"I'M NOT JUST CRAZY.": EXPLORING THE IMPOSTOR PHENOMENON IN AN

EDUCATIONAL AND COMMUNICATIVE CONTEXT

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The Supervisory Committee certifies that this ***disquisition*** complies with North Dakota State

University's regulations and meets the accepted standards for the degree of

DOCTOR OF PHILOSOPHY

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ABSTRACT

The purpose of the current study is to gain a better understanding of the impostor phenomenon (IP) and see which communication channels and instructional types are best to use when educating others on IP. Impostor phenomenon is the feeling of faking it in terms of professional, academic, career, or other life-area successes. The study also looked at correlations between impostor feelings and positive and negative workplace emotions and impression management techniques. Experimental conditions in the form of a survey were used to provide participants either an article or video, each with either a testimonial or research-based education. Findings suggest that participants in the testimonial instruction condition report higher IP scores than in research-based instruction condition and that the effects of channels tested were insignificant. The findings support the hypothesized outcomes in terms of emotion showing there are negative emotions related to work. Findings suggest IP is directly associated with ingratiation, exemplification, and supplication; indirectly associated with self-promotion; and unrelated to intimidation. Additionally, limitations and future directions are discussed.

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Robert Frost wrote: "I shall be telling this with a sigh, somewhere ages and ages hence: Two roads diverged in a wood, and I-I took the one less traveled by, and that has made all the difference."

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Impostor Phenomenon Overview

I've just been fakin' it,
I'm not really makin' it,
This feeling of fakin' it,
I still haven't shaken it.
--Simon (1967)

Singers such as Simon and Garfunkel have been singing about "fakin' it" since the 1960s. Since the 1970s, Clance and Imes have been studying feeling like an impostor. Graduate students have been researching the phenomenon, writing about it, and talking about it (Landis, 2016). Impostor phenomenon (IP, impostor syndrome, fraud syndrome) is the feeling of faking it (i.e., being a fake) in terms of professional, academic, career, or other life-area successes. IP has been written about in popular media outlets like BuzzFeed, Harvard Business Review, and Scientific American. Additionally, many graduate schools have webpages defining impostor phenomenon, identifying feelings associated with the phenomena, and promoting strategies to overcome the experiences. For example, the University of Waterloo's website gives examples for graduate students to manage their IP experiences (Centre for Teaching Excellence, 2016). These experiences can take an emotional toll on a person. The awareness of IP may have risen and several graduate students have researched the phenomenon (Parkman, 2016; Royse-Roskowski, 2010; Topping & Kimmel, 1985), but there are still many unknowns about IP, especially in terms of communication and adult education.

People experiencing IP generally believe their success is due to enormous effort (Clance, 1985), avoid career advancement opportunities (Clance & O'Toole, 1988), assert that their success is due to luck rather than ability (Cozzarelli & Major, 1990), and consistently attempt to live under the radar and in the shadows of other successful people (Grubb III & McDowell,

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2012). One of the notable detrimental aspects of IP is that sufferers do not feel successful or avoid striving to be successful. Clance (1985) argues that those suffering from IP often have limited goals and remain in positions below their true capabilities. Young (2011) states, "Your view of competence is a major contributor to perpetuating your belief that you are an impostor" (p. 105). Additionally, Young (2011) claims the more people are successful, the more they feel like frauds. Topping and Kimmel (1983) argue that IP impedes individuals from personal and professional fulfillment. Much of the past research on the impostor phenomenon can be categorized as investigating the process and treatment of IP, developing and validating instruments to measure the experiences, and determining the prevalence of IP in certain populations (Royse-Roskowski, 2010).

Purposes of Research

The current study extends past research by pursuing three goals: (a) testing the effects of testimonial or research-based education type and text or video communication channel on IP, (b) examining the relationship between IP and workplace emotion, and (c) determining if impression management types are associated with IP.

First, researchers argue that *talking about* IP—communicating and learning about it—can reduce IP episodes and associated harm (Harvey & Katz, 1985). Many scholars argue that learning about IP is crucial for dealing with and overcoming IP. Clance and Imes (1978) first discovered that group therapy was an intervention tool that helped lessen the effects of IP on sufferers by participants learning that they were not alone in having the experiences. Communication and education have been proposed as means to heighten awareness of IP and thus reduce harms to IP sufferers (Lane, 2015), but the types of communication and education most effective to meet these ends remains vague. Lane (2015) found that participants felt a sense

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of relief by merely learning about IP through the surveys and interviews. In their study, Vergauwe Wille, DeFuyt, Feys, & Anseel (2014) discovered that a strong workplace social support could be the key to decrease the negative effects of IP. Studdard (2002) recommended educating professors, forming support groups, establishing mentoring relationships, and generally educating people on IP and its power. One purpose of the current study was to test how different types of education (research-based or testimonial) and communication channels (viewing or reading) affected participant ratings of their own IP experiences. Though a lot has been stated how to reduce IP, no researched has confirmed that these ideas to reduce IP work.

Second, this dissertation seeks to determine the relationship between IP and positive and negative workplace emotions. Organizational life is emotion-rich, in both positive and negative ways (Waldron, 2012). IP in particular is a very emotional experience for many reasons, one being that when people believe themselves to be inadequate in their organizational lives, they experience emotions linked to those beliefs. A host of past studies link IP with emotions such as sadness, insecurity, fear, anxiety, despondence, self-doubt, and so forth (King & Cooley, 1996; McGregor, Gee, & Posey, 2008). The current study specifically examines the association between IP and both positive and negative workplace emotion. Finding how those with IP feel about work and experience IP can help organizations be better equipped to deal with these individuals as employees.

Finally, the dissertation explores impression management types in terms of IP. Those with IP may act a certain way in order to change impressions that people make about them. Because IP is a feature of self-concept (Huang, Zhao, Niu, Ashford, & Lee, 2013), IP sufferers will likely use certain strategies such as avoiding the spotlight, downplaying successes, and deferring to others in order to manage others' perceptions.

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Chapters Overview

The following chapters provide an examination of IP concerning communication, emotion, and education. Chapter two begins with a detailed exploration of past IP research. Chapter two explains IP and its associated harms, explores how IP is communicatively constructed via various societal messages, and reviews suggestions for overcoming IP (e.g., communication, education). The second chapter also examines the role of emotions at work and impression management types in terms of IP. Chapter three describes the research methods including variables, measures, and experimental design description. Chapter four details the results of the study. Finally, chapter five discusses the findings, limitations of the current study, and the future directions.

CHAPTER TWO. LITERATURE REVIEW

The following defines the impostor phenomenon and examines the harms associated with IP. It begins by defining IP and explaining the IP cycle, then goes on to explain past research about the harms associated with IP. This section concludes with communication and IP and how IP is constructed through messages and societal messages.

Impostor Phenomenon

Defining IP

Clance and Imes (1978) coined the term impostor phenomenon (IP) to define the experience of feeling like a fake amongst peers and to explain why high-achieving women still feel like charlatans amongst their peers. Subsequent research has found IP to be more widespread than Clance and Imes had imagined, with 70% of people experience IP feelings (Cozzarelli & Major, 1990) and affecting both men and women (Bernard, Dollinger, & Ramaniah, 2002; Buchalter, 1993). People at varying levels of achievement experience IP (Cromwell, 1989), suggesting that IP has little to do with intelligence or ability. For example, a study of high school honors students found that impostor and non-impostor groups did not differ significantly on their mean GPA (Cromwell, 1989).

The impostor phenomenon is believed to be a multi-dimensional construct including high achievement orientation, feelings of fraudulence, fear that others will discover them as frauds, difficulty internalizing their success, and energy expenditure maintaining their identity (Royse-Roskowski, 2010). Impostors often state that external factors contributed to their success. These factors are pure luck, someone else's error, or sheer coincidence (McGregor, Gee, & Posey, 2008). Once an "impostor" gets through one experience, there might be a short time where they

do not feel like a fraud, but soon, a new task can be given and the process starts over again. This circular process of fear, success, and fear again is the impostor cycle.

Perceived Fraudulence

Kolligian, Jr. and Sternberg (1991) refer to IP as perceived fraudulence (PF) as they believe that it more accurately describes the meaning of the experiences that those with IP suffer. They assert that, when using terms like phenomenon or syndrome, personal identification or self-perception can be mistaken for mental illness or personality disorders. Spinath (2001) suggests that IP is not a syndrome or disorder because it is a not a debilitating medical condition, while Studdard (2002) believes that continual perceptions of unworthiness can turn into a syndrome. Kolligian and Sternberg (1991) first introduced the term to differentiate between IP as the unjustified fraudulent feeling and the original term of impostor in its intentional form of being fraudulent.

Like IP, PF has tendencies of depression, self-criticism, and self-induced pressures to be a high achiever (Kolligian, Jr. & Sternberg, 1991). Additionally, PF is based off the idea that the sufferer cannot internalize their successes, yet like those with IP, they continue to set high standards for themselves. The major difference between IP and PF is that IP is often written about as a pervasive mental illness, while PF is described as a self-perception. PF is viewed on a phenomenological continuum with one end being a true impostor (deliberate deception) and on the other end of the spectrum a perceived impostor (feeling fraudulent, but an outside observer disagrees).

The Impostor Cycle

Chrisman, Pieper, Clance, Holland, and Glickauf-Hughes (1995) argue that the cycle starts with a work or school assignment. The second part of the cycle comes with the completion of the task, but is quickly followed by panic and fear, especially of not being a top performer, the results not being perfect, and the ever-constant fear of failure. From here, impostors take one of two directions. In one direction, they either procrastinate, so if their work is not perfect, they can blame their lack of preparation. Alternatively, the other direction is to overwork; the person with IP will feel they worked diligently on the project and that is the reason for the success. The impostors feel a short amount of relief before they start focusing on their mistake. This is where their perfectionism comes out, and they start the next phase of the cycle – blaming failure on their procrastination or having to work too hard to achieve success – and they begin the process of denying they are good enough. When a new task is assigned, the cycle starts over. Even though individuals dealing with IP continually earn success, they do not feel successful even with their high achievements.

Clance (1985) argues that a continual cycle makes up IP. She (1985) suggests IP has six distinct features: (a) the impostor cycle, (b) the need to be special or to be the very best, (c) superman/superwoman aspects, (d) fear of failure, (e) denial of competence and discounting praise, and (f) fear and guilt about success. The impostor cycle, as described, begins with a new task assignment or life situation (Chrisman et al., 1995). When entering the college setting or workplace, the second feature emerges. Impostors are accustomed to being at the top of their class, and when others are just as exceptional as they are, they start to second-guess their talents and intelligence.

The third feature is the superman/woman complex. Impostors expect to do everything perfectly in every aspect of their lives. A reason that impostors desire perfection is their fear of failure, which is the fourth feature. Clance and O'Toole (1988) declared that failure is a motive for most impostors and that failing is a self-fulfilling validation because they did, indeed, fail. Impostors have difficulty accepting and internalizing their success; rather, they attribute their success to external factors. In addition to discounting positive feedback, they develop arguments to prove that they do not deserve praise or credit for particular achievements (Clance, 1985). Continuing with the six distinct features, failure to accept praise is the fifth feature. The final feature of IP is the fear of someone finding out that the sufferer is a fraud. Impostors are overwhelmed with guilt and worry about rejection by others. These features can develop into IP symptoms and lead to various harms.

Associated Harms

Clance and O'Toole (1988) found IP to be a threat to one's wellbeing and a deterrent to career advancement. IP can contribute to ratings in teacher evaluations and advising outcomes (Brems, Baldwin, Davis, & Namyniuk, 1994); researchers found that students would rate instructors greater in evaluations if teachers rated themselves higher and were more self-assured. IP is also linked to perfectionism (Thompson, Foreman, & Martin, 2000), stress, and depression (Gibson-Beverly & Schwartz, 2008; McGregor, Gee, & Posey, 2008). Harms are not limited to depression, however, and include lack of self-confidence, generalized anxiety, and frustration due to inability to meet personal standards of excellence. Stress and anxiety comes from the fear of being found out as a phony (McGregor, et al., 2008). Impostors often dwell on what they do not know rather than acknowledging what they do know (Clance, 1985). When facing a task that is based on achievement, sufferers of IP experience anxiety due to their fear of failure. Burnout,

emotional exhaustion, loss of intrinsic motivation, poor achievement, including guilt and shame about success typically reinforces the impostor cycle (Chrisman et al., 1995; Clance, 1985; Clance & Imes, 1978). Constant thoughts of unworthiness can transform into feeling like an impostor (Studdard, 2002).

Thompson et al. (2000) compared impostors and those not experiencing impostor feelings in their emotional and cognitive reactions to making mistakes, concluding that impostors had more concern for their mistakes and tended to overestimate the number of their own mistakes more than did non-impostors. The impostors studied reported greater dissatisfaction with their performance and considered their performance less successful than the assessment of their peers (Thompson, et al., 2000). These findings support Clance's (1985) findings that impostors reject any performance that does not reach their perfect standard and consider their performance disappointing.

Suffering from impostor phenomenon is an emotional experience. Even when an impostor continually sees success, the feeling of success does not increase their belief in their ability nor does it weaken their impostor feelings (Thompson, et al., 1998). This further shows in research that even with experience, impostor thoughts do not diminish. For example, faculty with 12 years' academic experience (Brems, et al., 1994) or 8 years' business management experience (Friend-Buchalter, 1992, 1997) still had similarly high IP feelings.

