IDT is unable to account for all of these.

While the large majority of individuals believe cheating is wrong, they still engage in this form of deviant behavior, frequently justifying their actions. Sykes and Matza's (1957) Techniques of Neutralization Theory (TNT) provides a theoretical lens to understand the rationalization behind an individual’s decision to engage in deception. Although TNT was originally formulated to account for the cognitive processes of juvenile delinquents and used in the field of criminology, it has expanded to explain human behavior throughout other disciplines (Maruna & Copes, 2005). The general assumption of TNT posits society has inherent views on the way an individual should behave, and an individual feels pressure to conform to these ideals. When an individual acts outside of the norm, they develop feelings of deviancy, creating internal discomfort. TNT explains how individuals alleviate this discomfort or guilt by convincing themselves that their actions to engage in deceptive behavior are justified, based upon five categories of neutralization techniques (Brent & Atkisson, 2011). These categories are: (1) Denial of responsibility, (2) Denial of injury, (3) Denial of the victim, (4) Condemnation of the condemners, and (5) Appeal to higher authorities. If a student decided to cheat on an exam by copying the student next to them,
they may rationalize their behavior by telling themselves their actions do not hurt anyone (i.e. using a denial of injury technique), even if in reality this is not the case. This ultimately reduces or eliminates any moral obligations that would create feelings of guilt from that behavior.

**TECHNOLOGY, TRUTH, AND TEACHING**

Research about deception dates back to the late 1800s, when a few major psychologists began to conduct research on the topic (Hyman, 1989). Interest in understanding deception dwindled rapidly due to its black box conceptualizations and a move in the social sciences toward overt behaviors. Research on deception resurfaced, however, during the cognitive revolution in the 1950s (Hyman, 1989). Deception research continued to span across multiple disciplines (e.g., communication, anthropology, sociology, psychology, philosophy), further contributing to the incongruous lexicon of deception (Dongen & Fainzang, 2002). Deception is, by any definition, a communicative act (Goffman, 1959). Thus, interest continues in the connections between deception and psychological and communication processes.

**Deception in Communication**

The act of communicating involves decisions about what should be said, how it should be said, what should be included, what should be left out, and how the result of these decisions should be expressed. "Issues bearing on lying and deception impact every act of communication we undertake and our evaluation and analysis of every message we process" (Knapp, 2008, p. vii). On average, Americans lie one or two times a day, based on a lie being defined as an intentional act to mislead someone where actual deception occurs (DePaulo, Kashy, et al., 1996). Serota, Levine and Boster (2009) found, however, that this average is
predominantly due to prolific liars who tell a much larger number of lies per day than most people. Deception consists of more than just lies (Hooper & Bell, 1984), which means the total frequency of deceptive behaviors committed daily should be higher than the average of deceptive acts for explicit lies alone. The frequency of deception has been demonstrated through its multiple facets, as well as through the evolving stages of an individual's life.

Looking at deception along an individual's lifespan shows it is not just prevalent in adulthood, as children from a very young age have been found to deceive others as well (Lewis, Stanger, & Sullivan, 1989). As children are introduced into education systems the influence of being around other children provides more opportunities for deception. In addition, the new role of interacting with a teacher figure provides another channel for deception. As children become older, are held more accountable by their teachers, and attempt to become socially likable, the motives for deception may increase (Strong et al., 2002). The motives for deception may continue to increase into adulthood due to workplace responsibilities (Bryant & Sias, 2011; Dunleavy et al., 2010) and greater pressure on future outcomes (Taylor, 1992). The need to strategically communicate via deception may arise out of the consequences of telling the truth, especially when careers and supporting a family may be on the line (Payne, 2007).

**Deception in Childhood, Adolescence and Young Adulthood**

In an individual's lifespan one of the first opportunities to observe deception is at the age where children begin to first communicate verbally, and start to understand the social identity demands of interaction contexts. At around the age of four to five, children begin to understand the difference between lies and truths (Strichartz & Burton, 1990; Taylor et al., 2003). Even though children can differentiate a lie from a truth, they still engage in
deception, usually with their parents (Hyman, 1989). Much to the dismay of the parents who generally advocate the importance of telling the truth, children continue to engage in deceptive communication, with limited deterrence from the admonitions of their parents (Bussey, 1999).

One explanation for deceptive communication being used by children is the incapacity of children to understand the intentions of false statements they hear their parents using (Newton, Reddy, & Bull, 2000). At times children will likely overhear their parents telling false statements to other adults. This may create an impression that deception is an acceptable act. Children may become confused by the cognitive conflict between what their parents tell them and what their parents’ behavior suggests (Broomfield, Robinson, & Robinson, 2002). This may further perpetuate a perceived acceptability to use deception in communication. As a child begins school the role of deception in their communication will continue to evolve.

**Deception in the Classroom**

The educational system consists of regular communicative interactions between teachers and students. As students are presented with time requirements and pressure to receive good grades for their work, their incentives to cheat through deceptive behaviors increase (Franklyn-Stokes & Newstead, 1995). This context provides ample opportunity for deception to occur, with various implications. The prevalence of students who admitted to engaging in deception with their teachers has been found to be as high as 76% (Davis, Grover, Becker, & McGregor, 1992).

With additional channels now being used for student to teacher communication (e.g., e-mail & online platforms), the prevalence of deception may be higher. This may become
problematic for teachers who want to fairly grade their students and offer help based on a student’s true strengths and weaknesses (Reinhard et al., 2011). As class sizes and pressures for students to perform well increase, deception may become even more sophisticated and challenging for teachers to detect.

Although over 90% of students believe cheating is wrong, large percentages still admit to doing it (Davis et al., 1992). The rationalizations underlying this paradox may reflect a parsing of the acceptability of particular types of deception for particular contexts (Lindskold & Han, 2001; Seiter et al., 2002). Students tend to perceive deceptive acts that have no malicious intent and do not cause an explicit loss or harm to another individual, as more acceptable (DePaulo et al., 2004; Hooper & Bell, 1984). The motives for these deceptive acts are perceived as the most important factor in determining the seriousness and appropriateness of deception (Seiter et al., 2002). The more altruistic the act, the more it is perceived as an acceptable form of deception. Seiter et al., (2002) found U.S. students rate the acceptability of selfish lies targeted at a teacher, which harm another, as a 1.5 on a 9 point scale, and rate the acceptability of altruistic lies that benefit the other at a 4.3, in the same teacher-to-student relationship. The closer the relationship between the student and the teacher, however, the less likely the student feels comfortable telling a lie to the teacher (DePaulo & Kashy, 1998). Relatively ignored in such findings are other factors that may moderate the perceived acceptability of deception. For example, the perceived likelihood of not being caught may make deception more appealing.

The ability for a sender to psychologically distance self from the deceptive message and the receiver, may alter self-perceived responsibility for the consequences of the message. Technologies that are perceived to alter the risk of detection and disemboby the sender from
the message may moderate the perceived acceptability and likelihood of using deception. Given the expansive availability and use of CMC in educational contexts, it is important to consider how such technologies may be altering the uses and orientations to deception.

**DECEPTION IN COMPUTER-MEDIATED COMMUNICATION**

Computer-mediated communication (CMC), which consists of e-mail, video-conferencing, and instant messaging (IM), has grown tremendously over recent years (George & Carlson, 2010). The internet is used by 78% of adults and 95% of teenagers, with multiple methods of accessing the internet (e.g. cell phone, laptop, tablet) available to more individuals than ever before (Zickuhr & Smith, 2012). IMing has become one of the most used media in CMC. Lenhart, Lewis, and Rainie (2001) estimate that 13 million youth and 44% of online adults have used IM services at some point in their lives; with the prevalence of deception by teens in IM interactions at 26%. There are channels of CMC, consisting of members from all around the world, that have for the first time reached over a billion users (e.g. Facebook) (Thier, 2012). The prevalence of individuals using e-mail, video-conferencing, social networks, text messaging and IM, should continue to increase as technology gets cheaper and CMC becomes more frequent in everyday life.

With an increase in the use of CMC, deception should become more prevalent given the additional media available. Carlson and George (2004) found that between 8% and 17.5% of respondents admitted to using deception through e-mail or voicemail. However, engaging in deception through the medium of e-mail does not necessarily guarantee a high probability of success. It's possible that people realize the increased potential of deception via e-mail, which may result in a greater suspicion in receiving such messages and a corresponding mitigation of successful e-mail deception through this medium. Burgoon et al. (2010)
differentiate types of CMC and their effect on deception and its detection by categorizing them as asynchronous or synchronous. In synchronous (real-time) CMC, such as IM, individuals feel greater connectivity, mutuality, and perceived similarity; increasing trust between the sender and receiver. Asynchronous communication, like e-mail, creates a higher propensity for individuals to feel disconnected, and may limit the degree of perceived trustworthiness (Burgoon et al., 2010). This may make deception through e-mail more difficult to achieve due to a potential target being more suspicious of a message through an asynchronous channel. The relationship between the target and the deceiver is likely to affect the prevalence and perceived effectiveness of deceptive behavior.

Individuals are most likely to tell lies through e-mail, when the message receiver or destination is not well-known to them (Whitty & Carville, 2008). Using e-mail for deception reduces the amount of visible nonverbal cues and immediacy between individuals, making lying easier to engage in than in FtF settings. In a student-to-teacher relationship, the level of familiarity between the interactants is generally not high, leading to the following hypothesis:

- H1: Students prefer engaging in deceptive acts with their teachers through e-mail more than through face-to-face interactions.