Impostor phenomenon can negatively affect work and the workplace by association. People experiencing IP are less likely to be committed to organizations or engage in organizational citizenship behaviors (OCBs) (Grubb III & McDowell, 2012). Lack of organizational commitment can negatively affect organizations through limiting effort and loyalty and connecting to the organization and other employees. Impostors often do not take

credit or are not given credit for their accomplishments; sufferers often attribute their success to external factors, like luck (Studdard, 2002). Research on senior level administrators, for example, found that administrators experiencing IP attributed receiving their position based on personality rather than their experiences or skills (Hoang, 2013). Impostors seem to be unable to enjoy their successes, or they fail to achieve all that they are able. Fried-Buchalter (1997) believes that due to IP features, those suffering from IP have lower educational and career goals than people who do not suffer from IP, which can result in organizations failing to receive an employee's full potential.

Those suffering from IP avoid applying for promotions because they fear being successful and, therefore, avoid experiences that might lead to successes. In 1994, based on an editorial survey, Psychology Today estimated that "approximately one third of Americans believed more strongly than a passing thought that they were frauds and that others were convinced of their façade" (Royse-Roskowski, 2010, p.1). IP inhibits performance, and the impostor has lower aspirations (Studdard, 2002). Kets de Vries (2005) concluded those with tendencies toward impostor experiences do not move into higher managerial positions, will not transfer to different organizations, or move into different positions within their current organization.

Impostor feelings can have negative effects on interpersonal relationships and prevent employees from appreciating their accomplishments, in turn affecting educational and professional advancement (King & Cooley, 1995). Additionally, IP suffers do not give their full potential at their jobs in fear they will be found out as a fake, costing organizations to lose out. Impostors often state that external factors contributed to their success. Clance and Imes (1978) asked women to find other factors contributing to their success, such as personal attributes and

not discounting their hard work. When asked, women often attributed their work to a good team, rather than to themselves as hard workers. Women disbelieving their accomplishments can lead to other negative outcomes, such as not enjoying their achievements or fearing success altogether.

When these impostor feelings are intense, such feelings can lead the sufferer to turn down career advancement opportunities (Clance & O'Toole, 1988). People with impostor feelings fear being successful and may avoid success altogether. This inhibits performance, and reduces the impostors' aspirations (Studdard, 2002). Simply put, impostors are not performing to their abilities by downplaying their potential in order to avoid being seen as a fraud. Communication, in the form of talking about these feelings, not only helps reduce these feelings, but it can help construct these thoughts.

The Communicative Constructing and Deconstructing of IP Episodes

Clance and Imes (1978) assert, "The real root of the [IP] problem lies in the social expectations" (p. 4). The messages from others through family messages, social histories, and cultural conventions influence and encourage impostor experiences. That is, IP is communicatively constructed through years of interpersonal conversation and cultural socialization (e.g., media, institutional rhetoric, etc.).

Young and others argue that talking about IP feelings to a trusted person is a means for overcoming IP (Clance & Imes, 1986;Studdard, 2002; and Watson & Betts, 2010). Most impostors live in fear of being found out and, therefore, usually suffer in isolation (Watson & Betts, 2010). Communicating these experiences may help those who suffer from the wrenching emotions that accompany IP experiences. Young (2011) suggests that impostors learn about IP in terms of "fake it till you make it." Young (2011) claims that being nervous is normal and simply

acting as if one will succeed helps to move IP sufferers in a more constructive direction. Just hearing another person's story of suffering from IP can make a difference. Learning that others have the same feeling may help sufferers have a better relationship with success, see that they are capable of achieving success, and own the feeling of success. Bell (1990) argues that the first step to "unlearning" the impostor phenomenon is to learn other people's stories about IP. The phenomenon holds power over people because they believe they are the only people dealing with the phenomenon. As people listen to the stories of others, they begin to see themes emerge and uncover the societal messages that reinforce these feelings of being an impostor (Bell, 1990).

IP-constructing societal messages. Patriarchal societal messages can lead people to feeling like an impostor. Societal messages and gender-related norms may play a role in developing IP feelings (Craddock, Birnbaum, Rodriguez, Cobb, & Zeeh, 2011). Women are often socialized away from professional life and toward social life. This norm can hurt women and underpin IP. For example, successful women in industries where society feels they do not belong or where women have less success than men leads to more intense IP (Hoang, 2013).

Patriarchal messages, built on social beliefs and norms, drive social messages, which "grade" women on how well they perform traditionally male roles. Plenty of organizational evidence points to the negative outcomes of patriarchal messages regarding women, organizational hierarchies, and wages. For example, men still lead women in leadership positions and wages (Webb, 2017). In accordance with the Civil Rights Act of 1991, the 1992 Federal Glass Ceiling Commission was established (Jackson, 2001). The term "glass ceiling" was first coined in 1986 and is the virtual barrier that holds women and minorities back from rising to higher management levels (Jackson, 2001). Even with the Glass Ceiling Commission, little has changed for women in 20 years. Women only hold 15 percent of the top corporate jobs and 24

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percent of full professorships in the United States (Sandberg, 2011). According to Fortune Magazine (2016), women hold 4.2% of CEO positions in America's 500 biggest companies. There are 21 women CEOs in Fortune 500 companies, which are down from 24 in 2014 and 2015 (Zarya, 2016). In 1980, women earned 60.2 cents for every dollar men earned; in 1990, that had increased to 71.6 cents; and climbed to 77 cents to every dollar by 2011 (Cronin, 2013). According to Spinath (2011), psychologists suggest IP could be a reason behind the low number of women in top managerial positions in their fields. In addition, the media propagates women's fears of being an impostor and the ineffectiveness of women's work in general (Young, 2011).

Like impostor feelings, Dweck (1986) asserts people with low self-confidence and self-perceived low intelligence tend to avoid challenges and suffer declining performance. Those who believe intelligence is fixed are more likely to report impostor fears (Kumar & Jagacinski, 2005). Fixed intelligence is feeling that one is born with a certain amount of intelligence, which stays the same throughout life. Young (2011) stated that all impostors have an unfair view of their own competence. This distortion is problematic because the view people have of their competence can contribute to beliefs of being an impostor and, thus, perpetuate the IP problem. Young suggests determining one's competence allows for a more realistic reframing of IP thoughts, so the impostor's mind is more open to new ideas on how to overcome the impostor feelings. In this way, Young (2011) argues people can very quickly begin to feel more competent. More than societal messages communicatively create impostor feelings; Clance and Imes (1978) suggest that families who negatively compare one child with an intelligent sibling produce impostors.

IP-constructing family messages. Family messages of success can create and reinforce some members feeling like impostors. Clance (1985) proposed four features of family communication that contribute to the continuation of IP: (a) perceptions that impostors' talents

are atypical compared with family members, (b) family messages that convey the importance of intellectual abilities and that success requires little effort, (c) impostors' abilities and success are inconsistent from family and other sources thoughts, and (d) lack of positive reinforcement. King and Cooley (1995) found students from families that often stressed the importance achievement had higher IP scores. Langford and Clance (1993) claim that children with low emotional support and minimal validation of their strengths could lead to impostor experiences as adults. This is because the lack of emotional support and validation could lead the individual to have lower perceptions of personal competence (Royse-Roskowski, 2010).

Overcoming IP

IP scholars provide suggestions to overcome the negative effects of impostor feelings, which typically starts when people learn about IP and subsequently begin recognizing their own imposter feelings. Studdard (2002) believes for graduate students that educating professors on IP feelings and establishing mentoring relationships can both be helpful in recognizing and overcoming negative IP thoughts and feelings. Watson and Betts (2010) recommend educating women on the power of impostor phenomenon and its debilitating effects. Young (2011) suggests to impostors to "fake it till you make it." Young states that it is okay to be nervous but to simply act as if one will succeed. Communicating about impostor experiences will help alleviate the alienation that tends to accompany IP, encourage others who experience IP to consider their feelings, and provide a basis for support of one another (Clance, 1985; Studdard, 2002; Watson & Betts, 2010).

Although Clance (1985) originally argued that those suffering from impostor phenomenon may never develop the ability to internalize their success and see themselves as deserving of their achievements, other IP scholars argue that educating oneself and talking to

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others can reduce the harmful potential of IP. A key aspect of education and communication is raising personal awareness of imposter feelings . Harvey and Katz (1985) also give tips on overcoming IP and recommend remembering that IP thoughts and feelings will not simply disappear overnight. They suggest owning and naming one's thoughts, making lists of impostor feelings, practicing being one's own person, controlling situations, teaching oneself to accept compliments, and talking to others who feel similar. Generally, after increasing personal awareness of IP, the three most frequent suggestions for overcoming IP episodes and emotion are therapeutic communication, learning about the phenomenon, and positive self-talk.

Communication and Education as Intervention and Prevention

After raising awareness of personal imposter feelings, many researchers argue that simply discussing feelings and hearing others' common experiences make it difficult for people to believe their fraudulent thoughts are real (Clance 1985; Clance et al., 1995; Gardiner & Aurora, 2013; Jackson & Heath, 2014; Mount & Tardanico, 2014). Clance et al. (1995) suggest group therapy or therapeutic communication to raising awareness and then work toward diminishing IP experiences. They recommend this idea to show other IP sufferers that they are not alone in their feelings. Having group members share their experiences can help other members recognize their patterns of IP experiences and help break down these patterns.

Once aware of imposter feelings, sufferers can then see their imposter feelings and related behaviors are cyclical (Cowman & Ferrari, 2002), that they are in a repeat cycle of success and finding ways of explaining their success other than attributing success to their own capabilities. In the group setting, sufferers can become empowered to make a change (Clance, et al., 1995). The opportunity to listen to others who share the same experiences provides an important tool for anxiety management. Listening to other stories from a fellow sufferer can

diminish feelings of IP while building successful relationships, especially in the work force. As such, the following was hypothesized:

H1: Impostor Phenomenon ratings will vary depending on educational type and communication channel.

A peer, mentor, executive coach, former boss, colleague, and IP scholars are people to whom sufferers can hear speak about IP thoughts and feelings (Mount & Tardanico, 2014). Certainly, "communication impacts mentoring relationships, teaching, collaborations, and can even career development" (Landis, 2016, p. 3) and has the power to affect IP. As Jackson and Heath (2014) claim, discussing IP with a friend or peer may end in surprising responses and could potentially lead to ongoing support. Freimuth (1992) commented, "Education is a communication process" (p. 122).

Education. This section expands on education and training as ways to recognize and overcome IP experiences. According to Taylor (2009), the first step to dealing with IP is recognition and identification of the problem. Understanding the characteristics of the impostor phenomenon provides a foundation for changing the IP experience and for understanding communication's role, specifically that sufferers typically avoid talking about their feelings. One of the characteristics of the phenomenon is a sufferer tends to remain silent, especially during times of fear, anxiety, and stress. Clance (1995) claims the key to change is recognition, and recognizing these IP symptoms is a step to talking about and overcoming IP.

Additionally, impostors typically fail to recognize achievements or that their hard work led to success (Thompson, Davis, & Davidson, 1998). Learning what IP is and how it can negatively influence one's life is an important step in diminishing IP experiences. As previously noted, Studdard (2002) states for graduate students that learning about IP, educating professors

on these feelings, forming support group for those suffering from impostor phenomenon, and establishing mentoring relationships can all be helpful to recognize and overcome the negative thoughts. In addition to education, having the opportunity to talk about IP experiences can reduce the frequency and intensity of feeling like a fraud (Clance & Imes, 1978). Spinath (2011) suggests once an impostor recognizes his or her accomplishments this can lead to a newfound sense of personal worth and the impostor can begin to accept his or her success.

When first learning about IP through testimony, individuals may have higher IP scores because testimony likely increases personal identification of imposter feelings. Over time, when these stories resonate with individuals, they will perceive these feelings as "normal," and potentially with education and therapeutic communication the IP experiences can begin to decrease (Clance, Dingman, Reviere, and Stober, 1995). Finally, Landis (2016) held a workshop on IP and, though it was not an initial goal of the workshop, many participants were overjoyed to find a supportive network of others experiencing similar thoughts and IP challenges. There are different educational approaches to disseminate information and educate IP sufferers, and testimonial-based education typically increases IP suffers' recognition of their own imposter feelings. That is, learning about IP via testimony from other sufferers is more likely to increase learners' recognition of their own IP experiences. As such, the following hypothesis was proposed:

> H1a: CIPS will be rated higher for testimonial than for research-based educational type.

Communication channels. Goffman (1967) argued that individuals are constantly working to preserve their face, or their desired personal image. Feeling like an impostor can be a threat to one's face when working. While working, often times individuals must present

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themselves in a manner that allows them to build relationships in order to satisfy their personal goals. When face is threatened, the consequences are typically negative. For example, one can become embarrassed when losing face. The negative feeling occurs, regardless of how the encounter happens, whether it is in a face-to-face (FTF) or via computer mediated communication (CMC).

O'Sullivan's (2000) findings suggest that individuals prefer interpersonal channels with fewer social prompts when threats to their self-presentation arise, which can happen in a work setting or a question/answer learning opportunity. In a work setting, learning about IP via mediated communication was generally preferred over face-to-face conversation, which could be face-threatening (O'Sullivan, 2000). Keaten and Kelly (2008) found that people preferred the CMC channels rather than FTF when it came to difficult personal situations. Similarly, when it came to receiving feedback, students preferred the Internet as their channel preference (Blake, 2000).

Along similar lines, Keil and Johnson (2002) found that when receiving information, students preferred email (reading) to voicemail (listening). One reason was that students were able to read the information over again, scanning for important items. Alternatively, when having to replay the voice mail, students had to listen to the whole message, which could have cognitively overloaded the students (Keil & Johnson, 2002).

The ways people receive information may be distributed in three communication categories. The first is visual with examples of sights, pictures, symbols, and diagrams. The next category is auditory, which is learned through sounds and words. Finally, the last category is kinesthetic, which can be taste, touch, and smell. Felder and Silverman (1988) assert that most college-aged learners are visual, and the current study uses participants that were at or above

traditional college-aged learners. These scholars also noted that the majority of people learn most effectively though one of these three methods (Felder & Silverman, 1988). Clance and Imes (1978) discuss the importance of listening to others' feelings and IP experiences.

Listening-viewing IP educational material should result in higher CIPS than reading IP information, as listening-viewing IP content is less labor intensive and more easily taken in than reading IP content. In fact, watching a video (listening-viewing) can be seen as a much closer to face-to-face than reading, and face-to-face communication is media rich so more likely to increase learners' recognition of their own imposter feelings As such, the following was hypothesized in terms of communication channel and IP experiences:

H1b: CIPS will be rated higher for viewing than reading communication channels.

Learning through self-awareness. One of the key processes that must occur for IP sufferers to begin healing is raising personal self-awareness of imposter feelings. Boyd and Fales' (1983) concept of reflective learning is apropos; reflective learning is "the process of internally examining and exploring an issue of concern, triggered by an experience [or education], which creates and clarifies meaning in terms of self, which results in a changed conceptual perspective" (p. 100). Once sufferers are aware of their IP experiences, they can begin to transform their experiences and recognize how IP may be holding them back.

In addition to reflective, learning, Mezirow (1994) argues that transformative learning, understanding meaning through our experiences which transforms our specific worldview, can be a powerful process for self-change. One dimension of transformative learning is psychological, which is the process of changes in understanding of self. Learning about IP can involve both reflective and transformative learning, which elicits self-awareness. In her 2002 study on understanding feelings of fraudulence, Furhan states that raising awareness of IP could

become a powerful source of comfort for those suffering with IP. In her dissertation, Taylor (2009) asserts that she became self-aware through reflection.

Education type. Like different communication channels people can learn from, there are different educational types as well. Educational types can be compared to the way that educator transfers the information to the intended learner. Information or evidence can be divided into two main types, testimonial assertions and factual information (Reinard, 1988). In health communication, typically targeting behavior change, the commonly used method to deliver information is through testimonies (Braverman, 2008). Research-based information refers to the use of empirical assertions and abstract data, such as prevalent estimates, to persuade message receivers they are likely to be affected by a problem. Testimonial evidence, in contrast, includes concrete, emotionally interesting information using a first-person account of someone who came to experience a particular condition that may also affect the message recipient (deWit, Das, & Vet, 2008). As stated previously, Clance and Imes (1978) recommend hearing other peoples experiences (testimonies) to lessen the effects of IP on sufferers. Given this research, the following hypothesis is proposed:

H1c: CIPS will be rated higher for the combination testimonial-video than for reading testimonial, reading research-based, and viewing research-based.

Feelings at Work and Feeling like an Impostor

The second goal of the dissertation was to explore the association between IP and workplace emotion, and "emotions are an integral and inseparable part of every day organizational life" (Ashforth & Humphrey, 1995, p. 98). IP is an incredibly emotional experience; the emotions associated with IP include feeling sad, insecure, anxious, and discouraged, if unable to live up to one's high personal standards (King & Cooley, 1996;

McGregor, Gee, & Posey, 2008). Emotions are part of our day-to-day lives and are crucial for survival, both inside and outside of organizations (Ashkanasy, Hartel, & Zerbe, 2000). Dougherty & Drumheller (2006) argue that organizations are guided by myths about rationality and emotionality and that emotions are carefully controlled in organizations.

Waldron (2012) argues that emotions are not *in* organizations but *interweave* within the organization. That is, emotions, including feeling like an impostor, are involved in nearly all aspects of organization life. Stress and satisfaction are inextricably linked to emotion at work. Because people spend the majority of their waking lives at work (Sandelands & Boudens, 2000), understanding feelings and emotions at work are of great importance, as emotion often drives behavior and decision-making (Baumeister, Vohs, DeWall, & Zhang, 2007). Clance and Imes (1978) point out six characteristics of IP pointing to why IP is such an emotional experience: (a) intellectual phoniness, (b) one's success is attributed to luck or hard work rather than to their ability, (c) lack of confidence in ability and unable to repeat future achievements, (d) fear evaluation and failure, (e) inability to feel successful, and (f) fear of being discovered as a phony. A small amount of self-doubt is normal; however, IP sufferers have an increase in anxiety when it comes to taking credit for their successes at work (Hutchins, 2015).

Levine et al. (2011) determined 10 emotions that are relevant and important in a work setting, five of the emotions are positive (affection, joy, pride, attentiveness, and contentment) and there are five negative emotions (anger, anxiety, envy, guilt/shame, and sadness). Gibson and Schwartz (2008) state that those suffering from IP feel guilt about their success, while Spinath (2011) emphasizes those who begin to recognize their success can experience joy and an improved sense of self worth. Those suffering from IP may suffer from high levels of unnecessary stress and anxiety (King & Cooley, 1995).

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In terms of the current study, the association between IP and workplace emotions was explored. These emotions included Levine et al.'s (2011) negative emotions of anger, anxiety, envy, guilt/shame, and sadness; and their positive emotions of affection, attentiveness, contentment, joy, and pride. Very likely, IP sufferers experience more negative than positive emotion at work, although research has yet to identify nature of these relationships. As such, the following hypotheses were proposed:

H2: CIPS will be indirectly related to positive workplace emotions.

H3: CIPS will be directly related to negative workplace emotions.

Impression Management and IP

The third and final goal of the dissertation was to explore the association between impression management types and IP. Impression management involves attempts to establish how others view us (Goffman, 1959). "The process by which people attempt to influence the image others have of them" (Huang, et al., 2013, p. 853). Managing others' impressions attempts to guide others' perceptions and helps people anticipate what to expect from others. Goffman (1959) argues that people are performers, and the main task is playing many different roles to form their social identities. When using impression management tactics people are able to manipulate the information that others use to base their impressions (Kacmar, Wayne & Wright, 1996).

People may act a certain way in order to change or make favorable impressions upon people. Impression management is a fundamental part of everyday organizational life and organizational communication (Rosenfeld, Giacalone, & Riordan, 1995). Examples of impression management in an organizational setting are applicants trying to make a good

impression at a job interview, managers making a positive impression to their employees, and an employee of a company showing an impression of quality and professionalism.

Individuals try control their impressions on others in different ways, using verbal and non-verbal communication to do so. What employees do, how employees do it, employees' physical appearance, and office spaces are all ways employees manage impressions. People with intense impostor feelings likely use different impression management tactics (than those whose impostor feelings are less intense) when trying to manage their impressions on coworkers. Impression management is assumed to become more intentional and focused when people believe that they will gain valued outcomes by encouraging certain impressions in others (Schlenker & Weigold, 1992).

Though impostors are competent, they typically do not feel that they are competent and likely try to manage the impressions that others have of them by using particular self-presentational tactics. It is important to note that some individuals with IP may have high regard for their personal qualities and a high self-esteem (Arrington, 1998) but, regardless, can experience IP. Given past research, the following was hypothesized:

H4: CIPS will be related to impression management styles.

In terms of impression management styles, Jones and Pittman (1982) classified five self-presentational tactics that are used to manage impressions: self-promotion, ingratiation, exemplification, intimidation, and supplication. Someone using self-promotion wants to be seen as competent. In self-promotion, individuals play up their abilities or accomplishments to be seen as competent. Self-promotion has features of ingratiation and intimidation but is its own tactic. While ingratiation is a reactive process, self-promotion is a proactive process that involves achieving an attribution of competence (Godfrey, Jones & Lord, 1986). These types of

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employees take credit for positive events, even if they are not solely responsible (Bolino, Varela, Bande, & Turnley, 2006). In Lane's (2015) study, it was found that those with IP often tried to discredit their competence. Quite often, IP sufferers are worried about being found out as a fraud and will not take credit for even positive events because of this fear. Past research supports the following prediction:

H4a: CIPS will be indirectly related to self-promotion.

Ingratiation occurs when someone has the goal of being well liked and tries to make oneself look more attractive to others. Ingratiation typically involves flattery or favor doing in an attempt to be seen as likeable. Kolligian and Sternberg (1991) state those with high IP feelings often use humor, possibly to ingratiate themselves with others. Ferrari and Thompson (2004) found that impostor scores by students correlated positively with favorable self-presentational behavior, like impression management tactics. Given this research, the following prediction was made:

H4b: CIPS will be directly related to ingratiation.

Exemplification is where individuals go above and beyond the call of duty to appear dedicated. The tactic of exemplification happens when an individual wants to be seen as hard working. Exemplification can be seen in an individual who comes in early, stays late, and hardly takes vacation time. These types of employees want to be seen as loyal, "model" employees who are willing to go the extra mile or like to work harder when others are watching (Bolino, et al., 2006). Parkman (2016) emphasizes that IP sufferers are under insurmountable stress trying to keep others believing they have abilities that they do not think they possess. Those who suffer from IP might go above and beyond to show they are hard working and deserve the position they are in, even if they do not believe it themselves. As such, the following prediction is made:

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H4c: CIPS will be directly related to exemplification.

The intimidator seeks to appear intimidating or threatening, to have others view them as dangerous. Intimidation is an impression management tactic used by those that want to be feared. In organizations, intimidation plays a role in downward influence and can be seen most often in supervisor-subordinate relationships (Rosenfeld, Giacalone, & Riordan, 1995). Vergauwe Wille et al., (2014) found that strong social support at work decreases some of the negative effects that IP has on suffers. Those with IP desire social support and do not want to be feared. Based on past research the following prediction was made:

H4d: CIPS will be indirectly related to intimidation.

Lastly, supplication is when individuals advertise their shortcomings in an attempt to be viewed as needy. Those using supplication wish to be helped by others and try to get sympathy from others by talking about their faults (Bolino, et al., 2006). Those suffering from IP have a great fear of being found out as a fraud (McGregor, Gee, & Posey, 2008). Because of this fear, those suffering from IP likely will not want to appear to have shortcomings and would wish to mask these feelings as much as possible. As such, the following prediction is made:

H4e: CIPS will be indirectly related to supplication.

A competent impression manager must have knowledge about how different people will interpret different behaviors in different manners (Schneider, 1981). For example, the activity of volunteering to stay late at work may be interpreted as helpful and competent but also as pushy and arrogant depending on the receiver of the tactic (Schneider, 1981). Most research in the field of impression management in organizations has concentrated on upward impression management. Studies such as Kipnis and Schmidt (1988) and Wayne and Ferris (1990) have

focused on the effects that subordinate impression management has on performance ratings by their supervisor.

People suffering from impostor feelings likely use impression management tactics to divert coworkers and managers from recognizing their impostor feelings. Though impostors are competent, they do not feel that they are competent and typically try to manage the impressions that others have of them. There is a lack of research in terms of IP and impression management.

Conclusion

This chapter summarizes the background of IP with the implications IP has for a person's professional and personal life. IP is a cycle that, if not stopped, can severely impact individuals and the organizations they work for. Review of how helpful both communication and education can be for an individual has been presented, and proposed hypotheses. The following chapter provides an explanation of the study's method.

CHAPTER THREE. METHOD

Method Overview

The current study examined what channel is best to educate individuals on the Impostor Phenomenon and help individuals recognize their own impostor experiences. The study also examined what instructional type would result in identifying impostor experiences. Additionally, emotions and impression management were explored in connection with IP. This chapter presents the dissertation's research methodology and outlines the research process and how each aspect of that process tested the hypotheses. The study was an experimental design testing channel and instructional type effect on participants' self-identified impostor feelings, the following begins with a discussion of the experimental aspect of the research.

Experimental Research

Experimental research allows the researcher to control different variables in research and is well suited for determining how conditions affect one another. This is done in order to make causal judgments about what causes a change in a dependent variable (Keyton, 2011). In order to answer the research questions posed, the researcher conducted a 2 (channel: video vs. text) x 2 (education type: testimonial vs. research-based) factorial experimental design. The current study used post-testing only to find the effects of independent on dependent variables for each treatment. Participants were randomly assigned to conditions. The following table presents the study's factorial design:

Table 3.1

Factorial Design

	(IV) Instructional Type	
(IV) Channel	*Testimonial*	*Research-based*
Reading	Read testimonial script	Read research-based script
Viewing	View testimonial performance	View research-based performance

The experiment was designed to determine the effect of instruction type and communication channel on impostor feelings to see how particular ways of learning about IP affected participants' self-ratings of their IP experiences. Participants were randomly assigned to one of four conditions or groups (see Table 1) and completed one of the following: (a) viewed a video presentation of research-based IP information, (b) read a research-based IP article (c) viewed a video testimonial of a person suffering from IP, or (d) read a testimonial IP article about a person suffering from IP.

Factorial experimental design. According to Keyton (2011) researchers use factorial design to investigate cause-effect relationships. For example, Keyton and Rhodes (1999) used factorial design when looking for sexual harassment identification, with the two variables being supervisor and participant sex. One primary advantage of this design is that the researcher can manipulate variables and, since participants are randomly assigned to experimental conditions, can draw assumptions regarding whether the difference was caused by the changes in the independent variable (Keyton, 2011). Most often experimental design is conducted in a laboratory and this can be a limitation to this research. Often this laboratory can lack reality.

With experimental research, the researcher was able to control variables of interest. Using experimental designs to answer communication research questions takes a post-positive

perspective on communication research. Experimental design is the only form of research that can really make a cause-effect argument. However, in order to argue for causality, there are three conditions that must be met (Gay, 1992). First, there must be a relationship condition where variable A and variable B are related. Second, the temporal antecedence condition must be met, which means a proper time order must be established between the two variables. Finally, the lack of alternative explanation condition must be met, which means the relationship between variable A and variable B must not be attributable to a confounding, extraneous variable (Gay, 1992). Even with these conditions met, there can be threats to validity that experimental designs allow investigators to control for.