Additionally, deception through e-mail is generally considered preferable compared to FtF because of a user's ability to edit a message as needed before it is sent to a receiver (George & Robb, 2008). Using e-mail allows more time for a message to be generated and deception to be strategically planned. A student attempting to deceive a teacher is likely, therefore, to perceive the deceptive message as more effective if it has been well thought out and planned. This leads to the next hypothesis:

- H2: Students perceive deceptions with teachers more effective through e-mail than through face-to-face interactions.
Although students will prefer telling lies through e-mail, and perceive them as more effective, they are still likely to admit using deception with teachers with greater prevalence through FtF channels overall. Generally, the majority of interactions between students and teachers will occur in synchronous, or FtF contexts. As a caveat, a larger class size may require more interactions to be conducted asynchronously, due to a teacher's time resources. Synchronous channels present more spontaneous opportunities for deception, and many lies occur spontaneously (Whitty & Carville, 2008). Take for example, a teacher asking a student how that student’s final project is going and the student responds by saying, "It’s coming along very well. I'm almost done," when in reality they have not even started the project. A student may feel the need to impress the teacher and not be seen as a slacker, necessitating the use of deception.

The greater prevalence of FtF interactions creates more opportunities for deception to be employed as a desirable behavior by a student. As posited in H1, students will prefer engaging in deceptive acts via e-mail when asked to consciously think about the ideal medium for deceiving their teachers. However, the greater prevalence and spontaneous nature of FtF contexts will lead to greater reported use of deception in FtF settings than e-mail. The previous assertion leads to the following hypothesis:

- H3: Students engage in deceptive behaviors with their teachers through face-to-face interactions more than through e-mail interactions.

Individuals feel uncomfortable telling lies in close relationships and when a lie is told it is generally altruistic (DePaulo & Kashy, 1998). In a close relationship between two individuals the intent of the lie will influence the prevalence. The most important factor determining the use of deception is the perceived permissibility of the lie (Lindskold & Han, 2001). When an individual deceives it is the intent of the lie that may bring shame or
enjoyment for the deceiver (Caspi & Gorksy, 2006; Seiter et al., 2002). If the lie is malicious or selfish, the individual deceiving will likely feel shame; if the deceiver has an altruistic intention, the lie is more likely to bring enjoyment, or at least a higher degree of comfort. The previous reasoning leads to the following hypothesis:

- **H4a:** Students perceive altruistic lies as more appropriate than selfish lies in e-mail interactions.
- **H4b:** Students perceive altruistic lies as more appropriate than selfish lies in face-to-face interactions.

Although the use of CMC provides more channels for deception to be used, the type of lie (altruistic or malicious) influences the frequency of deceptive behaviors (DePaulo & Kashy, 1998; Lindskold & Han, 2001). When a lie is perceived as altruistic there is less guilt felt by the deceiver, increasing the likelihood of a lie being told. Students have a tendency to redefine the use of malicious deception as altruistic, even if it would generally be considered malicious by others (Brent & Atkisson, 2011). The majority of research on the perceived acceptability of altruistic lies versus selfish lies has relied on student samples (Caspi & Gorsky, 2006; Lindskold & Han, 2001; Seiter et al., 2002). This leaves a gap in understanding the perceptions from a teacher's perspective, leading to the following research question:

- **RQ1:** Will teachers perceive altruistic lies from students as more appropriate than selfish lies?

In educational contexts, deception in CMC is more frequent in young users (Caspi & Gorsky, 2006). In a college context, students have more pressure to maintain a positive, likable image in front of their peers and teachers (Goffman, 1959; Rycyna, Champion, & Kelly, 2009). These pressures may increase the likelihood of a student engaging in deception. In addition to college students feeling the need to maintain a good image in front of their
peers, the pressure to academically succeed may also contribute to deceptive behaviors (Franklyn-Stokes & Newstead, 1995). The increasing role of e-mail in classroom management systems provides a convenient medium for students’ that has fewer contextual cues and social presence, making it an ideal medium for deception (Whitty & Carville, 2008). The increasing use of e-mail by students in educational contexts (Davis et al., 1992) and the ability to reduce behavioral and emotional engagement and risks (Burgoon et al., 2010), leads to the following research question:

- **RQ2**: Will students perceive a difference in the appropriateness of deceptive acts with their teachers based on medium (i.e., e-mail vs. FtF)?

Examining the particular strategies and motivations for students using CMC to cheat in school is important, especially given that the prevalence of cheating by students being found as high as 76%, and a great deal of communication between students and teachers occurring through e-mail (Davis et al., 1992).

**DECEPTION DETECTION**

Deception has been identified as a regularly occurring behavior in most of daily interaction that is generally difficult to detect. The implications of deception have been shown in multiple contexts, including the inability for teachers to fairly grade and teach their students in the most efficient manner (Reinhard et al., 2011). From a legal standpoint, detecting deception remains an important element in judicial settings (Boyd, McLearen, Meyer, & Denney, 2007). On a broader level the ability to eliminate or reduce deception has the potential to alleviate feelings of mistrust and increase an individual’s competency in communication with others (Langleben, 2008). Despite extensive research on deception detection, the consensus among scholars is that the ability to detect deception is only slightly better than chance for lay observers (Park et al., 2002). Meta-analyses on deception detection
show between a 54% to 57% mean accuracy rate (Bond & DePaulo, 2006; Hartwig & Bond, 2011; Kraut, 1980). Considering guessing at chance creates a 50% likelihood of accuracy, 54% to 57% is not impressive.

There are multiple ways for an individual to attempt to detect deceptive behavior, such as from verbal, nonverbal and physiological cues (e.g., contradictions in messages, comparing what is known to what is said, pitch, response latency, eye contact, nodding, leg movement, and increased heart rate) (Blair, Levine, & Shaw, 2010; Sporer & Schwandt, 2006, 2007). From a psychophysiological approach deception should be observable in autonomic nervous system responses (Jung & Lee, 2012). This is the basis for using polygraphs and neuroimaging techniques to detect deception by individuals (e.g. Hartwig & Bond, 2011). However, there is criticism about the accuracy of polygraphs due to certain individuals being able to suppress any signs of nervousness (National Research Council, 2003). When an individual is able to suppress signs of nervousness, there are cognitive cues that may identify deceptive behaviors (e.g. eye blinking) (Leal, Vrij, Fisher, & Van Hooff, 2008). Methods including the use of electroencephalogram (EEG) alpha desynchronization (ERD) and functional magnetic resonance imaging (fMRI) may be able to detect the cognitive identifiers that infer deceptive behaviors (Fink, Grabner, Neuper, & Neubauer, 2005; Langleben et al., 2002). However, Henry and Plemmons (2012) question the efficiency of using experimental settings and controlled conditions to replicate real-world scenarios of deceivers’ brain activity. Using an experimental setting to investigate deception detection oversimplifies the contextual contingencies that could influence an individual's brain activity during acts of deception. A professional or experienced criminal will most likely not have the same brain activity as a participant in a lab setting. Furthermore, for a teacher or employer
attempting to detect deception by their students or employees it is highly unlikely they will have access to psychophysiological or cognitive measurement systems.

A more traditional approach to detecting deception has been to focus on the verbal (Blair et al., 2010; Sporer & Schwandt, 2006) and nonverbal behaviors of the deceiver (Park et al., 2002; Sporer & Schwandt, 2007). However, the actual ability to detect lies via verbal and nonverbal indicators has been consistently determined to be inadequate (Akehurst et al., 1996; Park et al., 2002). Leal et al. (2008) found that individuals who were telling lies had a tendency to increase the amount of times they blinked their eyes. However, a limitation was noted that the significance of eye blinks was only recorded in low-stake lies, and needs to be further investigated in high-stake lie situations. Many individuals believe they can detect lies by observing a potential deceiver’s verbal and nonverbal idiosyncrasies, but this has not been consistently supported empirically (Akehurst et al., 1996; DePaulo, 1992). Furthermore, when deception may be occurring through CMC the ability to detect deception by observing physiological, cognitive, verbal, and nonverbal behaviors is problematic from a lack of their existence.

The multiple contexts available for deception to occur, and the relationship between the deceiver and the target, changes the ability of an individual to detect deception (Frank & Ekman, 1997). In FtF interactions there are more cognitive demands and observable behaviors than in most CMC interactions. This allows a slight advantage in detecting deception via FtF, although the ability to detect deception still remains slightly above chance (Park et al., 2002). Along with the context, the type of lie (altruistic or malicious) can affect deception detection (Feeley, 1996). Lies perceived as altruistic are harder to detect because the prosocial motivation means there is less fear of the consequences of getting caught, the
lies are typically less planned, and there are fewer verbal and nonverbal indicators signaling that deception may be present.

The type of relationship and the closeness between the individuals will decrease or increase the ability to detect deception (Horan & Dillow, 2009). The closer the relationship between two individuals, the harder it may be to detect deception because of an individual's belief that a close friend or partner would not lie to them. Similarly, in less intimate relationships like student-to-teacher, teachers often have difficulty detecting deceptive behaviors in FtF interactions with their students, because of their biases that they are experts in detecting student cheating (Reinhard et al., 2011). Teachers may rely on stereotypical cues that indicate deception, such as eye-contact, eye-blink and nervousness as signs that a student may be lying to them. However, these stereotypes are not accurate predictors for detecting deception (Sporer & Schwandt, 2007; Vrij, Granhag, & Mann, 2010). Although the actual accuracy of detecting deception may be slightly better than chance, teachers’ perceptions of detecting deception through the use of verbal and nonverbal cues with their students should be high, leading to the following hypothesis:

- H₅: Teachers perceive greater self-ability to detect student deception through face-to-face interactions than through e-mails.

A teacher's belief that student FtF deceptions are easier to detect implies that there would be less ability to detect deception through e-mail. This suggests the next hypothesis:

- H₆: Teachers perceive student deceptions through e-mail as more effective than through face-to-face interactions.