Validity in experiments. There are two threats to validity, internal and external. When you want to determine whether some program or treatment *causes* some outcome or outcomes, research needs strong internal validity. Internal validity deals with the relationship between the independent and dependent variable, while external validity refers to whether or not the results are applicable to other groups. If a study shows a high degree of internal validity, we can conclude we have strong evidence of causality (Keyton, 2011). There are different types of threats for each measure of validity.

Internal validity. The different threats to internal validity include history, maturation, experimental mortality, and instrumentation. History refers to any outside events that can affect the participants' performance. Maturation refers to the changes that occur as time passes, but in this particular study, should not be an issue, as the study was short. Experimental mortality is when individuals drop out of a study. Experimental mortality should not be an issue, as participants are completing the survey in one setting and do not need to complete another portion

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later. Finally, instrumentation happens when there is a change in the instrument used. The

current study used post-test data only and there were no changes in the instruments used.

    External validity. External validity refers to the degree to which the results can be

generalized to similar populations as the study's sample. External validity consists of population

and ecological validity. Population validity concerns itself with whether or not the sample used

represents the population enough to be able to generalize findings to that population (Gay, 1992).

Ecological validity refers to the amount the results can be generalized across settings and has

several types including interaction effect of testing, reactive effects of experimental

arrangements, and multiple treatment interference. The interaction effect of testing threat occurs

when there is a pre-test and this might prompt the participant to respond in a certain way. This

particular study used experiment with post-test only and there would be no threat to external

validity.

Study Variables

    Participants completed three measures. The first scale was the Clance Impostor

Phenomenon Scale (CIPS), which measured the degree of impostor experiences for each

participant. The second was the State-Trait Emotion Measure (STEM) that measured emotions at

work. The final measure used was Bolino and Turnley's (1999) Impression Management Scale,

which assesses tactics used by IP sufferers use to manage impressions.

IP Scales

    At least three instruments have been developed to measure impostor experiences; the

history of IP measures parallel the development of IP as a construct of interest. The first measure

was developed by Harvey in 1981, and contains a 14-item scale. The Harvey Impostor

Phenomenon Scale (HIPS) measures the perceptions and effects associated with IP. Harvey and

colleagues used the measure in studies of college students. Kolligian, Jr. and Sternberg (1991) found this scale to have low levels of internal consistency (alpha =.34). Other researchers indicated a problem with the scale, stating that it was inadequate to differentiate between impostors and non-impostors. Additionally, a problem in the wording of the scale caused inaccurate self-reporting by those taking the measurement (Chrisman, et al., 1995).

Clance (1985) developed a scale to determine more accurately people's impostor experiences, given the problems with the HIPS. Clance developed the Clance Impostor Phenomenon Scale or CIPS (1985) to measure the level of IP experiences in individuals. CIPS also measures other indicators omitted from earlier scales: "(a) fear of evaluation, (b) fear of not being able to repeat success, and (c) fear of being less capable than others" (Chrisman et al. 1995, p. 457). According to the CIPS (Clance, 1985), experiences with IP can fall into one of four categories: few impostor characteristics, moderate IP, frequent feelings, and intense IP experiences. The higher the participant scores on the scale determine how IP experiences impede the lives of the participants. Through research conducted, the 1985 CIPS has been able to differentiate between impostors and non-impostor (Chrisman et.al, 1995).

The CIPS uses a 20-item questionnaire with a Likert-type 5-point response range (see Appendix C). The Likert-type responses range from 1 = not at all true to 5 = very true. The instrument is designed to assess the extent to which individuals have impostor experiences. Impostor items measured include fear of failure, impostor feelings, and dread of evaluation. Example questions from the scale include, "I can give the impression that I'm more competent than I really am." "It's hard for me to accept compliments or praise about my intelligence or accomplishments." and "If I'm going to receive a promotion or gain recognition of some kind, I

hesitate to tell others until it is an accomplished fact." Past Cronbach's alpha for Clance's IP

Scale has ranged from .84 to .96 (Chrisman et. al, 1995).

Kolligian Jr. and Sternberg (1991) developed the Perceived Fraudulence Scale (PFS),

another take on the idea of feeling like an impostor. PFS is a 51-item scale meant to "reflect a

relatively broad range of phenomenological tendencies associated with the experience" of IP

(Kolligian Jr. & Sternberg, 1991, p. 312). Kolligian Jr. and Sternberg (1995) used the PFS in

studies of college students. The PFS was found to have a higher reliability coefficient (.94) than

HIPS (.64) (Kolligian Jr. & Sternberg, 1991) and the CIPS (.92) (Chrisman et al., 1995). In the

end, Chrisman et al. (1995) argued that CIPS and PFS similarly assess IP (Chrisman et al.,

1995). Given the similarity between the CIPS and PFS, CIPS was used in the current study

because it was recommended to use in research, as it is shorter in length and easier to administer,

compared to other scales (Chrisman et al., 1995). In the current study, it had a Cronbach's alpha

of .94.

State-Trait Emotion Measure (STEM)

Levine et al. (2011) created the STEM specifically to assess workplace emotions, both

generally and in the person's most recent organizational experience. The "State-Trait Emotion

Measure (STEM) provides assessments of a diverse array of discrete emotion and aggregations

of these to index state and trait positive and negative affect" (Levine, et al., 2011). The State-

Trait Emotion Measure (STEM) assessed five negative (NEG) (anger, anxiety, envy,

guilt/shame, and sadness) and five positive (POS) emotions (affection, attentiveness/energy,

contentment, joy, and pride).

For each workplace emotion, STEM explores two dimensions—state and trait. Trait

emotion is the extent to which participants generally experience an emotion while they are at

work. This was determined by participants responding to the questions based on how they generally feel at work. State emotion, on the other hand, indicated the level of an emotion participants felt during their most recent day at work. This was determined by participants responding to the questions based on how they felt at their most recent day of work. An example from the scale is, "Joy is a pleasant emotion. It arises when we, or others we identify strongly with, make progress toward achieving important goals, and when the achievements are part of a pattern that we expect will continue. Bodily signals include smiling and an outgoing bearing." Another example states, "Sadness is an unpleasant emotion. We usually feel sad when we lose someone we love, something we value, or the positive regard of another person. Sadness involves a sense that nothing can be done to recover the loss. Hanging one's head, crying, or a slack body posture may accompany sadness." Answer choices ranged from one to five, 1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= Always.

In Levine et al.'s (2011) work, researchers found that "STEM's measurement model … comprises four factors—PA (trait), PA (state), NA (trait), and NA (state). Whereas a close link was found between state and trait scales … confirmatory factor analysis … demonstrated [a] four-factor model" (p. 415). In Levine et al.'s past work, the coefficient reliability were Positive State (.83), Positive Trait (.86), Negative State (.63), and Negative Trait (.65).[1] In the current study, this particular coefficient reliabilities were positive .77 and negative as .66.

Impression Management Styles

Impression management "is the process whereby people seek to influence the image others have of them" (Bolino & Turnley, 1999, p. 187) and is an everyday occurrence in

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[1] The original 10-point Likert-type scale was changed to a 5-point scale for visual consistency with other measures (see Appendix B).

organizational life. Bolino and Turnley's (1999) 22-item scale has five dimensions indicating

five general impression management (IM) styles people use in their communication with others.

Example items include, "Compliment your colleagues so they will see you as likable," "Arrive at

work early to look dedicated," and "Be intimidating with coworkers when it will help you get

your job done." Participant responses aligned with a five-point scale: 1 = never behave this way,

2 = very rarely behave this way, 3 = occasionally behave this way, 4 = sometimes behave this

way, and 5 = often behave this way (Turnley & Bolino, 1999). Cronbach's alphas for

dimensions/styles in past research were as follows: self-promotion (.83), ingratiation (.72),

exemplification (.71), intimidation (.79), and supplication (.80) (Bolino & Turnley, 1999).

Cronbach's alphas for the current study were as follows: self-promotion (.87), ingratiation (.84),

exemplification (.70), intimidation (.77), and supplication (.88).

Experimental Conditions: Channel and Instructional Type

The conditions for comparison groups included (a) video or text communication channel

and (b) testimonial or research-based education. This resulted in four experimental conditions:

viewing testimonial video, reading a testimonial article, viewing research-based video, and

reading a research-based article. After completing the demographics, participants were directed

to participate in watching either a video or reading an article on IP. Qualtrics hosted the survey

and randomly assigned participants to one of the four conditions (see Appendix F).

Communication Channel

Two channels were tested in the current study. One channel was *reading* a 300-word

article about IP, the number of words-per-minute college students is easily able to read and

comprehend (Nelson, 2012). The other channel was *viewing* a video recording. Participants

watched a three-minute video, which was consistent with content in the article the participants were to read.

Instructional Type

Two types of instruction were used, testimonial and research-based. The testimony presented the information as a personal story of someone currently suffering from IP. The research-based information included basic facts about IP, which were not relayed by an individual suffering from the phenomenon. The scripts used were similar in length and in terms of equivalency; experts reviewed and edited the scripts that were used for the study (See Appendix F). The same person delivered both the research-based and testimony scripts in a video, in order to stay consistent.

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Participants: Sampling and Sample

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Sampling

All participants were recruited through social media, either Facebook or Twitter, and met the requirements of having a bachelor's degree at minimum. After approval from the Institutional Review Board (IRB), the current study utilized both convenience and snowball sampling. A link to the survey was posted on the researcher's Facebook timeline. This post asked individuals to participate in a research project, along with a description of the research study, criteria to participate, and a link to the online survey created within Qualtrics. Additionally, the researcher shared the link via Twitter. The researcher asked friends, family members, and colleagues to share the link on their Facebook timelines or retweet on Twitter in order to gain more participants.

Sample

Three hundred thirty five (335) participants[1] completed the experimental conditions, survey

items, and demographic information and were included in analysis. Of these, 82.4% were female

(n=276), 16.1% male (n=54), and the remainders 1.5% (n=5) were either gender non-conforming

or transgendered. The racial demographics in the sample were Caucasian (92.5%, n=310), Asian

American (2.1%, n=7), African American (1.5%, n=5), and Hispanic (1.5%, n=5). The

participants' level of education included those with a graduate degree (48.4%, n=162), a

bachelor's degree (34.6%, n=116), and currently earning a graduate degree (14.6%, n=49). The

sample age ranged from 24-29 (23.6%, n=79) 30-34 (22.4%, n=75), 35-39 (18.8%, n=63), and

40-44 (13.4%, n=45).

Sample size was based in the desire for statistical power in order to draw inferences from

the sample to the population from which it was drawn. Sample size determination for the

experimental design followed Cohen's (1977) suggestion. Cohen argued that each experimental

condition should have at least 50 to 70 participants per group for 200-280 total participants.

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Research Procedures and Pilot Studies

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Pilot Study One: Defining IP

The researcher completed an initial pilot project to see if participants were able to define

the impostor phenomenon after reading the scripts for both the research article/video and for the

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[1] Four hundred twenty seven people participated in the study. Data were cleaned by removing
responses for persons who entered the study but did not complete either the experiment or the
survey items. Qualtrics, the online host site for the data collection, unexpectedly closed down in
the beginning of the study, which resulted in losing 92 people who were unable to complete their
participation. The problem was corrected internally (i.e., Qualtrics) and worked smoothly after
the problem was resolved. The reported sample (335) is composed of participants who completed
the experiment and responded to the survey questions following the experiment fully enough for
data analysis.

testimonial article/video. The pilot was conducted to ensure that the researcher's denotation of IP in scripts coincided with readers' reiterated explanations. That is, the researcher wanted to know if respondents understood the researcher's definition of IP before moving on to the experiment.

Twenty-eight undergraduates in an upper-level communication course at a Midwestern university completed an extra credit opportunity by reading an IP script and answering one question, which was to briefly describe their understanding of IP. Participants answered with life stories, paraphrasing the text, or using the text itself to describe their understanding.

Pilot Study Two: Manipulation Check

Prior to carrying out the experimental study, conducting a manipulation check was necessary. The manipulation check included two questions. The first explored the manipulation of channel and the second question explored the manipulation of instructional type. The researcher conducted a manipulation check to ensure that participants would be able to correctly identify that they either watched a video or read an article. Additionally, it was checked to see if they could determine whether the information received was research- or testimonial-based. Participants were asked describe the content they had just experience. Some examples of the range from 1 to 5 of experience were from opinion to research, feelings to facts, or logical to emotional. Additionally, participants were asked to describe the form in which they learned about IP. They participants could choose from the following options; I read about impostor phenomenon, I viewed a social media website about impostor phenomenon, I listened to a podcast about impostor phenomenon, I viewed a video talking about impostor phenomenon, or I read an e-mail about impostor phenomenon (see Appendix G).

Participants in pilot study two were 43 undergraduates in an upper-level communication course at a Midwestern university; they were given extra credit for participation. In the

manipulation check, 20 of the students watched a video and the remaining 23 read an article. Twenty received an instruction type that was testimonial, and 23 received research-based instruction. In order to test whether the independent variables varied in expected ways, independent sample t-tests were conducted.

Consent and Demographics

Before beginning the survey, informed consent was received. Participants confirmed their approval of the study by moving forward to the survey. Demographic information was collected, including items such as: gender, age, race, and education level, and other information (see Appendix A). For example, one question asked participants to choose their age range.

Random Assignment to Experimental Conditions

Once the demographic information was obtained, participants were randomly assigned to one of four research conditions: viewing testimonial video, reading a testimonial article, viewing research-based video, and reading a research-based article. Each educational condition presented basic information about IP.

Study Variables and Measures

Following IP education, participants completed the Clance Impostor Phenomenon Scale (CIPS, 1985, see Appendix C), Levine et al.'s State-Trait Emotion Measure (STEM, 2011, see Appendix B), and Bolino and Turnley's Impression Management Scale (1999, see Appendix D).

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Data Analysis

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Once the data were collected and cleaned, several analyses of the data was run. ANOVA was used to explore differences among experimental groups. Correlations tested for relationships between CIP, emotions, and CIP and impression management.

Experimental Groups and IP Differences

The general hypothesis (H1: CIPS ratings will vary depending on educational type and communication channel) was tested in terms of main and interaction effects in the experimental design. H1a (main effect) proposed CIPS will be rated higher for testimonial than research-based instructional type. H2b (main effect) posited CIPS will be rated higher for viewing than for reading communication channels. H2c (interaction effect) proposed CIPS will be rated highest in the testimonial-viewing condition.

Experimental data were analyzed using analysis of variance (ANOVA). ANOVA compares three or more groups in terms of variable(s) of interest. In this case, participant ratings of their impostor feelings was that variable. Rather than using multiple t-tests to compare group means, ANOVA controls for alpha inflation, which increases the chances of making a Type I error (erroneously concluding statistical significance). ANOVA analyzes all group means, four in this case, to determine how the group means are distributed, and then compares the differences among groups in terms of experimental condition (Baxter & Babbie, 2003). The resulting F-statistic indicates whether there are significant differences among the groups.

Emotion and IP

Emotion index (STEM) factor analysis. Levine et al. (2011) argued that STEM had an underlying factor model, so factor analysis was conducted on the STEM data in the current study to determine whether factors were present. Factor analysis was conducted to reduce the emotion variables to their simplest most straightforward form. The factor analysis statistically explored the latent structure of STEM's emotion indicators for unobservable variables, congregates of the variables' indicators. The STEM measure of workplace emotion has 20 items, 10 for positive and 10 for negative emotions.

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A principal component factor analysis with varimax rotation was conducted on the 20 STEM items—10 positive (state, trait) and 10 negative (state, trait). Analysis yielded two factors, which together accounted for 43% of the variance. The coefficient alphas were .680 for the aggregate of five positive emotions and .723 for the aggregate of five negative emotions. Following Levine et al.'s (2011) approach, the two factors were renamed positive (POS,) and negative (NEG) and used in H2 and H3 analyses.

Correlational Relationships between IP and Study Variables

To test the hypotheses regarding CIPS and positive emotions (Hypothesis 2), negative workplace emotion (Hypothesis 3), and impression management (Hypotheses 4), Pearson's correlation was used. Pearson's correlation (Pearson product-moment correlation coefficient, PPMCC) or bivariate correlation measures the linear association between two variables. PPMCC, represented as "r," ranges from +1 to -1. A zero value indicates no association between two variables. Values greater than zero indicate a direct association and values less than zero indicate an indirect association between the two variables. The idea of the variables being related linearly means that as the value of one variable changes, the value of the second variable also changes in a linear way.

CHAPTER FOUR. RESULTS

Table 4.1 provides descriptive statistics and correlations of study variables. This is followed by the results of the two pilot projects. Key findings for each of the study's hypotheses are then presented.

Table 4.1

Study Variables, Correlations, and Descriptive Statistics

		N	M (SD)	1	2	3	4	5	6	7	8
1.	CIPS	331	62.96 (15.54)	-	-.22*	.34*	-.28*	.33*	.41*	-.06	.19*
2.	POS	289	32.61 (5.44)		-	-.14	.05	-.04	.04	-.07	-.06
3.	NEG	289	25.31 (7.90)			-	-.01	.04	.00	-.06	.09
4.	SP	294	10.57 (2.61)				-	.09	.13	.20*	-.06
5.	IG	294	13.99 (3.13)					-	.48*	.05	.09
6.	EX	293	10.24 (3.60)						-	.17*	.20*
7.	IT	293	7.23 (2.90)							-	.26*
8.	SU	292	7.24 (2.71)								-

Notes. POS = Positive emotions, NEG = Negative emotions, SP = Self-Promotion. IG = Ingratiation. EX = Exemplification. IT = Intimidation, SU = Supplication
* $p < .01$

Pilot Studies

Pilot Project One: Defining IP

The results of the first pilot study concluded the scripts written to define IP adequately defined the phenomenon for participants. Indeed, Pilot Study one participants were able to reiterate their definition of the phenomenon after reading the IP script. Of the 28 participants in Pilot Study one, the vast majority (n = 25, 89.29%) defined IP similarly to the research script, but

was able to produce the definition in their own words. The three reiterated definitions that varied from the scripts included respondents who perceived IP as being under too much pressure, stated that the phenomenon came from overly competitive parents, stating that these people are generally flakey and do not contribute much, and finally, describing it as a confusion of praise for love. These were a small minority; overall, participants had a clear idea of IP's definition after reading the IP script. The remaining percent either parroted the researcher's script or missed the mark on the definition.

Overall, participants were successful in their explanation of IP. One participant said IP "is when someone who reaches their goals, feels that they did so by the luck of the draw, rather than doing it for themselves." Another wrote, "The Impostor Phenomenon in my understanding is when individuals are very good at something, but have a fear of being known as a fake. Impostor Phenomenon is common, but not many people talk about it." One even explained it using the metaphor of a mask that we wear: "The individual fears being unmasked and having people believe they aren't that great even though they actually are."

Pilot Study Two: Manipulation Check

The second pilot study was a manipulation check to ensure that the researcher's independent variables (channel and instruction type) varied in the expected ways.

Table 4.2

Manipulation Check Summary (Main Study Data)

Channel Indicated by Participant	Video Condition	Text Condition
Video	90	6
Text	24	125
Email	0	5
Podcast	7	2
Social Media	3	14

Final Study: Manipulation Check

In the final study, 124 of the participants watched a video and the remaining 152 read an article. To test whether the participants were aware of the channel through which they were receiving the education, participants were asked to choose from five options: "I read about the impostor phenomenon", "I viewed a video talking about the impostor phenomenon", "I viewed a social media website about the impostor phenomenon", "I listened to a podcast about the impostor phenomenon", and "I read an email about the impostor phenomenon". Results are reported in Table 4.2. Participants also completed a scale indicating how research-based versus testimonial-based the educational information was. To test this an independent samples *t*-test was conducted. Ratings did not differ significantly between instructional type ($M = 2.91$, $SD = .53$) and ($M = 2.82$, $SD = .50$), $t(274) = -1.41$, $p = .79$; the manipulation was unsuccessful.

Experimental Hypotheses

IP, Communication Channel, and Instructional Type

H1a proposed a first main effect: participants in the testimonial conditions would have

higher CIPS than those in research-based conditions. Participants who received testimony

information (M = 67.56, SD = 14.96) reported significantly higher CIPS than participants

receiving research-based information (M = 60.42, SD = 15.70). As such, Hypothesis 1a was

supported.

H1b proposed the second main effect: IP experiences would be rated higher for viewing

than for reading communication channel. No significant differences were found for channel

alone as a main effect. In terms of channel, viewing (M = 63.91, SD = 15.08) and reading (M =

64.06, SD = 15.52) were not significantly different. As such, H1b was unsupported. Tables 4.3

and 4.4 detail these analyses.

Table 4.3

Two-way ANOVA Summary

	df	Mean Square	F	*p*
Educational Type	1	2479.663	14.747	.000
Channel	1	1.512	.006	.963
Interaction	1	.452	.002	.965

H1c proposed an interaction effect; CIPS will be rated higher for the combination

testimonial-video than for reading testimonial, reading research-based, and viewing research-

based. Although the viewing testimony was predicted to have highest CIPS, there was no

interaction effect above the main effect of educational type on CIPS ($F_{(1, 273)}$ = .002, *p* =

.965). The difference in CIPS in terms of change in communication channel was non-significant. As such, H1c was not supported.

Table 4.4

Summary of Results

	Mean	SD
Research-based Video	60.30	15.46
Research-based Article	60.53	15.94
Testimony Video	67.51	14.70
Testimony Article	67.58	15.19

IP, Workplace Emotion, and Impression Management Associations

IP and Workplace Emotion

H2 posited that CIPS would be indirectly related to positive workplace emotion. H3 proposed that CIPS would be directly related to negative workplace emotion. Pearson correlation coefficient was used to assess the relationship between CIPS and workplace emotion. There was a significant indirect or negative correlation between the CIPS scores and positive emotions ($r = -0.222$, $n = 289$, $p < 0.01$). As CIPS scores increased, positive workplace emotion decreased. There was also a significant direct or positive correlation between the CIPS scores and negative emotions ($r = 0.334$, $n = 289$, $p < 0.01$). As CIPS scores increased, negative workplace emotion increased. Therefore, H2 and H3 were supported (see Table 4.1).

IP and Impression Management Styles

H4 posited that CIPS would be associated with impression management, and five directional hypotheses were tested in terms of specific impression management styles. H4a posited CIPS would be indirectly related to self-promotion, which was the case ($r = -0.280$, $n = $

294, p < 0.01), supporting H4a. H4b and H4c predicted CIPS would be directly associated with ingratiation and exemplification. Both hypotheses were supported (ingratiation, r = 0.328, n = 294, p < 0.01; exemplification, r = 0.414, n = 293, p < 0.01. H4d proposed that CIPS would be indirectly related to supplication, but a positive relationship was found between these variables (r = 0.188, n = 292, p < 0.01), failing to support H4d. H4e posited that CIPS would be indirectly related to intimidation, but relationship between CIPS and intimidation was non-significant (r = -0.061, n =293, p > 0.05). (See Table 4.1.), which failed to support the hypothesis. Taken together, therefore, three of the CIPS-impression management hypotheses (H4a, H4b, H4c) were supported and two (H4d, H4e) were unsupported.

CHAPTER FIVE. DISCUSSION

Core Findings

This dissertation had three primary goals. The first goal was to test the effects of education type and communication channel on reports of impostor feelings. The second goal was to examine the relationship between IP and workplace emotions. Finally, the dissertation sought to determine which impression management types are associated with impostor feelings. This chapter summarizes the results, posits potential explanations for the study's findings in light of past literature, and explores the findings' practical implications. The chapter concludes with study limitations, future research directions, and concluding thoughts.

Impostor Feelings and Instructional Type

Testimony as an instructional approach, rather than research-based instruction, appears to increase people's recognition of their own impostor experiences on the impostor scale, suggesting that the type of instruction used in IP education can increase the learners' perceptions of their own impostor experiences. Two dynamics might work together to account for this finding, personalization and social acceptance.

Personalization. Testimony is linked directly to a living person—it is a more intimate form of address and, as such, has considerable power to persuade others. Personal testimony often works as a means of persuasion or raising conscious understanding of issues because it gives a first-hand account of a human experience and how the experience can affect people's daily lives (Community Tool Box, 2017). Additionally such, the personal character of testimony can increase listeners' awareness of similar experiences. In political advocacy, for example, personal testimony is used as a means to persuade the public and policy makers (Brownson,

Chriqui, & Stamatakis, 2009; McLagan, 2003) The personal element of testimony also gives it a less formal presentation than more formal research-based instruction.

Social acceptance. The social need for acceptance may play a part in why testimony increases people's recognition of their own experiences of IP. Qualitative research and testimonies are expressions of a person's living experience (Rizzo Parse, 2008), which unfold as parts of people's personal testimony. The testifier's willingness to speak openly about what can be a socially embarrassing or risky issue like IP can elicit feelings of social acceptance. That it, testimony can elicit identification, which provides a sense of social acceptance and may resonate with learners. Those suffering from IP who learn that they are not alone in what they are experiencing may experience an increased sense of social acceptance. Feeling as if one's issues are more socially acceptable could, in turn, increase willingness to "see" their own impostor feelings.

Practical Implications

People who learn about IP via testimonials are likely to recognize their own impostor feelings. That is, when adults learn about IP through personal stories, they seem to recognize more of these feelings in themselves and score higher on the Impostor scale that measures impostor experiences. The power of testimonial instruction in IP education suggests at least three practical implications for teaching adults about IP, reducing training and turnover costs, and changing the landscape of graduate student education.

Teaching adults about IP. One goal of IP education is to help learners recognize their own impostor feelings because recognizing impostor feelings is a crucial first important step in diminishing IP experiences (e.g., Clance, 1995; Taylor, 2009). Potentially, recognizing impostor thoughts and feelings can lead to a newfound sense of personal worth and an acceptance of

personal success (Spinath, 2011). Education that includes personal testimony (narrative, stories) may provide learners with an opportunity to talk about IP experiences, which can reduce the frequency and intensity of feeling like a fraud. Given the power of testimony, educators in educational and workplace settings might include personal testimony, narratives, and participants' experiences when lesson planning. When given the opportunity to learn about and discuss IP, people typically resonate with the idea and learn that they are not alone. As outlined in the literature review, discussing IP helps diminish these feelings. When discussing the phenomenon with students during the initial pilot study, one person stated, "I think that a college graduate may experience this phenomenon due to their lack of experience in their field, however one should not confuse this with a lack of knowledge." This is a good point to explain in a training session, where they start gaining experience in their field.

     Reducing training and turnover costs. Arguably, billions of dollars can be saved if organizations keep their employees longer, and effectively presenting information about IP can save organizations in the long run. According to a State of the Industry Report created by the American Society of Training and Development (2008), the training and development industry spends $134.39 billion per year on employee learning and development. Organizations can focus on increasing employee longevity by informing employees of IP and the challenges that come with the phenomenon. A harm brought on by IP is how it can negatively affect work experiences.

     Vergauwe Wille, et al., (2014) found social support can help organizational relationships and when social support is high, the negative relationships between impostor tendencies and satisfaction and organizational citizenship behaviors (OCB) disappear. This suggests that perceptions of strong workplace social support could be the key to temper some of the negative effects of IP. In addition to social support to decrease IP feelings, organizations can benefit from

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adding IP training to their current training session. By training new employees on the harms associated with IP, it can help in keeping employees, which can decrease turnover, saving organizations money. With the effect that IP can have in the workplace, it is an important area to discuss in training. In highly competitive environments, like careers in sales and academia, carving out 30 to 45 minutes to discuss IP may provide benefits to both the employee and the organization. For example, one participant in the current study stated, "It's comforting to know that there is a name for this, and that I'm not just crazy."