In the CMC context, and especially in e-mail, the ability to detect deception is typically the most difficult (Carlson & George, 2004). In e-mail interactions there is an ability to plan and rehearse messages more so than in FtF interactions. The element of planning and rehearsing makes it more difficult to detect deception for an individual (Bond &
DePaulo, 2006; Burgoon et al., 2010). Clearly there is evidence supporting the advantages of using e-mail instead of FtF channels for engaging in deception and not being detected.
CHAPTER 2

METHOD

A total of 107 (n = 51 males, n = 56 females) student respondents participated in a pilot study to determine the most realistic, altruistic and selfish deception scenarios to be used for the main study. The pilot study was conducted over a two-week period in February of 2013, using Qualtrics, an online survey tool. Participants were recruited from an introductory communication course at San Diego State University. After IRB approval was granted to conduct a pilot study (see Appendix A), an e-mail was sent to potential participants through the university’s e-mail system that provided a link to the survey. The first page of the survey was an informed consent form that explained the nature of the survey and assured confidentiality for the respondents (see Appendix B). Instructors may have offered extra credit to the participants for taking the survey. Any individual who participated in the pilot study was exempt from participating in the main study.

The pilot study consisted of demographic questions and 25 different deception scenarios that involved a student engaging in a type of deceptive behavior toward their teacher. These scenarios were written by the author based on conversations with students and teachers discussing past experiences with deceptive behaviors. Suggestions were offered based on actual scenarios that have occurred or are thought likely to occur. For example, one of the scenarios read as follows:

- Your classmate calls you the night before your class and tells you to cover for them while they take the next class off by pretending to be sick. Your classmate specifically requests you tell your teacher you saw them the night before and they were really sick.
After each scenario the respondent was prompted by a series of four 9-interval semantic
differential items to indicate how "unrealistic—realistic"; "not typical—typical"; "selfish—
altruistic" and "beneficial to self—beneficial to other" they believed each scenario to be (see
Appendix C).

From the participant responses the scenarios were ranked in order of how “realistic”
the respondents perceived each one to be. Using the highest ranked scenarios in realism, the
five scenarios ranked as most “altruistic” and the five ranked as most “selfish” were chosen
for the main student survey.
CHAPTER 3

MAIN STUDY

SAMPLE
Two separate main studies were conducted following approval from the IRB and analysis of the data from the pilot study. Both main studies were conducted using Qualtrics, over a two-month period starting March of 2013. One study was for current undergraduate college students and one was for college teachers.

Student Sample
For the student study participants were 409 undergraduate students ($n = 208$ females, $n = 201$ males, $M = 19.44$ years, $SD = 2.49$, age range: 18-44 years) enrolled in communication courses at a large, southwestern university. The majority of student participants were enrolled in a general education, introductory communication course and came from a myriad of academic backgrounds. In regard to class level, 75.6% were freshman, 7.1% sophomores, 7.6% juniors, and 9.8% were seniors. The most prevalent ethnicity category chosen was European American/White (43%), followed by Hispanic/Latina/Latino (18%), Asian American (17%), Middle Eastern (8%), other (8%), and African American/Black (4%).

Student participants were recruited through e-mail notifications and/or oral announcements from their teachers that provided a link to the survey. Instructors may have offered extra credit to their students for participating in this study. Considering this study was investigating student deception, it was essential an informed consent from be provided before students had access to the actual survey that explained their rights as a participant. The
informed consent assured participants all responses would be confidential and they had the right to stop taking the survey at anytime for any reason. Furthermore, throughout the survey reminders were included that all responses are confidential and it was important to answer honestly.

**Instructor Sample**

Participants in the teaching sample were 88 professors, lecturers, or graduate teaching associates (n = 42 males, n = 46 females) teaching at a large, southwestern university, across multiple disciplines. The average amount of years taught was (M = 11.91, SD = 13.63). Participants were asked which category best described their ethnic background. The most prevalent ethnicity category chosen was European American/White (70.5%), followed by Hispanic/Latina/Latino (13.6%), other (8%), Asian American (2.3%) and African American/Black (1.1%).

The teacher sample was recruited by e-mails sent out from the principle investigator that briefly explained the survey, in a way that wouldn’t influence responses, and provided a link to the survey. E-mail addresses were obtained through the university’s public faculty database. The first page of the teacher survey was an informed consent form explaining participant anonymity, potential risk and benefits of the study, and the right to withdrawal from the survey at anytime without consequence. No incentives were offered to the instructor sample for their participation.

**Procedure**

The student sample was asked to report on preference, the appropriateness, and the effectiveness of using deceptive behavior FtF vis-à-vis e-mail, in ten scenarios. Additionally, questions were asked about their overall use of deception and the appropriateness of a lie
based on motive(s). The teacher sample was asked to report on the appropriateness of student deception, based on type of lie (altruistic vs. selfish) and medium (FtF vs. e-mail), their ability to detect deceptive behavior through e-mail vis-à-vis FtF channels, and the effectiveness of student deception.

**Measures**

The following measures were used for the student and teaching sample and are explained in detail below.

**STUDENT-PREFERENCE, EFFECTIVENESS, APPROPRIATENESS AND COMPETENCE RATINGS FOR DECEPTION MEDIUM**

To measure the extent to which students preferred to use, found effective, and perceived as most appropriate, when using either e-mail or face-to-face (FtF) contexts when deceiving instructors, a set of preference, effectiveness, and appropriateness ratings across scenarios was used. Based on the results of the pilot study, a list of the 10 scenarios that best balanced familiarity and realism were selected (see Appendix D). These scenarios illustrated a type of deceptive behavior between a student and a teacher and equally reflected altruistic and selfish motives. For example, the first scenario was:

- You and your classmate are working on a group project, your partner has done none of the work and although you are okay with this you must provide your teacher with a peer score on your partner's contribution to the project. You decide to tell your teacher your partner deserves a 10/10 for their part of the project even though they really deserve a 1/10.

For each scenario, respondents were asked to respond on a 7-point Likert-type scale. The respondent was asked to rank each scenario based on *preference* (strongly disprefer-strongly prefer), *effectiveness* (extremely ineffective-extremely effective), and *appropriateness* (extremely inappropriate-extremely appropriate), when the behavior is being employed face-
to-face and through e-mail. The e-mail preference ($\alpha = .82$) and the ftf-preference ($\alpha = .80$) scales were calculated by averaging across the scenarios. The appropriateness and effectiveness of each medium was calculated by averaging across the respective scales for each referent. The scales were found to be reliable for effectiveness in $FtF$ ($\alpha = .81$) and $CMC$ ($\alpha = .80$) and appropriateness in $FtF$ ($\alpha = .80$) and $CMC$ ($\alpha = .79$).

**STUDENT-DECEPTION MOTIVE TYPE PREFERENCES AND APPROPRIATENESS**

Given the theoretical nature of the motive distinctions, it was deemed necessary to provide definitions of altruistic and selfish lies to help anchor respondent ratings (see Appendix E) and respondents were asked questions about how many times they have used each type of lie and through what medium. Additional questions were asked about the appropriateness and effectiveness of each type of lie in general and based on specific medium. All measures were calculated by averaging across the respective preference, appropriateness, and effectiveness scales. The scales were found to be reliable for altruistic-omission preference ($\alpha = .83$), altruistic-fabrication preference ($\alpha = .85$), selfish-omission preference ($\alpha = .85$), selfish-fabrication preference ($\alpha = .85$), deception types appropriateness ($\alpha = .74$), deception types overall use ($\alpha = .74$), deception types FtF use ($\alpha = .72$), and deception types e-mail use ($\alpha = .82$).

**STUDENT-SOCIAL DESIRABILITY**

Given the social undesirability of admitting to engaging in deception, a social desirability scale was adapted from Paulhus’ (1984) measure. The adapted measure consisted of 13 items, responded to on a dichotomous “True/False” response scale. The original measure contains 2 factors (self-deception and impression management) and 20 items. From
the original measure 13 items were used based on their respective relevancy for a young student sample. For example, items like “sometimes at elections I vote for candidates I know little about” were excluded because it is likely that not all freshman students have voted in an election. The student-social desirability scale ($\alpha = .50$) was not reliable, but may reflect an index rather than a scale, in which case internal consistency is not relevant (Streiner, 2003a, 2003b). It will therefore be retained to examine the extent to which it covaries with other deception-relevant constructs (see Appendix F).

**TEACHER-ACCEPTABILITY OF DECEPTIVE MOTIVES**

Teachers were asked how appropriate/acceptable they perceived altruistic and selfish motives for student deception to be. Definitions of altruistic and selfish were provided for clarity of terms. Two items, both using a 7-point Likert-type scale (Extremely Unacceptable-Extremely Acceptable & Extremely Inappropriate-Extremely Appropriate) were used to assess respondent opinions about the appropriateness of deception based on motives (see Appendix G). The acceptability of motives was calculated by averaging across the scale for each referent. Reliability was significant when acceptability/appropriateness were combined for altruistic/omission ($\alpha = .90$), altruistic/fabrication ($\alpha = .89$), selfish/omission ($\alpha = .80$) and selfish/fabrication ($\alpha = .86$).

**TEACHER-DECEPTION DETECTION COMPETENCE**

The extent to which teachers believe they are able to detect student deception, based on medium, was tested using two direct single items (see Appendix H). Using a 7-point Likert-type scale respondents were asked “How likely are you to detect deception from a student when they are being deceptive through email?” and “…through face-to-face?”
Teacher perceptions on their abilities to detect deception based on medium were measured by comparing the averages across each item. Reliability was significant when both items were averaged together ($\alpha = .79$).

**TEACHER-STUDENT DECEPTION EFFECTIVENESS**

The degree to which teachers perceive students to be effective in their deception, dependent upon medium used, was determined by using four single items (see Appendix I). Respondents were asked to respond on a 7-point Likert-type scale the degree to which they thought a student would be “successful” and “effective” for deception employed through a face-to-face channel and e-mail. The perceived effectiveness and successfulness of student deception based on medium was measured by comparing the averages across the scales for each referent. Reliability was significant when both items were averaged together ($\alpha = .71$).