      Changing the landscape for graduate students. Studdard (2012) argues that graduate students should be communicating with others about their impostor feelings, developing support groups to process these experiences, and educating professors on these feelings. A formal mentoring program can help build relationships and form bonds that can overcome the effects that IP can have on graduate students. The current study's findings support Studdard and others' suggestions on educating graduate students. For example, researchers say knowing there is a name to attach to these feelings of being an impostor can be reassuring (Harvey & Katz, 1984). In the first pilot study, some respondents reported appreciating the information and agreed that they suffered from impostor phenomenon experiences. Comments included, "I myself have felt this at times," "I have felt these self-doubts before," and "it made me realize how prevalent and how true this theory is in todays society." Explaining the fear of playing baseball and the chance of not meeting family expectations to earn a scholarship, one participant reported, "The fear almost paralyzed me."

      Some participants reported feeling thankful for hearing about IP through the pilot study. Participating in the pilot provided an unexpected learning opportunity because, as one participant explained, "I actually feel like I identify with this impostor phenomenon." Additionally, two

student respondents encouraged further investigation into the phenomenon, with one saying, "Clearly this Phenomenon should be brought to light so that more people can realize what they are doing and begin to enjoy the accomplishments they have achieved." Moreover, the other explained that it has much more do with our own minds: "This concept is absolutely fascinating because it shows how much power our mindsets can take away or provide."

Impostor Feelings and Communication Channel

It was hypothesized that viewing would result in higher impostor experiences than reading. The effect of channel, in opposition to what was hypothesized, is unsupported. The two communication channels tested, text and video (i.e., reading and viewing/listening) do not seem to affect adults' perceptions of their own impostor experiences. This lack of effect may be due to the channels chosen, channel ineffectual, or information over delivery.

Channels chosen. One reason why the hypothesis was unsupported could be due to the channels that were tested. As with Keaton and Kelly's (2008) study, learning about the impostor phenomenon may be considered a difficult, face-threatening situation, so learning about it with a computer-mediated channel might be the best option. These channels were chosen because of the visual and auditory elements as ways to distribute the IP information. Other potential channels to test include face-to-face communication, especially given the power of testimony.

Channel ineffectual. Another reason that the channels might have been ineffective could be that the channel does not affect people's recognition of their own impostor feelings. Potentially people can learn the information via any number of channels. As Silverman (1988) asserted most college-aged learners are visual, and videos are visual in elements.

Information over delivery. Clance and Imes (1978) assert that simply learning about the phenomenon can decrease feelings, suggesting that learning about the phenomenon is more

important that the channel used. Because recognizing impostor feelings is the first step to dealing with the feelings, potentially any channel used to communicate IP information is as effective as others at raising such awareness. Of course, considerable research testing channels is necessary to determine if channel is crucial to educating working adults about IP.

Practical Implications

Channels' effect on recognizing impostor feelings has implications for training employees (and graduate students). A cost-effective method when introducing IP into a new employee training would be to use a previously recorded video to inform employees about IP. By using the same video each time, it could potentially save the company money, rather than using face-to-face testimonies. Since the current study found that the channel does not affect self-perceptions of impostor feelings, an article for new employees to read could also be an effective means of providing IP information during new employee orientation and training.

Impostor Feelings and Workplace Emotion

Feeling like an impostor and workplace emotion are linked. The temporal nature of the relationships between CIP and negative-positive emotion is unknown. That is, people may experience negative emotion and so feel like an impostor; they may feel like an impostor, which elicits negative emotion. In this regard, the current study's findings support past research pointing to IP is a deeply emotional experience (e.g., Clance & Imes 1978; McGregor, et al., 2008; Ross, Stewart, Mugge, & Fultz, 2001). This study found positive workplace emotions that are inversely associated with impostor feelings are affection, attentiveness-energy, contentment, joy, and pride. Additionally, it was found that negative emotions directly related to IP are anger, anxiety, envy, guilt-shame, and sadness.

There is a range of emotions in the workplace. Waldron (2012) explains that emotions are just not in organizations, but they are interwoven within the organization. There are the positive and negative emotions, while positive emotions have been given much less attention than negative workplace emotions (Lord & Kanfer, 2002). Emotions impact our decision-making, work behaviors, and social interactions. Past IP literature link social interactions and work behaviors to IP. In addition to the basic and social emotions, there are sentiments, moods, and feelings which all need to be considered in emotions in the workplace. Past research of IP emotions have not extended to workplace emotions. This study adds value as it studies IP emotions in the workplace.

Accepting success. Those with IP have a hard time accepting success. Sufferers from IP are motivated to avoid success, have a fear of success, self-conscious performance, and lower career aspirations (Studdard, 2002). Even for those that do find joy with their success, it only lasts a limited amount of time, usually until a new task is assigned (Spinath, 2011). Communicating these emotions can help those that suffer from this phenomenon. For example, stating that you have anxiety about your work or losing your job, or that you have guilt because you feel as if you were not the best candidate for the job. Results of this study found that individuals who had higher IP experiences also had less positive workplace emotions. This could be because they feel fraudulent at work or as if they are lying. Unfortunately, impostors seem dissatisfied with their frequent successes as doubt, worry, and anxiety about future tasks quickly replace any feelings of achievement (Clance et al., 1995).

Fearing failure. A construct central to IP is fear of failure. Research has corroborated a relationship between fear of failure and the impostor phenomenon (Fried-Buchalter, 1992; Ross et al., 2001). Furthermore, the fear of negative consequences that could result from success has

also been positively related to the impostor phenomenon suggesting a connection between the impostor phenomenon and neurotic tendencies such as those measured in the Five Factor Model of personality (Costa & McCrae, 1992). There is a positive relationship between the impostor feelings and Neuroticism, which seems logical, since depression and anxiety are facets of the Neuroticism domain, and the impostor phenomenon has been characterized by anxiety and depressive experiences (Costa & McCrae, 1992). The relationship between impostor feelings and negative emotions are related and found in the current study with anger, anxiety, and guilt/shame. Feeling like an impostor may put individuals at risk for lowered self-esteem after failure (Cozzarelli & Major, 1990).

Experiencing negative consequences. "The workplace offers a bountiful opportunity to experience a wide range of emotions" (Muchinsky, 2000, p. 803). One of these emotions that we can feel at work, are negative emotions. Those who suffer from IP tend to hide these experiences and like this, we tend to suppress our negative emotions while at work (Fisher & Ashkanasy, 2000). Grubb and McDowell (2012) found those suffering from IP are significantly less likely to engage in organizational citizenship behaviors and are more likely to have lower affective commitment. Affective commitment is most desired by organizations. According to Muchinsky (2000), job stress and feelings are strongly related. Some of the most recognized feelings of job stress include frustration, anger, and despair. Findings from this study found that those with higher IP scores had negative emotions at work. Feelings are the core of our emotions and sufferers of IP experience a feeling of negative consequences (Muchinsky, 2000).

Practical Implications

Learning that others feel the same and that these feelings are "normal" can help sufferers have a better relationship with success, see that they are capable of achieving success, and own

the feeling that they have succeeded. Potentially after overcoming these impostor emotions, people can grow into leadership roles, and for women, narrow the leadership gap.

Feeling good at work can also provide many benefits to both employee and employer. For the employee they it helps them feel a sense of worth, overall health, and affirm positive identities (Lutgen-Sandvik, Riforgiate, & Fletcher, 2011). For employers, if the employee has a positive experience at work it can bring longevity, more creativity, and the desire to help others (Lutgen-Sandvik, Riforgiate, & Fletcher, 2011).

Impostor Feelings and Impression Management

The study hypothesized relationships between IP and various impression management techniques, a new avenue of research in both fields. Findings suggest IP is directly associated with ingratiation, exemplification, and supplication; indirectly associated with self-promotion; and unrelated to intimidation. Although the hypothesis predicted that IP would be indirectly associated with supplication, the relationship is direct—as IP scores increases so do supplication techniques. Having impostor feelings and trying to manage others' impressions can be stress inducing; using supplication techniques could act as a coping strategy for the person under stress. Using supplication techniques like pretending to not understand something in order to gain help might be a tactic they use.

Practical Implications

Huang et al. (2013) state two implications to impression management, first is to help reduce employees' affective job insecurity and second, the tactics influence employees' performance as rated by their supervisor. Since those who suffer from the impostor phenomenon believe they lack intelligence and confidence, which both can affect job insecurity; the current

study provides practical implications for those beliefs. Often, those with IP feel they lack intelligence and lack confidence needed to succeed.

Intelligence. Impostors believe they lack the skills or intelligence deserving of their position or acceptance (e.g., into graduate program). Believing they do not deserve their position, those suffering from IP will not be self-promoting in showing that they have the competence of doing their job. Changing thought patterns is one way to lessen IP experiences. By believing one is deserving of the position and have the intelligence to get the job done can make a difference in obtaining these jobs. Those suffering from IP have a great fear of being found out as a fraud (McGregor, Gee, & Posey, 2008). Because of this fear, it was hypothesized that those suffering from IP would likely not want to appear to have shortcomings and would wish to mask these feelings as much as possible. However, findings of this study found a positive relationship between supplication and IP scores.

Confidence. These findings can help those suffering from IP see where they have problems with their confidence levels and ways they are trying to manage their impressions. Learning the types of impression management techniques that one uses can lead to a change in the workplace. For example, if someone feels they are maintaining a false impression in their abilities, they can talk with someone about this concern. They can have a conversation with a peer or supervisor to see they are being successful in that area. This gives the opportunity to the impostor to gain the confidence needed to help them be successful and less fearful. This study found a direct relationship between IP scores and ingratiation. Employees using ingratiation tactics, as opposed to self-promotion, receive more favorable evaluations from their supervisors (Bolino, et al., 2006). Those who use ingratiation tactics also have more career success (Judge & Bretz, 1994).

Contributions

This study answers Waldron's call for more research in emotional communication. Studying IP emotions in organizations is important, as suffering from IP experiences can have a hindrance on their tasks. Most impostors live in fear of being found out and then usually suffer in isolation. Communicating about and learning about these emotions can help those that suffering from IP experiences. This study adds to the current body of literature in that it creates a conversation about IP and emotion. Learning that others feel the same and that these thoughts are normal, can help sufferers have a better relationship with success, see that they are capable of achieving success, and own the feeling that they had succeeded. The emotions associated with impostor feelings may be linked because of processes involved in accepting success, fearing failure, and experiencing negative consequences.

Additionally, this study extends the current research on impression management. This study found that he IP sufferer may not be trying to manage impressions, but rather using coping strategies or managing the expectations that the others have for them. These findings begin a new avenue of research for those studying impression management, impostor feelings, or both.

Limitations and Future Directions

Limitations

The findings of the current study contribute to IP scholarship from an educational and communicative lens. However, the current study is not without limitations, which suggest areas for future research. The information that follows will discuss the study limitations and directions for future research.

One limitation of this dissertation is the fact that the sample was mostly women (82.4%). When first developing their theory, Clance and Imes (1978) thought that this phenomenon was

only found in women, and though it is now known to be more prevalent in females than males (Fried-Buchalter, 1997), it can and does affect both people regardless of gender. For the current study, men had lower IP scores than women. The researcher used convenience and snowball sampling and social media to recruit participants. One explanation for more female participants is that the researcher knew more female participants, who also shared the study. Additionally, the researcher's friend group is built upon many female dominated careers, for example, social work, which many of the participants were from that field. Additionally, according to Smith (2008) he found that more women than men respond to surveys. Future research might examine the phenomena in terms of gender to determine if and how women and men's IP might experiences differ.

It might be more beneficial for participants to be able to interact face-to-face with those delivering the education of IP and is a key area for potential studies. As IP is not commonly discussed, having the ability to ask questions of the speaker could prove to be beneficial to those new to the phenomenon.

Future Directions

In addition, there are still several areas left to explore in terms of IP, communication, and education. One area that deserves further exploration is to see if a face-to-face education decreases IP experiences compared to a text-based or video-based education. Having those receiving the education have the option to ask questions or talk to others, rather than being isolated by watching a video or reading an article, may have a profound impact on their understanding of the phenomenon and their connection with the material that is being presented. What is unknown is the best communication channel to educate individuals on the phenomenon. Future research could be conducted on other channels and different types of testimony.

Channels. In general, people who receive information in a variety of contexts have a better chance of paying attention and learning the material (Felder and Silverman, 1988). The current study used one channel at a time to educate participants on IP. A future research study could use a variety of methods to see if two channels working together make a difference. Channels could be viewing and reading, like the current study, but used in conjunction, rather than separately. Other channels include face-to-face, emails, podcasts, or messages on social media. Additionally, participants could choose the method they would like to learn the information. As people learn in a multitude of ways, allowing participants to choose the method that suits them best might alleviate the IP experiences at a faster rate.

Testimony. There is a wide range of testimonials that can be researched when it comes to IP. Using narratives to communicate the impostor experiences is one way to educate individuals on IP and the negative feelings associated with it. Storytelling has been an effective tool for individuals to construct meanings (Gargiulo, 2005). Exploring the effectiveness of teaching with stories or having guest speakers come in and talk with individuals about negative consequences they have endured and how they have been able to overcome could be researched. Checking to see if one story or many stories makes a difference, much like how multiple channels might have an effect, Learning to see if different personal experiences might also make a difference in decreasing IP experiences.