**RESULTS**

As a preliminary analysis, the association between constructed deception variables in the student data set and social desirability was investigated. There was no zero-order correlation above .05 in absolute magnitude, and none of these associations reached statistical significance. To the extent that the social desirability measure validly assesses that construct, the deception self-reports of students do not appear confounded with this response bias.

As a second preliminary analysis, the influence of biological sex of respondent was assessed for the student and teacher data. All constructed variables were compared across males and females, and of the 18 contrasts, two arose that were significant at the $p < .05$ level: Males ($M = 4.08, SD = 0.94$) reported a preference for FtF modes of deception
compared to females ($M = 3.85, SD = 1.02$), $F(407) = 5.72, p < .05, \eta^2 = .01$, and males ($M = 4.81, SD = 0.88$) considered FtF modes slightly more effective than females ($M = 4.63, SD = 0.95$), $F(405) = 4.01, p < .05, \eta^2 = .01$. As at least one of these effects could be expected by chance, and given their relatively small effects, it was deemed unnecessary to control for sex as a moderator variable in subsequent contrasts.

Hypothesis 1 predicted that students would prefer engaging in deceptive acts with their teachers through e-mail more than through face-to-face interactions. The “Student-preference and competence ratings for deception medium” measure, consisting of the average rating of "preference" of deception across scenarios, demonstrated a significant effect in the paired samples t-test, $t(399) = 11.01, p < .001, \eta^2 = .23, 95\% CI(M_{diff}) = (0.70, 1.00)$. Specifically, with email ($M = 4.82, SD = 1.00$) demonstrating a substantial preference relative to FtF ($M = 3.97, SD = 0.99$). Hypothesis 1 receives strong support.

Hypothesis 2 predicted that students would perceive e-mail-based deception to be significantly more effective than FtF deception. This was tested with the “Student-preference, effectiveness and appropriateness competence ratings for deception medium” measure, consisting of the average rating of "effectiveness" of deception across scenarios, using a correlated t-test. There was no significant difference in estimating the relative effectiveness of e-mail vis-à-vis FtF modes of deceiving instructors, $t(399) = -1.02, p < .001, 95\% CI(M_{diff}) = (-0.17, 0.06)$. Hypothesis 2 fails to receive support.

Hypothesis 3 anticipated that students will actually report using FtF deception more than e-mail deception with instructors. Utilizing the Student-deception motive type preferences measure, the results of a paired-samples t-test were non-significant, $t(399) = -0.88, p < .001, 95\% CI(M_{diff}) = (-0.42, -0.22)$. Hypothesis 3 fails to receive support.
Hypothesis 4 (a & b) predicted that students would generally view altruistic deception as more appropriate across FtF and CMC channels, compared to self-interested motives of deception. These predictions were tested across several relevant variables and variable combinations. First, Student-deception motive type preferences were calculated by averaging appropriateness and usage across motive scenarios. This measure represents a student’s general inclination to view altruistic/omission, altruistic/fabrication, selfish/omission, or selfish/fabrication as most preferred. Correlated $t$-tests showed that every contrast of altruistic motives differed from selfish motives. Specifically, altruistic/omission ($M = 4.54$, $SD = 1.09$) was preferred to selfish/omission ($M = 3.99$, $SD = 1.18$), $t(402) = 8.95$, $p < .001$, $\eta^2 = .20$, 95% CI($M_{diff}$) = (0.43, 0.68) and selfish/fabrication ($M = 3.75$, $SD = 1.25$), $t(402) = 10.80$, $p < .001$, $\eta^2 = .22$, 95% CI($M_{diff}$) = (0.65, 0.94). Altruistic/fabrication ($M = 4.17$, $SD = 1.14$) also was preferred to selfish/omission, $t(402) = 2.77$, $p < .001$, $\eta^2 = .02$, 95% CI($M_{diff}$) = (0.05, 0.31) and selfish/fabrication, $t(402) = 6.58$, $p < .001$, $\eta^2 = .10$, 95% CI($M_{diff}$) = (0.30, 0.55). There is a consistent tendency for students to perceive as more appropriate, and to be more inclined to report using, deception when it is altruistically motivated. This pattern was consistently replicated when only the appropriateness ratings were used across these items—altruistic motives were consistently rated more appropriate than selfish motives. Specific results are not reported here due their partial redundancy with the initial analysis reported above.

As a final approach to addressing this question, Student-deception motive type preferences were summed across altruistic (omission + fabrication) and across selfish (omission + fabrication) motives. These were then contrasted within medium using correlated $t$-tests. The results demonstrated that altruistic motives were preferred to selfish motives in
FtF contexts ($M = 8.74, SD = 2.35$) vs. ($M = 7.86, SD = 2.70$) $t(402) = 6.06, p < .001, \eta^2 = .08, 95\% CI(M_{diff}) = (0.59, 1.17)$ and in e-mail contexts ($M = 8.58, SD = 2.68$) vs. ($M = 8.19, SD = 2.77$), $t(402) = 2.80, p < .01, \eta^2 = .02, 95\% CI(M_{diff}) = (0.12, 0.66)$. Across multiple sets of items and types of contrasts, therefore, there is strong support for the hypothesis that altruistic motives are viewed as more acceptable and more likely to be acted upon relative to selfishly motivated deceptions.

The first research question asked if instructors perceive altruistic deceptions on the part of students as more acceptable than selfish deceptions. In preparation for testing this question, the reliability of summing items across “acceptability” and “appropriateness” ratings of deception motives was assessed. Given satisfactory reliabilities, these constructs were calculated, and correlated t-tests were assessed for each altruistic motive compared to each selfish motive.

Three of the four contrasts were statistically significant. Altruistic/omission deception ($M = 7.76, SD = 2.72$) was significantly more acceptable to teachers than selfish/omission ($M = 5.50, SD = 2.31$), $t(86) = 8.31, p < .001, \eta^2 = .45, 95\% CI(M_{diff}) = (1.71, 2.79)$ and selfish/fabrication ($M = 4.39, SD = 2.40$), $t(86) = 10.31, p < .001, \eta^2 = .55, 95\% CI(M_{diff}) = (2.72, 4.02)$. Altruistic/fabrications ($M = 6.0, SD = 2.65$), however, did not differ from selfish/omission ($M = 5.51, SD = 2.31$), $t(86) = 1.90, p < .001, \eta^2 = .04$. Finally, altruistic/fabrications ($M = 6.06, SD = 2.65$) were viewed as more acceptable than selfish/fabrications ($M = 4.39, SD = 2.40$), $t(86) = 6.29, p < .001, \eta^2 = .32, 95\% CI(M_{diff}) = (1.14, 2.19)$. In general, it appears that instructors provide greater latitude of acceptance of student deceptions that are altruistically motivated than those deceptions that serve the student’s interests. The exception, which is still in the expected direction, is that even
altruistically motivated fabrications are not viewed as more acceptable than selfishly motivated omissions.

Research question 2 inquired whether student-perceived acceptability (i.e., appropriateness) of deception varied by medium. This was addressed by comparing the student-rated appropriateness of deception across scenarios, by medium. The resulting correlated t-test was highly significant, $t(399) = -6.41, p < .001, \eta^2 = .09, 95\% \text{ CI}(M_{\text{diff}}) = (-0.42, -0.22)$, with e-mail ($M = 4.34, SD = 0.83$) rated lower in appropriateness than FtF ($M = 4.66, SD = 0.88$).

Hypothesis 5 predicted that teachers would generally view themselves more competent at detecting student deception when the deception was enacted through face-to-face modes than through CMC or e-mail modes. This was tested by a correlated t-test on the single items directly addressing this issue (i.e., “How likely are you to detect deception from a student when they are being deceptive through email?” vs. “How likely are you to detect deception from a student when they are being deceptive face-to-face?”). The first paired comparison was highly significant, $t(87) = -4.95, p < .001, \eta^2 = .22, 95\% \text{ CI}(M_{\text{diff}}) = (-0.92, -0.39)$, with face-to-face means ($M = 5.01, SD = 1.15$) considered more detectable than e-mail ($M = 4.35, SD = 1.27$). Therefore, hypothesis 5 was supported.

Hypothesis 6 anticipated that teachers would perceive student deceptions as more effective when enacted in e-mail interactions than in face-to-face interactions. This was tested with a correlated t-test comparing the single items directly addressing perceived effectiveness (i.e., “How successful do you think students are at deceiving their teachers when the message is employed face-to-face?” vs. “How successful do you think students are at deceiving their teachers when the message is employed through email?”). The contrast of
student success across the modalities, was significant, \( t(87) = -2.15, p < .05, \eta^2 = .05, 95\% \) CI(\( M_{diff} \)) = (-0.66, -0.03), with e-mail deceptions viewed as more successful (\( M = 4.22, SD = 1.22 \)) than face-to-face deceptions (\( M = 3.88, SD = 1.25 \)). Therefore, hypothesis 6 was supported.

For a table showing most of the possible paired-differences previously discussed in the results section see Table 2, Appendix J.

**Post Hoc**

Hypotheses 5 and 6 are conceptually related. To the extent that students are perceived as successful or effective in a modality of deception, it seems reasonable to expect that instructors would view their own ability to detect such deceptions as constrained in that same modality. This intuition is confirmed by the fact that most of the “detection ability” items were negatively and significantly correlated with instructor ratings of their perceptions of student effectiveness and success in deception. It is relevant to note that when the four items directly assessing instructor ability to detect student deception were averaged (\( \alpha = .79 \)), the mean on this measure was 3.99 out of a 7-point scale, indicating that instructors are certainly not fully confident in their abilities to detect such deception. When the “deception detection” items that were specific to medium (i.e., “Detection email-How likely are you to detect deception from a student when they are being deceptive through email?” and “Detection face-to-face-How likely are you to detect deception from a student when they are being deceptive face-to-face?”) were re-coded to be consistent with the “student success” and “student effectiveness” items (\( \alpha = .71 \)), it revealed a mean fairly correspondent (\( M = 3.83, SD = 0.82 \)) with the general detection ability items. The two scales were also highly correlated in the expected direction (\( r = -.53, p < .001 \)). The reliability and correspondence of
these measures suggest that these items may provide the basis for a usable measure of instructor confidence in detection ability in future studies.
CHAPTER 4

DISCUSSION

Despite the high moral standards presumed by institutions of higher learning, there is likely to be no shortage of deceptive activity in the educational context. The question of deception can weigh heavily upon a student when attempting to deceive an instructor, as the stakes are potentially quite high. This study sought to investigate the perceived preferences and efficacy of students attempting to deceive instructors. Before elaborating the implications of the findings, the limitations of the research need to be considered.

LIMITATIONS

Conducting a study about deception creates an immediate limitation. How can honest answers be presumed by people about their deceptive inclinations? The best way to ensure the respondents were answering honestly was to assure them all responses would be confidential and to explain the importance and purpose of conducting the research. This was repeated numerous times throughout the informed consent form and survey itself. This still does not ensure all respondents answered completely honestly and is one of the biggest limitations to conducting research on deception.

A second limitation was that the majority of the student sample was comprised of freshmen. The principle investigator intentionally targeted this population because it was the most accessible and allowed for the largest sample size. Still, this is only their first year in college and their experiences with, and opportunities for, deception are likely not as common as they would be among seniors. There is also likely to be a stigma against deceiving a
teacher (Seiter et al., 2002) and even with an assurance that all answers would be kept confidential, students who have just begun their college career may find it uncomfortable to admit to engaging in any type of deceptive behavior. In light of these limitations, the following implications of this study deserve notice.

**IMPLICATIONS**

In support of the first hypothesis, this study found that students generally preferred technological media for deceiving their teachers relative to face-to-face contexts. Current research suggests students generally find FtF interactions more satisfying and preferable than those through CMC in educational contexts (see Ocker & Yaverbaum, 1999). It appears that the additional strategic possibilities afforded by asynchronous technological media, such as planning and careful message construction without the potential leakage of nonverbal displays, is attractive to students as a deceptive technique. The fact that teachers may anticipate or expect such selection preferences does not appear to deter student preferences for this medium. This finding may additionally suggest that teachers should use more caution when student excuses, or potentially deceptive messages, are sent through e-mail and request a follow-up conversation in a face-to-face context.

Hypothesis two assumed students would perceive deception toward their teacher as more effective when employed through e-mail rather than through a face-to-face channel. This hypothesis failed to receive support, as there was no significant difference between perceived effectiveness when deception was used via e-mail compared to face-to-face. Although students reported a preference for using e-mail over face-to-face contexts when deceiving their teachers; they did not believe it increased the effectiveness of the message. It is possible that students believe teachers are privy to student deception regardless of the
medium used, yet feel more comfortable when a deceitful message can be carefully constructed and a face-to-face interaction avoided, as e-mail allows. Research demonstrates that the ability to achieve better control over their interactions is a major affordance that college students value in their communication media (Madell & Muncer, 2007). Future research could investigate other explanations for students preferring to use e-mail, but not perceiving it as more effective. Reinhard et al., (2011) explain how the characteristics of a teacher, such as how organized they are, are a significant factor for deterring or provoking student deception. A student who perceives their teacher as more organized in the classroom may prefer to use e-mail when deceiving, but not find it as more effective.

The idea that although students would prefer to use deception through the medium of e-mail they would still report using deception more through face-to-face, as articulated in hypothesis three, was not supported. Even though CMC is becoming more prevalent for student-teacher interactions, it was assumed the majority of interactions still occur face-to-face. The majority of lying is spontaneous and occurs in synchronous channels (Whitty & Carville, 2008). The proportion of face-to-face interactions relative to e-mail should create more opportunity for deceptive communication to occur in this medium and increase its prevalence. This assumption failed to receive support; potentially implying students do not feel as comfortable deceiving an instructor face-to-face, regardless of how many opportunities are present.

Heavily supported by past research (see Bryant, 2008; Bussey, 1999), hypothesis four (a and b) claimed students would perceive altruistic lies as more acceptable than selfish lies when used in face-to-face and e-mail mediums. Both subparts of this hypothesis were strongly supported. Most research on the acceptability of lies based on motives has been
conducted without investigating the influence of medium (e.g., Bryant, 2008; DePaulo et al., 2004; Erat & Gneezy, 2012; James et al., 2006; Seiter et al., 2002). Support for these hypotheses shows consistency in students’ and teachers’ perceptions of altruistic lies. When a lie is motivated by unselfish intentions it is not perceived as an unacceptable form of communication. However, individuals may interpret the motives behind a lie to be different dependent on their cognitive rationalizations. Sykes and Matza's (1957) techniques of neutralization theory explains how even if a student’s motives are socially agreed upon as selfish, the student may internalize them as altruistic and see them as acceptable. These internal justifications may perpetuate a student’s use of deception regardless of the actual motivation.

Research question one sought to find out if teachers would perceive altruistic lies by students as more acceptable than selfish lies. Current research has demonstrated that teachers perceive student deception as significantly more problematic and serious than pupils (see Reinhard et al., 2011). However, the motives behind a student’s deception were unaccounted for. This study’s findings show student lies that were perceived as serving an altruistic purpose were rated as significantly more acceptable than maliciously motivated lies. In a classroom context lying to a teacher is generally perceived as unacceptable. However, both the teacher and the student sample responded relatively favorably to the use of altruistic lies. This study provided both the teacher and student sample with the same definition of altruistic and selfish. For future research, it would be interesting to find out the different opinions between students and teachers of what constitutes an altruistic lie and what constitutes a malicious lie. Furthermore, considering lying in general has a negative connotation, if
altruistic lies are considered acceptable across the board, maybe a reconceptualization of the pragmatic ethics of deception is in order.

Research question two asked about student perceptions of the acceptability of deceptive acts based on the medium used (e-mail vs. face-to-face). The results indicated students perceive face-to-face as a more appropriate medium than e-mail for deceptive acts. These findings are intriguing when contrasted with other findings from this study. Student responses indicated that they prefer to engage in deceptive acts using e-mail, but find it less effective than deception employed using a face-to-face medium. At the same time they perceive deceptive acts through face-to-face as more appropriate than through e-mail, yet still report preferring to use the medium of e-mail for deception. One possible explanation for these findings is the student sample was thinking about the use of altruistic lies and found those to be more acceptable in a face-to-face context. Future research could explore the reasons why students would perceive face-to-face mediums as more acceptable than e-mail when using deception.

Hypothesis five posits teachers perceive greater self-ability to detect student deception through face-to-face interactions than through e-mail and was supported by this study’s findings. The ability for a teacher to see the physical characteristics of their student during an interaction likely leads them to believe they are better at detecting student detection in face-to-face interactions. It is commonly assumed by laypersons that there are physical indicators that can help determine if an individual is being deceptive, such as rapid eye blinking, increased perspiration, a shaky voice and lack of eye contact. Ekman and Friesen's (1969) leakage hypothesis supports the idea that physical cues will be present during deceptive communication. However, even with a preconceived notion by teachers that they
can better detect student deception during face-to-face interactions, research suggest the actual accuracy of detecting deception remains slightly better than chance (see Akehurst et al., 1996; Park et al., 2002). If teachers rely on physical indicators to detect student success they may become vulnerable to students who do not possess the supposed characteristics of a liar.

In support of hypothesis six, findings from this study suggest teachers perceive student deceptions through e-mail as more effective than through face-to-face interactions. This hypothesis is conceptually related to hypothesis six and was expected to follow in the same direction. If teachers assume they are better at detecting student deceptions through face-to-face more than through e-mail, it is likely they will perceive student deceptions through e-mail as more effective. Results from this study confirm this assumption. Hypothesis one highlighted the fact that students prefer to use deception through e-mail more than through face-to-face. It seems students and teachers both believe it is harder to detect deception when it is employed through e-mail. This sheds light for a need to increase our understanding of the way CMC has affected the way humans communicate with one another.

Considerable research has been conducted on deception in human interactions. However, a very small percentage of this research has focused on deception in CMC, with an even smaller amount aimed at understanding how deception in CMC is perceived by teachers and students in a pedagogical context. The findings from this study illustrate the importance of understanding the influence CMC has on teacher-student relationships. Multiple studies have shown that students engage in deceptive behavior with frequent occurrence (see Brent & Atkisson, 2011; Davis et al., 1992; DePaulo & Kashy, 1998). As the use of technology and
CMC becomes more prevalent in educational contexts, the implications from this increased usage should be taken into consideration when teachers interact with their students.
CHAPTER 5

CONCLUSION

There are many directions in which deception in the academic setting can be extended. Extensive research already established that one form of deceptive academic misconduct is widespread (Bilić-Zulle, Frković, Turk, Ažman, & Petrovečki, 2005; Davis et al., 1992; Fanelli, 2009; Hard, Conway, & Moran, 2006; Ison, 2012; Lester & Diekhoff, 2002; Selwyn, 2008). Other research has established that lying and deception are not uncommon in everyday life. To date, however, relatively little research has investigated the process of student deception of instructors, and whether instructors are aware of such student activity.