Another direction for future research is to provide training in an organization and see if it helps those with high IP experiences to decrease these experiences, communicate to others about these experiences, and pursue advancement opportunities. Implementing IP education in an already existing training program could prove beneficial to both the organization and the

employees. Like this dissertation, an organization could provide a video or text explaining what IP is and how it can hinder an individual in the workplace.

Finally, another future study could be a longitudinal study of how communicating about IP and learning about IP has an impact on a person. For example, does it initially decrease these experiences one they learn about them, but slowly increase back to where the individual was when they first learned about IP? Alternatively, does learning about IP decrease experiences and do these experiences either stay the same or continue to decrease over time? Since it has been shown in past research that we speak to others about our feelings, but the effectiveness of this approach has never has been tested, it would be interesting to see if communicating these experiences changes the person's IP scores.

Conclusion

 "Understanding of the characteristics of the impostor phenomenon provides a foundation for examining the relationships between other constructs and the impostor phenomenon" (Royse-Roskowski, 2010, p. 25). In an effort to close the communication gap on the impostor phenomenon, the current study used educating IP and communication channels to see which increases the awareness to help those that suffer from the phenomenon. Studying the effect of educational type and communication channel on the ratings of IP is crucial because workplaces and universities are failing to tap into people's full potential.

Integrating IP education into an already developed training curriculum will not take much time, but could possibly help IP sufferers reach their full potential at work, helping both the individual and the organization. Learning that others feel the same and that these thoughts are normal hopefully can help IP sufferers have a better relationship with success, see that they are capable of achieving success, and own the feeling that they have succeeded. When those with IP

are able to recognize and appreciate their accomplishments, they can reach their potential.

Additionally, they can begin to feel and enjoy their successes (Spinath, 2011). The next step

would be learning to communicate effectively about impostor phenomenon, which could to

better decision-making, work satisfaction, work performance, career advancement, and satisfying

work relationships.

By becoming aware of IP, sufferers can feel more confident from the start about going up

for promotions or taking positions that are more challenging. Through communication, we can

begin to shine light on the topic by learning about it and researching communication channels,

especially because those suffering from IP tend to avoid discussing IP as they do not want to be

found out as a fraud. We can begin to come away from the herd mentality that we have in society

and see that we are not a group and that we have our own identities. Additionally, we should

define our own success individually; we can no longer use each other's definitions as markers for

success. This is especially true in graduate school and the academy in general, where there are

deep-rooted senses of competition and the needs and desires to be the first and set the bar for

other cohort or faculty members.

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APPENDIX A. DEMOGRAPHIC QUESIONNAIRE

Please respond to the following questions about yourself. If you are unsure, please give

your best answer.

Age:

18-23
24-29
30-34
35-39
40-44
45-49
50-54
54-59
60-64
65 or over

Sex
Male
Female
Transgender
Gender non-conforming

Race/Ethnicity:
Caucasian
African American/Black
Native American
Asian-American
Hispanic
Pacific Islander
Bi-multiracial
Other _____

What is your birth order in your family:
 oldest
middle
youngest
only

Please mark the highest level of education you have received
Bachelor's Degree
Currently attending a graduate school
Graduate degree
Other

What was your undergraduate GPA?
4.0-3.5
3.4-3.0
2.9-2.0
1.9 or below

In which field did you receive your Bachelor's degree

Employment Section

About how large is the company where you work?
99 or fewer employees
100-150 employees
151-200 employees
201-250 employees
251-300 employees
301 or more
Currently not employed

Choose the type of organization that best represents the company where you work?

Accounting	Insurance
Administrative & Clerical	Inventory
Automotive	Legal
Banking	Legal Admin
Biotech	Management
Broadcast Journalism	Manufacturing
Business Development	Marketing
Construction	Media - Journalism - Newspaper
Consultant	Nonprofit - Social Services
Customer Service	Nurse
Design	Pharmaceutical
Distribution - Shipping	Professional Services
Education - Teaching	Purchasing - Procurement
Engineering	QA - Quality Control
Entry Level - New Grad	Real Estate
Executive	Research
Facilities	Restaurant - Food Service
Finance	Retail
Franchise	Sales
General Business	Science
General Labor	Skilled Labor - Trades
Government	Strategy - Planning
Grocery	Supply Chain
Health Care	Telecommunications
Hotel - Hospitality	Training
Human Resources	Transportation
Information Technology	Warehouse
Installation - Maint - Repair	OTHER

Do you currently supervise others?

How many do you supervise?

How many years have you worked at your current employer?

How many hours do you work, on average?

What is your current position?

How long have you been in this position?

Instructions

We often feel a variety of emotions at work. The scales that follow ask you to rate how deeply you felt several common emotions that may have come up at your place of work. Each emotion is carefully defined. To help you gauge your response, points along the scale are illustrated with common words. These show varying levels of the emotion from mild to very strong. You should indicate to what extent you felt each emotion **during your most recent work day**, and then how you **generally** feel at work. Emotions often occur together so each should be rated independently and without concern for the other ones you may have felt. (If you are not working, complete the ratings using your "work" as a student to record your emotions.)

Please note that there are no right or wrong answers, and we welcome your candid ratings both for the positive and negative emotions. Your ratings are confidential. Only the research team will see them, and they will be used for research purposes only.

THANK YOU FOR YOUR COOPERATION!!

Definition	Examples	Ratings: Please circle the **number** on the 10-point scale below (1= little or none and 10= highest) the extent of the emotion you felt**:**
1. Joy is a pleasant emotion. It arises when we, or others we identify strongly with, make progress toward achieving important goals, and when the achievements are part of a pattern that we expect will continue. Bodily signals include smiling and an outgoing bearing.	1. Winning a well-deserved award for our work; 2. Receiving a high prestige assignment from our boss; 3. Getting a big raise because of our excellent work. 4. Achieving a promotion that fulfills our career plan 5. Development of a new, successful product in our work team	During your **most recent day of work:** 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / *Little/None Amiable Cheerful Happy* How you **generally feel** when you are working: 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ *Little/None Amiable Cheerful Happy*

2. Anxiety is an unpleasant emotion that arises when we view bodily changes, events or people as threatening to our self-esteem, our life or our physical being, and we are unsure about how to deal with the threats.
 	
Bodily signals may also be involved such as trembling, the heart racing, feeling faint, and shortness of breath.
	1. Serious illness or risk of death
	
	2. A negative evaluation by one's boss
	
	3. Conflicts with important others at work or between the roles we fill at work
	
	4. Being terminated or laid off
	
	5. Too much work to complete in too little time
	
	6. Not having enough training or information to complete a task
		During your **most recent day of work:**
		
		  1 2 3 4 5 6 7 8 9 10
		
		/____/____/____/____/____/____/____/____/____/
		  / / / /
		
		Little/None Slightly Edgy Scared Shaking
		
		How you **generally feel** when you are working:
		
		  1 2 3 4 5 6 7 8 9 10
		
		/____/____/____/____/____/____/____/____/____/
		  / / / /
		
		Little/None Slightly Edgy Scared Shaking

3. Pride is a pleasant emotion. It arises when our efforts or those of our workgroup or team achieve success and enhance our sense of self-worth. We must view ourselves as causing or being part of the success to feel pride.	1. Winning a promotion against good competition
	
	2. Getting an award for a novel idea
	
	3. Being recognized for leading a team to success
	
	4. Giving the boss a suggestion that saves a good amount of money
	
	5. Realizing that our knowledge of our work is highly valued
		During your **most recent day of work:**
		
		  1 2 3 4 5 6 7 8 9 10
		
		 /____/____/____/____/____/____/____/____/____/
		  / / / /
		
		Little/None assured confident victorious
		
		How you **generally feel** when you are working:
		
		  1 2 3 4 5 6 7 8 9 10
		
		 /____/____/____/____/____/____/____/____/____/
		  / / / /
		
		Little/None assured confident victorious

4. Sadness is an unpleasant emotion. We usually feel sad when we lose someone we love, something we value, or the positive regard of another person. Sadness involves a sense that nothing can be done to recover the loss. Hanging one's head, crying, or a slack body posture may accompany sadness.	1. Learning that a coworker has been diagnosed with a fatal illness 2. Learning that the company you have worked for years has to be closed down due to financial difficulties 3. Being fired from a job that you have given a lifelong commitment to 4. Learning that a coworker who is also a good friend will move abroad 5. Witnessing a fatal accident at work	During your **most recent day of work:** 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / *Little/None Unhappy Grieving Remorse* How you **generally feel** when you are working: 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / *Little/None Unhappy Grieving Remorse*
5. Attentiveness is a pleasant emotion. It is the feeling of being attentive, uplifted, being alert or full of energy. Your body posture may be erect and forward leaning and your face may reflect substantial mental effort.	1. Facing a challenging task at work, one that engages the highest level of your ability 2. Starting an interesting new assignment 3. Completing work that requires intense attention to details	During your **most recent day of work:** 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / *Little/None Concentrating Alert Vigorous* How you **generally feel** when you are working: 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / *Little/None Concentrating Alert Vigorous*

6. Anger is a negative emotion. It is an unpleasant feeling that may arise from a number of events or conditions. Anger is often felt together with an urge to strike out against other persons or against the conditions we view as to blame for our distress. .	1. Someone, like a boss or coworker, prevents us from achieving our goals 2. Being treated unfairly 3. Pain or stress arising at our workplace 4. Bodily signals like muscle tightness or clenched fists 5. Threats to our self-esteem	During your **most recent day of work:** 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / / *Little/None Irritated Indignant Boiling Fighting* How you **generally feel** when you are working: 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / / *Little/None Irritated Indignant Boiling Fighting*
7. Affection is a pleasant emotion. It is the feeling of closeness and warmth toward another person. When affection is experienced, we may feel love and enjoy mutual contact with another. Affection can also include feelings of trust and admiration for someone.	1. Your boss listens sympathetically to your personal problems and offers good advice to help solve them 2. Your teammates tell you they value your contributions to the team effort 3. A coworker tells you that you look great in a new outfit 4. A mentor gives you guidance with your career plans and personal demeanor	During your **most recent day of work:** 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / *Little/None Admiring Trusting Loving* How you **generally feel** when you are working: 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / *Little/None Admiring Trusting Loving*

8. Envy is an unpleasant emotion. It represents a desire for what another person or entity has or can do, especially when we believe that we truly deserve it. Envy persists when we believe we can acquire what we want soon or later. This emotion may trigger actions to get and possess what we yearn for. If someone is viewed as purposely standing in our way, we may try to hurt or damage that person or try to block that person in some way.	1. Yearning for the new computer given to a coworker
	
	2. Desiring the corner office with the big window that the boss sits in
	
	3. Wanting the attention of an attractive colleague who is attracted to someone else
	
	4. Needing the time that a coworker has to get a task done
	
	5. Hoping to set one's own work schedule like the boss
		During your **most recent day of work:**
		
		1 2 3 4 5 6 7 8 9 10
		
		/____/____/____/____/____/____/____/____/____/
		  / / / /
		
		Little/None Mildly Jealous Yearning Burning with Want
		
		How you **generally feel** when you are working:
		
		1 2 3 4 5 6 7 8 9 10
		
		/____/____/____/____/____/____/____/____/____/
		  / / / /
		
		Little/None Mildly Jealous Yearning Burning with Want

9. Contentment is a pleasant emotion. It is a feeling of being satisfied with what one has, being happy with one's situation in life and not wanting more. A relaxed body posture and smiling may be associated with contentment.	1. Satisfaction with the stability of one's job 2. Satisfaction with pay 3. Enjoyment of your relationship with coworkers 4. Because of your skills and talents you are easily able to complete your tasks	During your **most recent day of work:** 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ / / / / *Little/None Serene Satisfied Pleased* How you **generally feel** when you are working: 1 2 3 4 5 6 7 8 9 10 /____/____/____/____/____/____/____/____/____/ *Little/None Serene Satisfied Pleased*

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10. Guilt and shame are unpleasant emotions. Guilt is felt when you have done or want to do something not acceptable by social or moral standards. Shame can result from failing to live up to the ideal self. We feel disgraced or humiliated, especially when someone whose opinion is important to us judges us negatively.	1. Unsuccessful presentation in front of the company CEO
	
	2. Regretting a refusal to help out a coworker whose child is sick and needs to leave
	
	3. Regretting having stolen some company properties
	
	4. Getting caught making long distance personal calls using company phone
		During your **most recent day of work:**
		
		  1 2 3 4 5 6 7 8 9
		10
		
		/____/____/____/____/____/____/____/____/____/
		
		  / / / /
		
		Little/None Exposed Humiliated Ashamed
		
		How you **generally feel** when you are working:
		
		1 2 3 4 5 6 7 8 9 10
		
		/____/____/____/____/____/____/____/____/____/
		
		  / / / /
		
		Little/None Exposed Humiliated Ashamed

The original 10-point Likert-type scale was changed to a 5-point scale for visual consistency with other measures.

APPENDIX C. CLANCE IMPOSTOR PHENOMENON SCALE

For each question, please circle the number that best indicates how true the statement is of you. It is best to give the first response that enters your mind rather than dwelling on each statement and thinking about it over and over.

1. I have often succeeded on a test or task even though I was afraid that I would not do well before I undertook the task.

1	2	3	4	5
Not at all true	rarely	sometimes	often	very true

2. I can give the impression that I'm more competent than I really am.

1	2	3	4	5
Not at all true	rarely	sometimes	often	very true

3. I avoid evaluations if possible and have a dread of others evaluating me.

1	2	3	4	5
Not at all true	rarely	sometimes	often	very true

4. When people praise me for something I've accomplished, I'm afraid I won't be able to live up to their expectations of me in the future.

1	2	3	4	5
Not at all true	rarely	sometimes	often	very true

5. I sometimes think I obtained my present position or gained my present success because I happened to be in the right place at the right time or knew the right people.