In going forward, it will become important to examine whether different types of media are differentiated in terms of deception preferences and effectiveness. Research demonstrates that there are a variety of different affordances across different media, and that media users often select different media on the basis of these affordances as they suit particular communicative needs or goals (Brandtzæg, 2010; Ku, Chu, & Tseng, 2013; LaRose & Eastin, 2004; Lee, 2010; Madell & Muncer, 2007; Rice & Hagen, 2013; Sheer, 2011; Sutcliffe, Gonzalez, Binder, & Nevarez, 2011; Wang, Tchernev, & Solloway, 2012). Similarly, different media consumers can be categorized by their patterns of familiarity, usage, and competence at communicating through new media (Horrigan, 2007; Treem & Leonardi, 2013). Future research will need to examine if different user types and different media affordances interact to reflect different prevalence and effectiveness of deception in the academic setting. Such results could facilitate how and where to concentrate approaches to
limiting the more corruptive aspects of deception, and it could inform instructors of the technological domains in which to direct their more suspicious attentions.
BIBLIOGRAPHY

WORKS CITED


**Works Consulted**


APPENDIX A

IRB APPROVAL FORM
Expeditied Approval
Reg: 45 CFR 46.110(7) -- minimal risk
Submit Report of Progress by: 1/21/14

February 21, 2013

Student Researcher: Michael McHan
Faculty Researcher: Dr. Brian Spitzberg
Department: School of Communication
Contract/grant number: N/A
IRB Number: 11.20087
Re: Digital Deceptions: Differences in the Perceived Effectiveness of Media for Deception in Educational Context

Dear Michael McHan:

The above referenced protocol was reviewed and approved as expedited in accordance with SDSU’s Assurance and federal requirements pertaining to human subjects protections within the Code of Federal Regulations (45 CFR 46). This approval applies to the conditions and procedures described in your protocol. Please notify the IRB office if your status as an SDSU affiliate changes while conducting this research study (you are no longer an SDSU faculty member, staff member or student). This approval expires February 21, 2014.

* The following approved consent form(s) have been uploaded to your protocol file within the IRB system, within the Supporting Documents section:
  - 11.20087_InformedConsent_McHan_IRB STAMPED.pdf
  - Specific to the consenting process, the IRB has waived the requirement for you to obtain a signed consent form from each subject per 45 CFR 46.116(d).

For questions related to this correspondence, please contact the IRB office (619) 594-6622 or e-mail irb@mail.sdsu.edu. To access IRB review application materials, SDSU’s Assurance, the 45 CFR 46, the Belmont Report, and/or any other relevant policies and guidelines related to the involvement of human subjects in research, please visit the IRB website at http://gra.sdsu.edu/research.php.

Sincerely,

Ramona Pérez
Chair, Institutional Review Board

Choya Washington
Regulatory Compliance Analyst
APPENDIX B

INFORMED CONSENT
San Diego State University
Consent to Act as a Research Subject

You are being asked to participate in a research study. Before you give your consent to volunteer, it is important that you read the following information and ask as many questions as necessary to be sure you understand what you will be asked to do.

Investigators: Michael McHan is a graduate student working in cooperation with Dr. Spitzberg in the School of Communication at San Diego State University. You are invited to participate in a research study they are conducting.

Purpose of the Study:
The purpose of this research study is to understand the processes deception plays in educational contexts. 400 students are being sought to participate and need not meet any special conditions other than providing their consent, being able to speak English, and being at least 18 years old.

Description of the Study:
If you decide to be in this study, you will answer a questionnaire about hypothetical deception scenarios and your attitudes and past experiences with deception. These questions will include items about your own thoughts and feelings about the scenarios, as well as the behaviors of that person. If any question causes discomfort for you, you can choose to skip that particular question.

The duration of participation will likely be 45-60 minutes at a single instance. Participation will occur online through this website.

Risks or Discomforts:
You will be asked to reflect about some issues that may be important to you and may even generate an emotional reaction. Questions may include items about negative or unpleasant topics involving a relationship with a person you know. You may choose to skip any question that you do not feel comfortable answering. Sometimes when people are asked to
think about their feelings, they feel bad or overwhelmed. If you would like to talk to someone about your feelings at any time, you can call toll-free, 24 hours a day: San Diego Mental Health Hotline at 1-800-479-3339.

At any time you may discontinue participating. Please let the investigator know at once if you are experiencing any amount of discomfort and or distress.

Benefits of the Study:
Understanding connections between the perceived use of deception, both good and bad, and the influence it has in educational contexts will enable researchers to make more accurate predictions about the factors that predict beneficial relational outcomes and understand the role of deception—ultimately allowing people to improve the quality of their lives. I cannot guarantee, however, that you will receive any benefits from participating in this study.

Anonymity and Confidentiality:
None of your responses to the study will be connected with any identifying information. You may complete this study anonymously if you choose. All data collection will occur on secure survey instruments and resulting data will be kept on a password-protected computer. Only the researchers will have access to this data. If you take a class in the School of Communication your instructor may offer extra-credit for your participation in this study. If you would like a record of your participation to be kept and made available to your instructor, you may complete a separate participation form following the study that will ask for your RED ID, Instructor, and Course Name so that your instructor may identify you. This participation form will be kept separate from questionnaires responses, and held in the sole possession of the researcher. Confidentiality will be maintained to the extent allowed by law, EXCEPT that records of your participation will be sent to the instructor listed. The participation list will be kept without any reference or connection with other data.

Incentives to Participate:
No incentives are offered or guaranteed by the researchers. If you are currently enrolled in a Communication course at SDSU, your instructor may offer extra credit for your participation. Check with your instructor to verify eligibility and the amount of points you will receive. If
you choose, a record of your participation will be sent to your Communication instructor via your RED ID.

Voluntary Nature of Participation:
Participation in this study is voluntary. Your choice of whether or not to participate will not influence your future relations with San Diego State University, your grades, or your relationship with professors. If you decide to participate, you are free to withdraw your consent and to stop your participation at any time without penalty or loss of benefits to which you are allowed.

Questions about the Study:
If you have any questions about the research now, please ask. If you have questions later about the research, you may contact the principle researcher:
Michael McHan
858-414-8513
MichaelJMcHan@gmail.com

If you have any questions about your rights as a participant in this study, you may contact the Division of Research Affairs San Diego State University (telephone: 619-594-6622; email: irb@mail.sdsu.edu).

Consent to Participate:
Please indicate whether you have read the information in this document and have had a chance to ask any questions you have about the study. Your expressed consent indicates that you agree to be in the study and have been told that you can change your mind and withdraw your consent to participate at any time. A copy of this consent form is available upon request.
APPENDIX C

PILOT STUDY
SCENARIOS & SCALES

A. 1. Student Survey (Pilot)

Please read each scenario and then answer the following questions.

1. You are a student and were unable to complete a homework assignment and you decide to tell your teacher you had a family emergency the night before, when there was no family emergency whatsoever, in order to get an extension on your homework.

   • To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
     UNREALISTIC :___:___:___:___:___:___:___:___:___: REALISTIC
   • How typical is this scenario of situations that instructors face in their job?
     NOT TYPICAL :___:___:___:___:___:___:___:___:___: TYPICAL
   • Do you think the student’s actions in this scenario are selfish or altruistic in nature?
     SELFISH :___:___:___:___:___:___:___:___:___: ALTRUISTIC
   • Do you think this scenario primarily benefits the student or someone else?
     BENEFICIAL TO SELF :___:___:___:___:___:___:___:___:___: TO OTHER

2. You and your classmate are working on a group project, your partner has done none of the work and although you are okay with this you must provide your teacher with a peer score on your partner’s contribution to the project. You decide to tell your teacher your partner deserves a 10/10 for their part of the project even though they really deserve a 1/10.

   • To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
     UNREALISTIC :___:___:___:___:___:___:___:___:___: REALISTIC
   • How typical is this scenario of situations that instructors face in their job?
     NOT TYPICAL :___:___:___:___:___:___:___:___:___: TYPICAL
   • Do you think the student’s actions in this scenario are selfish or altruistic in nature?
     SELFISH :___:___:___:___:___:___:___:___:___: ALTRUISTIC
   • Do you think this scenario primarily benefits the student or someone else?
     BENEFICIAL TO SELF :___:___:___:___:___:___:___:___:___: TO OTHER
3. Your classmate calls you the night before your class and tells you to cover for them while they take the next class off by pretending to be sick. Your classmate specifically requests you tell your teacher you saw them the night before and they were really sick.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
  UNREALISTIC :____:____:____:____:____:____:____:____:____: REALISTIC
• How typical is this scenario of situations that instructors face in their job?
  NOT TYPICAL :____:____:____:____:____:____:____:____:____: TYPICAL
• Do you think the student’s actions in this scenario are selfish or altruistic in nature?
  SELFISH :____:____:____:____:____:____:____:____:____: ALTRUISTIC
• Do you think this scenario primarily benefits the student or someone else?
  BENEFICIAL :____:____:____:____:____:____:____:____:____: BENEFICIAL
  TO SELF :____:____:____:____:____:____:____:____:____: TO OTHER

4. After class ends, as you and your teacher are walking out, your teacher asks for your feedback on how well they did this semester as a teacher. Although you thought they did a lousy job as a teacher you do not want to hurt their feelings so you decide to tell them they did a great job as a teacher, even though this is not how you actually feel.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
  UNREALISTIC :____:____:____:____:____:____:____:____:____: REALISTIC
• How typical is this scenario of situations that instructors face in their job?
  NOT TYPICAL :____:____:____:____:____:____:____:____:____: TYPICAL
• Do you think the student’s actions in this scenario are selfish or altruistic in nature?
  SELFISH :____:____:____:____:____:____:____:____:____: ALTRUISTIC
• Do you think this scenario primarily benefits the student or someone else?
  BENEFICIAL :____:____:____:____:____:____:____:____:____: BENEFICIAL
  TO SELF :____:____:____:____:____:____:____:____:____: TO OTHER

5. You receive your exam score back and realize your teacher mistakenly gave you 20 more points than you actually should have received on the exam. You decided the 20 points could really help your grade and you decide not to say anything.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
  UNREALISTIC :____:____:____:____:____:____:____:____:____: REALISTIC
• How typical is this scenario of situations that instructors face in their job?
  NOT TYPICAL :____:____:____:____:____:____:____:____:____: TYPICAL
• Do you think the student’s actions in this scenario are selfish or altruistic in nature?
  SELFISH :____:____:____:____:____:____:____:____:____: ALTRUISTIC
• Do you think this scenario primarily benefits the student or someone else?
  BENEFICIAL :____:____:____:____:____:____:____:____:____: BENEFICIAL
  TO SELF :____:____:____:____:____:____:____:____:____: TO OTHER
6. Your teacher shows up to class with a new haircut. You think the haircut does not look good, but you approach your teacher and tell them that you really like their new haircut.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
- How typical is this scenario of situations that instructors face in their job?
- Do you think the student’s actions in this scenario are selfish or altruistic in nature?
- Do you think this scenario primarily benefits the student or someone else?

7. Your teacher forgets to input your last grade on your assignment into their grade book and already handed back that assignment to you. They ask you what score you received on that assignment and you tell them an "A" when you really received a "B".

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
- How typical is this scenario of situations that instructors face in their job?
- Do you think the student’s actions in this scenario are selfish or altruistic in nature?
- Do you think this scenario primarily benefits the student or someone else?

8. You are unprepared for your exam and decided to write a few notes on the inside of your water bottle where the teacher can't see to help you answer the questions, when you know there are no notes allowed.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
- How typical is this scenario of situations that instructors face in their job?
- Do you think the student’s actions in this scenario are selfish or altruistic in nature?
- Do you think this scenario primarily benefits the student or someone else?
9. Your teacher uses a textbook they wrote for your course and asks for feedback on it at the end of the term. Although you thought the book overall was uninteresting and that it didn’t help you learn, although you really liked the introductory chapter. Instead of telling your teacher the book was not very good you just tell them that you really liked the introduction when they ask you how you liked it.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
  REALISTIC
  UNREALISTIC

• How typical is this scenario of situations that instructors face in their job?
  TYPICAL
  NOT TYPICAL

• Do you think the student’s actions in this scenario are selfish or altruistic in nature?
  SELFISH
  ALTRUISTIC

• Do you think this scenario primarily benefits the student or someone else?
  TO OTHER
  TO SELF

10. You are given an exam that has the answers written on each question. After looking at a few of the answers you are confident that they are the correct answers. You do not tell the teacher or request a new exam, and instead copy those answers directly to your Scantron. When you turn in your exam your teacher asks routinely “how was it?” and you say only “Pretty much what I expected.”

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
  REALISTIC
  UNREALISTIC

• How typical is this scenario of situations that instructors face in their job?
  TYPICAL
  NOT TYPICAL

• Do you think the student’s actions in this scenario are selfish or altruistic in nature?
  ALTRUISTIC
  SELFISH

• Do you think this scenario primarily benefits the student or someone else?
  TO OTHER
  TO SELF


11. Your teacher asks if you completed an assignment requiring you to interview five of your closest friends and how it went. Although you only completed two of the five interviews you tell your teacher the interviews went very well and only tell them details about the two interviews you did conduct, while never mentioning anything about the three you didn't conduct.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)

• How typical is this scenario of situations that instructors face in their job?

• Do you think the student’s actions in this scenario are selfish or altruistic in nature?

• Do you think this scenario primarily benefits the student or someone else?
  BENEFICIAL

12. You are the first one to class and accidentally spill your drink on the classroom projector, apparently damaging it. When the teacher goes to use it and realizes it is broken because something has been spilled on it they ask the class if anyone knows anything about. You speak up and say you think it looked wet when you walked in.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)

• How typical is this scenario of situations that instructors face in their job?

• Do you think the student’s actions in this scenario are selfish or altruistic in nature?

• Do you think this scenario primarily benefits the student or someone else?
  BENEFICIAL

13. Your teacher brings in pictures of their newborn baby and although you think it is not an attractive baby you tell your teacher that their baby is beautiful.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)

• How typical is this scenario of situations that instructors face in their job?

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• Do you think this scenario primarily benefits the student or someone else?
  BENEFICIAL
14. Your friend and classmate was really drunk the night before and texts you that they are hung over and won’t be in class. In taking roll, your instructor asks if anyone knows where that student is, and you say “He texted me last night that he was feeling sick and might need to see a doctor.”

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15. Your friend has taken the same class you are currently in the previous semester and still has the answers to all the homework. You ask them for the answers and use them to do your own homework for the class.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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16. Your teacher has noticeably wet their pants and is unaware that there is a visible mark indicating this. The students start to giggle and whisper. When the teacher looks in your direction and asks "what’s going on—what’s so funny?" you tell the teacher you have no idea.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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17. You have your final exam on the same day and time as the concert for your favorite music artist. You know your teacher will not allow you to take the exam on another day so you can go to a music concert so you tell them you have to fly back home for a relative’s wedding.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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• How typical is this scenario of situations that instructors face in their job?
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  SELFISH :________:________:________:________:________: ALTRUISTIC
• Do you think this scenario primarily benefits the student or someone else?
  BENEFICIAL TO SELF :________:________:________:________:________: TO OTHER

18. Someone in class gets a copy of the answers for an upcoming test in class and hands you a copy. As part of the exam, the instructor includes an “honor statement” requiring you to swear to not cheating on the exam. You sign the form and never mention anything to your teacher and use them yourself on the exam.

• To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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19. You forgot to do a homework assignment and tell your teacher the day it is due, that you were unable to print it out because your hard drive crashed with your only copy of the paper.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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20. You are in the middle of taking an exam and can't seem to remember the answers to a question. You decide to copy the answers from a classmate who is sitting next to you.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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  BENEFICIAL : ___:___:___:___:___:___:___:___:___: TO SELF
  BENEFICIAL : ___:___:___:___:___:___:___:___:___: TO OTHER

21. You run into your teaching in passing the day before you have a big assignment due. Your teacher asks how your assignment is coming along and although you haven't even started it yet, you tell them you are doing very well with it and are almost done.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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22. Your teacher emails you instructions and a due date for an upcoming assignment. You forget about the assignment after you initially read the email and when the teacher asks you why you never submitted that assignment after the due date had passed, you tell them "I never received the email with the due date".

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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23. You are told if you donate five canned goods to an on-campus charity group that you will receive extra credit points. The teacher says it is based off the honor system and all you have to do is tell them you donated the canned goods. Although you did not donate any cans, you tell your teacher you gave five cans to the charity group that morning to get extra credit points.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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- Do you think this scenario primarily benefits the student or someone else?
  BENEFICIAL TO SELF: __________:_________:_________:_________:_________: TO OTHER
24. You and your class are assigned a take-home exam and instructed that you must not work with anyone else on this exam by the teacher. You decide it would be helpful if you and another classmate did the exam together, but made sure to not have the same answers.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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25. You email your teacher thanking them for an amazing semester and telling them how much you enjoyed their class. Although, you thought this class was terrible, you figure being nice to your teacher will make them like you more and increase your chances of getting a better grade.

- To what extent do you think such situations happen in the university context? That is, how realistic is this scenario? (Check the appropriate space)
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APPENDIX D

MAIN STUDY: STUDENT QUESTIONNAIRE
Main Study: Student Questionnaire--Preference for Deception Medium, Effectiveness of Deception by Medium, Appropriateness of Deception by Medium

Instructions: Please read each scenario and then answer the following questions. In the next section, you will see (10) brief descriptions of various situations that may or may not occur in the academic setting. For each scenario, you will be asked to make certain judgments about the situation described. Please read each scenario and then answer the following questions by checking the appropriate space for each item. Your answers will remain completely anonymous and your name or identity will never be associated with your answers. Please answer completely honestly.

Please remember, for each scenario assume you would have the exact same opportunity to use email or face-to-face communication.

1. You and your classmate are working on a group project, your partner has done none of the work and although you are okay with this you must provide your teacher with a peer score on your partner's contribution to the project. You decide to tell your teacher your partner deserves a 10/10 for their part of the project even though they really deserve a 1/10.

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2. After class ends, as you and your teacher are walking out, your teacher asks for your feedback on how well they did this semester as a teacher. Although you thought they did a lousy job as a teacher you do not want to hurt their feelings so you decide to tell them they did a great job as a teacher, even though this is not how you actually feel.

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3. Your teacher uses a textbook they wrote for your course and asks for feedback on it at the end of the term. Although you thought the book overall was uninteresting and that it didn’t help you learn, although you really liked the introductory chapter. Instead of telling your teacher the book was not very good you just tell them that you really liked the introduction when they ask you how you liked it.

How appropriate do you think using an email channel is for this scenario?

How appropriate do you think using a face-to-face channel is for this scenario?

To what extent would you prefer using email for this scenario?

To what extent would you prefer using face-to-face for this scenario?

How effective (successful) will this scenario be if told through email?

How effective (successful) will this scenario be if told through face-to-face?
4. Your teacher asks if you completed an assignment requiring you to interview five of your closest friends and how it went. Although you only completed two of the five interviews you tell your teacher the interviews went very well and only tell them details about the two interviews you did conduct, while never mentioning anything about the three you didn't conduct.