1	2	3	4	5
Not at all true	rarely	sometimes	often	very true

6. I'm afraid people important to me may find out that I'm not as capable as they think I am.

1	2	3	4	5
Not at all true	rarely	sometimes	often	very true

7. I tend to remember the incidents in which I have not done my best more than those times I have done my best.

1	2	3	4	5

| Not at all true | rarely | sometimes | often | very true |

8. I rarely do a project or task as well as I'd like to do it.

| 1 | 2 | 3 | 4 | 5 |

| Not at all true | rarely | sometimes | often | very true |

9. Sometimes I feel or believe that my success in my life or in my job has been the result of some kind of error.

| 1 | 2 | 3 | 4 | 5 |

| Not at all true | rarely | sometimes | often | very true |

10. It's hard for me to accept compliments or praise about my intelligence or accomplishments.

| 1 | 2 | 3 | 4 | 5 |

| Not at all true | rarely | sometimes | often | very true |

11. At times, I feel my success has been due to some kind of luck.

| 1 | 2 | 3 | 4 | 5 |

| Not at all true | rarely | sometimes | often | very true |

12. I'm disappointed at times in my present accomplishments and think I should have

accomplished much more.

| 1 | 2 | 3 | 4 | 5 |

| Not at all true | rarely | sometimes | often | very true |

13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.

| 1 | 2 | 3 | 4 | 5 |

| Not at all true | rarely | sometimes | often | very true |

14. I'm often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt.

| 1 | 2 | 3 | 4 | 5 |

| Not at all true | rarely | sometimes | often | very true |

15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.

| 1 | 2 | 3 | 4 | 5 |

Not at all true   rarely   sometimes   often   very true

16. If I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I have done.

      1   2   3   4   5

Not at all true   rarely   sometimes   often   very true

17. I often compare my ability to those around me and think they may be more intelligent than I am.

      1   2   3   4   5

Not at all true   rarely   sometimes   often   very true

18. I often worry about not succeeding with a project or on an examination, even though, others around me have considerable confidence that I will do well.

      1   2   3   4   5

Not at all true   rarely   sometimes   often   very true

19. If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact.

      1   2   3   4   5

Not at all true   rarely   sometimes   often   very true

20. I feel bad and discouraged if I'm not "the best" or at least "very special" in situations that involve achievement.

      1   2   3   4   5

Not at all true   rarely   sometime   often   very true

APPENDIX D. IMPRESSION MANAGEMENT SCALE

Respond to the following statements by thinking about "how often you behave this way"

Self-Promotion

1. Talk proudly about your experience or education.

2. Make people aware of your talents or qualifications.

3. Let others know that you are valuable to the organization.

4. Make people aware of your accomplishments.

Ingratiation

1. Compliment your colleagues so they will see you as likable.

2. Take an interest in your colleagues' personal lives to show them that you are friendly.

3. Praise your colleagues for their accomplishments so they will consider you a nice person.

4. Do personal favors for your colleagues to show them that you are friendly.

Exemplification

1. Stay at work late so people will know you are hard working.

2. Try to appear busy, even at times when things are slower.

3. Arrive at work early to look dedicated.

4. Come to the office at night or on weekends to show that you are dedicated.

Intimidation

1. Be intimidating with coworkers when it will help you get your job done.

2. Let others know you can make things difficult for them if they push you too far.

3. Deal forcefully with colleagues when they hamper your ability to get your job done.

4. Deal strongly or aggressively with coworkers who interfere in your business.

5. Use intimidation to get colleagues to behave appropriately.

Supplication

1. Act like you know less than you do so people will help you out.

2. Try to gain assistance or sympathy from people by appearing needy in some areas.

3. Pretend not to understand something to gain someone's help.

4. Act like you need assistance so people will help you out.

5. Pretend to know less than you do so you can avoid an unpleasant assignment.

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Title of Research Study: Educating the Impostor Phenomenon

This study is being conducted by: Kelli J. Chromey, a doctoral candidate in the Department of Communication at NDSU

Why am I being asked to take part in this research study?
You are invited to take part in this research study because you are 18 years of age and older and work full or are a current graduate student and have earned at least a Bachelor's Degree.

What is the reason for doing the study?
We are interested in how individuals manage their impressions at work and which emotions are used. Additionally, we wish to educate participants on the impostor phenomenon.

What will I be asked to do?
If you agree to participate in this study, you will take a survey, which is estimated to take 10-15 minutes to complete. You will be asked a series of questions about your experiences.

Where is the study going to take place, and how long will it take?
The survey is available online and can be taken at your convenience. This format provides you with the flexibility to participate in this study at the location where you are most comfortable.

What are the risks and discomforts?
The risks of participating in this study are minimal. Some participants may feel discomfort when responding to these questions. You may refuse to answer any question, for any reason, or you may exit the survey at any point.

What are the benefits to me?
This research will give you an idea of how we collect data in the field of communication. It may also help us to gain insight into how individuals manage impressions and emotions in the workplace. This information may help future researchers in their study of impostor phenomenon.

What are the benefits to other people?
You will help researchers learn more about how impression management and emotions in the workplace.

Do I have to take part in the study?
Your participation in this research is your choice. If you decide to participate in the study, you may change your mind and stop participating at any time.

What are the alternatives to being in this research study? Instead of being in this research study, you can choose not to participate; however, if you are a student being offered extra credit for participation and do not wish to participate for any reason, your instructor will provide you with an alternative assignment to earn credit.

Who will see the information that I give?
NDSU and the researchers own data and records created by this project. Individual records will not be released outside of the research team and because information is collected anonymously, the information you provide will not be linked to you.

Can my taking part in the study end early?
No. Your participation is voluntary and only by your own choice can your participation be ended early.

Will I receive any compensation for taking part in this study?
If you decide to take part in the study and are currently enrolled in a participating Communication course at NDSU, you will receive extra credit points.

What if I have questions?
If you have any questions before you decide to take part in the research study or after you have completed the survey, please ask any questions by contacting Kelli J. Chromey at kelli.chromey@ndsu.edu

What are my rights as a research participant?
You have rights as a participant in research. If you have questions about your rights, or complaints about this research, you may talk to the researcher or contact the NDSU Human Research Protection Program by:
· Telephone: 701.231.8995 or toll-free 1.855.800.6717
· Email: ndsu.irb@ndsu.edu
· Mail: NDSU HRPP Office, NDSU Dept. 4000, PO Box 6050, Fargo, ND 58108-6050.
The role of the Human Research Protection Program is to see that your rights are protected in this research; more information about your rights can be found at: www.ndsu.edu/irb .

Documentation of Informed Consent
You are freely making a decision whether to be in this research study. Signing this form means that
1. you have read and understood this consent form
2. you have had your questions answered, and
3. you have decided to be in the study.

Continuing with this survey implies your consent to participate.

APPENDIX F. RECRUITMENT MESSAGES

For Facebook:

NDSU researchers interested in learning how individuals manage their impressions at work and which emotions are used. Additionally, we wish to educate participants on the impostor phenomenon. We are looking for individuals that are over 18, have at minimum a bachelor's degree and are currently employed or working on a graduate degree. Fill out our survey at LINK

For Twitter:

NDSU researchers want to educate individuals on the impostor phenomenon. Fill out our survey at LINK.

What emotions and impressions do we use at work? Fill out our survey at LINK #wewanttoknow #NDSUResearch

For email:

Dear _____,

NDSU researchers interested in learning how individuals manage their impressions at work and which emotions are used. Additionally, we wish to educate participants on the impostor phenomenon. We are looking for individuals that are over 18, have at minimum a bachelor's degree and are currently employed or working on a graduate degree. We would very much appreciate your help in completing our survey and inviting others that you know to participate as well. The weblink is as follows: LINK

More details about the research are available on the first page of the website. Thank you in advance for your help.

Kelli Chromey (kelli.chromey@ndsu.edu)

Claudette Peterson (claudette.peterson@ndsu.edu)

APPENDIX G. PILOT STUDY: MANIPULATION CHECK

Which best describes the content you experienced to learn about impostor phenomenon at the beginning of this survey:

Logical	2	3	4	Emotional

Logical(1)..Emotional (5)

○   ○   ○   ○   ○

Which best describes the content you experienced to learn about impostor phenomenon at the beginning of this survey:

Factual	2	3	4	Story-based

Factual (1)..Story-based (5)

○   ○   ○   ○   ○

Which best describes the content you experienced to learn about impostor phenomenon at the beginning of this survey:

Based on someone's experience	2	3	4	Based on evidence/facts

Based on someone's experience(1)..Based on evidence/facts(5)

○   ○   ○   ○   ○

Which best describes the content you experienced to learn about impostor phenomenon at the beginning of this survey:

Quotes	2	3	4	Statistics

Quotes (1)..Statistics (5)

○   ○   ○   ○   ○

Which best describes the content you experienced to learn about impostor phenomenon at the beginning of this survey:

Feelings	2	3	4	Facts

Feelings
(1)...Facts(5)

    ○   ○   ○   ○   ○

Which best describes the content you experienced to learn about impostor phenomenon at the beginning of this survey:

Opinion	2	3	4	Research

Opinion...Research (5)

    ○   ○   ○   ○   ○

Which best describes the content you experienced to learn about impostor phenomenon at the beginning of this survey:

Expert	2	3	4	Non-expert

Expert(1)...Non-expert (5)

    ○   ○   ○   ○   ○

Describe the form in which you learned about impostor phenomenon.

(choose the one that best describes your learning experience)

 I read about impostor phenomenon

1. I viewed a social media website about impostor phenomenon
2. I listened to a podcast about impostor phenomenon
3. I viewed a video talking about impostor phenomenon
4. I read an e-mail about impostor phenomenon

APPENDIX H. RESEARCH-BASED SCRIPT

Impostor phenomenon was first described by psychologists Suzanne Imes, Ph.D., and Pauline Rose Clance, Ph.D., in the 1970s. It refers to the tendency to attribute accomplishments to luck rather than to ability, and occurs among high achievers who are unable to internalize and take credit for their success. People who experience impostor phenomenon also fear that they will eventually be unmasked as frauds. Those with IP are surprised to learn that it is a common feeling.

Impostor phenomenon is more than just self-doubt. "Most people experience some doubt when facing new challenges", says Carole Lieberman, M.D., a Beverly Hills psychiatrist and author. "But someone with [impostor phenomenon] has an all-encompassing fear of being found out to not have what it takes." Even when they experience success — like getting into a selective graduate program— they have trouble believing that they're worthy instead of just lucky.

Impostor phenomenon can be prompted by a number of things. "Many people who feel like impostors grew up in families that placed a big emphasis on achievement," says Imes. Parents who send mixed messages — alternating between over-praise and criticism — can also increase the risk of future fraudulent feelings. Societal pressures add to the problem. "In our society there's a huge pressure to achieve," Imes says. "There can be a lot of confusion between approval and love and worthiness. Self-worth becomes contingent on achieving."

Impostor phenomenon can lead to perfectionism and other stressful approaches to work. So-called impostors think every task they take on has to be done perfectly, and they rarely ask for help because they do not want to call attention to their shortcomings. According to Clance, this perfectionism results in either procrastination or over preparation – putting off an assignment out of fear that one won't be able to complete it to the necessary high standards or spending much more time on a task than is necessary.

While it is difficult to fully eliminate the negative feelings associated with impostor phenomenon, experts say there are ways it can be reduced. Talking about one's experiences with others helps people see they are not alone in having these feelings. Researchers also recommend thinking positively by visualizing success rather than focusing on the possibility of failure. People can visualize graduating or getting a dream job. Experts also suggest rewriting mental scripts by acknowledging that while they may not have all the answers, they are smart enough to know how to figure it out. The last strategy – "fake it 'til you make it" – emphasizes acting confident in the face of challenges, which can lead to true feelings of confidence later on.

APPENDIX I. TESTIMONY SCRIPT

The first time I heard about impostor phenomenon was in graduate school, and it explained many of the feelings I kept having – that I didn't belong in this group of smart people and that I was a fake among my peers. I spent many years afraid of being unmasked as a fraud, believing that my success was due to luck and not my abilities. But when they asked my class if these feelings sounded familiar, I was shocked to see many students nodding their heads. I thought to myself, "Charlotte, you are not NOT alone."

Impostor phenomenon is more than just self-doubt. Most people experience some doubt when facing new challenges, but for me, it went deeper. Even though I had been accepted to my first-choice graduate program, for example, I still had trouble believing that I was worthy. I often believed I got into graduate school out of pure luck. I struggled with impostor feelings and often felt like I had progressed not on my own merits, but due to sympathy from others.

My impostor phenomenon may have been prompted by a number of things. My parents really emphasized achievement, offering lots of praise when I did well and plenty of criticism when they felt like I could do better. I sometimes worried that they wouldn't love me as much if I didn't do well in school. Outside of my family, I often heard that I would have to "work twice as hard to be seen as half as good," just because I was a woman. While this statement encouraged me to develop a strong work ethic, it also made me feel like my efforts would never be enough.

Impostor phenomenon can lead to perfectionism and other stressful approaches to work. I found myself thinking that every task needed to be done perfectly, and I avoided asking for help because I did not want to call attention to my shortcomings. I would both procrastinate and overwork myself, putting off an assignment out of fear that I wouldn't be able to complete it to my high standards or spending much more time on an assignment than was necessary.

I've learned that while I can't totally get rid of impostor phenomenon, there are helpful things I can do to deal with these feelings. I can talk with professors and other students about times they doubted their own abilities; rewrite my mental script to say that I might not have all the answers, but I know how to find them; and visualize success rather than focusing on the possibility of failure. I have started visualizing graduating with my degree and becoming successful in my field. I talk with classmates when I am struggling, or have had a particularly bad day. And I meet with my advisor regularly, who assures me that I am exactly where I am supposed to be.