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To what extent would you prefer using face-to-face for this scenario?
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10. You receive your exam score back and realize your teacher mistakenly gave you 20 more points than you actually should have received on the exam. You decided the 20 points could really help your grade and you decide not to say anything.
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APPENDIX E

MAIN STUDY: STUDENT-APPROPRIATENESS
AND PREFERENCE FOR DECEPTION
MOTIVATION TYPE
Main Study: Student-Appropriateness and Preference for Deception Motivation Type

**Appropriateness**: Rate on the following scale, the extent to which each of the following forms of deception is appropriate or inappropriate:

- 1=Extremely Inappropriate
- 2=Very Inappropriate
- 3=Somewhat Inappropriate
- 4=Neither Appropriate Nor Inappropriate
- 5=Somewhat Appropriate
- 6=Very Appropriate
- 7=Extremely Appropriate

1. **Altruistic/omission**: Deceive your instructor for the purpose of helping them out or protecting them (e.g., saving their face in an embarrassing situation, etc.) by keeping information from them or omitting certain information to yourself
2. **Altruistic/fabrication**: Deceive your instructor for the purpose of helping them out or protecting them (e.g., saving their face in an embarrassing situation, etc.) by making information up or constructing a story
3. **Selfish/omission**: Deceive your instructor for the purpose of helping or protecting yourself (e.g., saving your face in an embarrassing situation, etc.) by keeping information from them or omitting certain information to yourself
4. **Selfish/fabrication**: Deceive your instructor for the purpose of helping or protecting yourself (e.g., saving your face in an embarrassing situation, etc.) by making information up or constructing a story

**Preference/Face-to-Face**: Rate on the following scale, the extent to which, assuming you had reason to do so, that you would use the following forms of deception in a face-to-face encounter:

- 1=Extremely Unlikely [be more/less likely to use; ideal; preferable; favorable, like; etc.]
- 2=Very Unlikely
- 3=Somewhat Unlikely
- 4=Neither Unlikely nor Likely
- 5=Somewhat Likely
- 6=Very Likely
- 7=Extremely Likely

1. **Altruistic/omission**: Deceive your instructor for the purpose of helping them out or protecting them (e.g., saving their face in an embarrassing situation, etc.) by keeping information from them or omitting certain information to yourself
2. **Altruistic/fabrication**: Deceive your instructor for the purpose of helping them out or protecting them (e.g., saving their face in an embarrassing situation, etc.) by making information up or constructing a story
3. **Selfish/omission**: Deceive your instructor for the purpose of helping or protecting yourself (e.g., saving your face in an embarrassing situation, etc.) by keeping information from them or omitting certain information to yourself.

4. **Selfish/fabrication**: Deceive your instructor for the purpose of helping or protecting yourself (e.g., saving your face in an embarrassing situation, etc.) by making information up or constructing a story.

**Preference/E-mail**: Rate on the following scale, the extent to which, assuming you had reason to do so, that you would use the following forms of deception **in an e-mail encounter**:

- 1=Extremely Unlikely [be more/less likely to use; ideal; preferable; favorable, like; etc.]
- 2=Very Unlikely
- 3=Somewhat Unlikely
- 4=Neither Unlikely nor Likely
- 5=Somewhat Likely
- 6=Very Likely
- 7=Extremely Likely

5. **Altruistic/omission**: Deceive your instructor for the purpose of helping them out or protecting them (e.g., saving their face in an embarrassing situation, etc.) by keeping information from them or omitting certain information to yourself.

6. **Altruistic/fabrication**: Deceive your instructor for the purpose of helping them out or protecting them (e.g., saving their face in an embarrassing situation, etc.) by making information up or constructing a story.

7. **Selfish/omission**: Deceive your instructor for the purpose of helping or protecting yourself (e.g., saving your face in an embarrassing situation, etc.) by keeping information from them or omitting certain information to yourself.

8. **Selfish/fabrication**: Deceive your instructor for the purpose of helping or protecting yourself (e.g., saving your face in an embarrassing situation, etc.) by making information up or constructing a story.

**Preference/Overall**: Rate on the following scale, the extent to which, assuming you had reason to do so, that you would use the following forms of deception:

- 1=Extremely Unlikely [be more/less likely to use; ideal; preferable; favorable, like; etc.]
- 2=Very Unlikely
- 3=Somewhat Unlikely
- 4=Neither Unlikely nor Likely
- 5=Somewhat Likely
- 6=Very Likely
- 7=Extremely Likely
9. **Altruistic/omission**: Deceive your instructor for the purpose of helping them out or protecting them (e.g., saving their face in an embarrassing situation, etc.) by keeping information from them or omitting certain information to yourself

10. **Altruistic/fabrication**: Deceive your instructor for the purpose of helping them out or protecting them (e.g., saving their face in an embarrassing situation, etc.) by making information up or constructing a story

11. **Selfish/omission**: Deceive your instructor for the purpose of helping or protecting yourself (e.g., saving your face in an embarrassing situation, etc.) by keeping information from them or omitting certain information to yourself

12. **Selfish/fabrication**: Deceive your instructor for the purpose of helping or protecting yourself (e.g., saving your face in an embarrassing situation, etc.) by making information up or constructing a story
APPENDIX F

ADAPTED SOCIAL DESIRABILITY SCALE
Adapted Social Desirability Scale (Paulhus, 1984)

1. When I take sick-leave from work or school, I am always as sick as I say I am.
2. I always apologize to others for my mistakes.
3. People often disappoint me.
4. Life is a strain for me most of the time.
5. I worry quite a bit over possible misfortunes.
6. I have at some point given up on doing something because I thought to little of my abilities.
7. I am always courteous, even to people who are disagreeable.
8. Once in a while I laugh at a dirty joke.
9. I am sometimes irritated by people who ask favors of me.
10. I have never doubted my sexual adequacy.
11. I have never been uncertain as to whether or not I am a homosexual.
12. I sometimes get even, rather than forgive and forget.
13. I always tell the truth.
APPENDIX G

MAIN STUDY: TEACHER QUESTIONNAIRE--
ACCEPTABILITY OF DECEPTION MOTIVATION
TYPE
Main Study: Teacher Questionnaire--Acceptability of Deception Motivation Type

Acceptability: Rate on the following scale, the extent to which each of the following forms of deception is acceptable or unacceptable:

1=Extremely Unacceptable
2=Very Unacceptable
3=Somewhat Unacceptable
4=Neither Acceptable Nor Unacceptable
5=Somewhat Acceptable
6=Very Acceptable
7=Extremely Acceptable

1. **Altruistic/omission**: A student deceives their instructor for the purpose of helping or protecting their self (e.g., saving their face in an embarrassing situation, protecting their privacy, etc.) by keeping information from them or omitting relevant details by telling literal truths

2. **Altruistic/fabrication**: A student deceives their instructor for the purpose of helping or protecting their self (e.g., saving their face in an embarrassing situation, protecting their privacy, etc.) by making information up or constructing a story that is not the truth

3. **Selfish/omission**: A student deceives their instructor for the purpose of helping or protecting their self (e.g., saving your face in an embarrassing situation, etc.) by keeping information from them or omitting relevant details by telling literal truths

4. **Selfish/fabrication**: A student deceives their instructor for the purpose of helping or protecting their self (e.g., saving your face in an embarrassing situation, etc.) by making information up or constructing a story that is not the truth

Appropriateness: Rate on the following scale, the extent to which each of the following forms of deception is Inappropriate or Appropriate:

1=Extremely Inappropriate
2=Very Inappropriate
3=Somewhat Inappropriate
4=Neither Appropriate Nor Inappropriate
5=Somewhat Appropriate
6=Very Appropriate
7=Extremely Appropriate

5. **Altruistic/omission**: A student deceives their instructor for the purpose of helping or protecting their self (e.g., saving their face in an embarrassing situation, protecting their privacy, etc.) by keeping information from them or omitting relevant details by telling literal truths

6. **Altruistic/fabrication**: A student deceives their instructor for the purpose of helping or protecting their self (e.g., saving their face in an embarrassing situation, protecting their privacy, etc.) by making information up or constructing a story that is not the truth
7. **Selfish/omission**: A student deceives their instructor for the purpose of helping or protecting their self (e.g., saving your face in an embarrassing situation, etc.) by keeping information from them or omitting relevant details by telling literal truths.

8. **Selfish/fabrication**: A student deceives their instructor for the purpose of helping or protecting their self (e.g., saving your face in an embarrassing situation, etc.) by making information up or constructing a story that is not the truth.
APPENDIX H

MAIN STUDY: TEACHER--DECEPTION
DETECTION COMPETENCE
Main Study: Teacher--Deception Detection Competence

Detection
How likely are you to detect deception from a student when they are being deceptive through email?

1=Extremely Unlikely
2=Very Unlikely
3=Somewhat Unlikely
4=Neither Likely Nor Unlikely
5=Somewhat Likely
6=Very Likely
7=Extremely Likely

How likely are you to detect deception from a student when they are being deceptive face-to-face?

1=Extremely Unlikely
2=Very Unlikely
3=Somewhat Unlikely
4=Neither Likely Nor Unlikely
5=Somewhat Likely
6=Very Likely
7=Extremely Likely
APPENDIX I

MAIN STUDY: TEACHER—DECEPTION EFFECTIVENESS
Main Study: Teacher—Deception Effectiveness

Success
How successful do you think students are at deceiving their teachers when the message is employed face-to-face?

1=Extremely Unsuccessful
2=Very Unsuccessful
3=Somewhat Unsuccessful
4=Neither Successful Nor Unsuccessful
5=Somewhat Successful
6=Very Successful
7=Extremely Successful

How successful do you think students are at deceiving their teachers when the message is employed through email?

1=Extremely Unsuccessful
2=Very Unsuccessful
3=Somewhat Unsuccessful
4=Neither Successful Nor Unsuccessful
5=Somewhat Successful
6=Very Successful
7=Extremely Successful

Effectiveness
How effective do you think students are at deceiving their teachers when the message is employed through email?

1=Extremely Ineffective
2=Very Ineffective
3=Somewhat Ineffective
4=Neither Effective Nor Ineffective
5=Somewhat Effective
6=Very Effective
7=Extremely Effective

How effective do you think students are at deceiving their teachers when the message is employed through face-to-face?

1=Extremely Ineffective
2=Very Ineffective
3=Somewhat Ineffective
4=Neither Effective Nor Ineffective
5=Somewhat Effective
6=Very Effective
7=Extremely Effective
APPENDIX J

RESULTS--PAIRED DIFFERENCES TABLE
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