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Exploring the Relationship Between Developing Intuition and Intuitive Decision-Making: A Quasi-Experimental Research Design

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Abstract

Scientific research suggests intuition is a complex process and a valuable component in decision-making. This pilot study explores the relationship between developing intuition and intuitive decision-making. Through an empirical approach with a holistic view, we utilized a quasi-experimental methodology to explore causation between an intuition development intervention and intuitive decision-making test scores among 20 participants. Primary findings of the paired sample two tailed t-test were $t(19) = .127$, $p = .900$, indicate no statistical significance between developing intuition and intuitive decision-making skills. However, secondary findings were congruent with the literature. The calculated mean, median, mode, and range of intuitive decision-making test times decreased after intuition development, indicating improved intuitive decision-making skills. Implications of this pilot study assist future research that explores the relationship between developing intuition and intuitive decision-making.

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~Courtney and Jody

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Introduction

The ancient Romans believed that human beings have a guiding mechanism within, and a self-protective system that guides us through life (Shamas, 2013). Today we recognize this guiding mechanism as intuition (Ferre, 2012). Exploration of the intuitive self provides insight to the unconscious. Psychologists believe that multiple decisions happen unconsciously (Shamas, 2013).

The research community and general population express their understanding of intuition in various ways: intuition as a way of knowing, a gut feeling, practical and internal (Anderson, 2004; Green, 2012; Radin & Borges, 2009; Radin & Schlitz, 2005). Radin and Borges (2009) describe intuition as a way of knowing in the absence of conscious thought, suggesting that we sometimes come to know something without concrete evidence of how we arrived at this knowledge. Intuition does not require objective analysis and can lead one into making complex decisions and problem solving (Eubanks, Murphy, & Mumford, 2010). Intuition is decision-making without the rational mind interfering with the thoughts (Woolley & Kostopoulou, 2013).

Intuition can present as a physical gut feeling and demonstrations have displayed physical evidence to support this theory (Hams, 2000; Radin & Schlitz, 2005). Japanese culture describes intuition as "stomach art" – an interesting twist on the Western "gut-level feeling" (Ammon-Wexler, 2004). Radin and Schlitz (2005) suggest that neurotransmitters and cellular circuits in the gut that produce gut feelings may have a direct connection with intuitive qualities. Intuition is experienced as both practical and internal (Anderson, 2004; Green, 2012).

Practical intuition involves, among other things, embodied knowledge developed from repetition and experience (Green, 2012). Practical knowledge guides reactions and decisions (Green, 2012). Professionals use practical intuition in professional decision-making (Nyatanga & Vocht, 2008). Anderson (2004) describes internal intuition as the inclusion of insights

originating from many areas within the self. Utilizing practical and internal intuition provides an opportunity to enhance decision-making skills (Cattelan, 2015; Cusmariu, 2008).

The concept of intuition has been controversial over the years particularly because the idea of intuition is quite complex and misunderstood (McCraty & Atkinson 2014; Volz & Cramon, 2006). Once the concept of intuition is understood, one can experience the benefits of using intuition in decision-making, such as increased awareness and enhanced reasoning (Leung, Adesara, & Burr 2005; Ramezani-Badr, Nasrabadi, Yekta, & Taleghani, 2009; Cioffi, 2000; McCloughen, O'Brien, & Jackson, 2010). In order to gain confidence in relying on the intuitive process, we must first understand the nature and value of utilizing intuition in decision-making. Emerging discoveries support the concept of valuing the unconscious mind and we have many opportunities to learn from it (Radin, 2008).

Truman (2003) suggests that intuition is difficult to study and quantify, and that people consider it inaccurate, untrustworthy, and illogical. Still, more researchers acknowledge that calculated conscious thinking is not the only way of obtaining credible knowledge (Hodgkinson, Sadler-Smith, Burke, Claxton, & Sparrow, 2009). In order for scientists to have an understanding of a phenomenon such as intuition, there must be observable and measurable components (Effken, 2001). Yet, the drive for research-based wisdom undermines the benefits of intuitive decision-making (Truman, 2003). There is a recent resurgence of intuition research within the literature and significant work continues to legitimize intuition (Dorfler & Ackermann, 2012).

Electrophysiological research findings suggest that intuition involves a system-wide process with the heart and brain working in conjunction to decode intuitive information (McCraty & Atkinson 2014). Radin (2008) claims intuitive knowledge excludes ordinary senses. Radin (2008) also indicates there is a growing trend in bringing awareness and acceptance of intuition, which is due, in part, to the advancement of cognitive and neuroscience. Researchers

are quantifying intuition's effects, legitimizing and expanding scientists' understanding of it. This evidence is showing how intuition is teachable and everyone can access it to make better decisions (Effken, 2001; Koontz, 2001).

Intuition is a component in our instinctive intelligence, which we can develop and strengthen through practice and refine by associations (Ferre, 2012). Anyone can learn how to access and develop their intuition, enabling them make better decisions in their everyday lives (Horan, 2014). The more intuition is developed by the perceiver, the stronger and more precise it becomes, allowing the perceiver to gain guidance in their decision-making (Hall, 2000; Horan, 2014). Therefore, the purpose of our research is to explore the relationship between developing intuition and intuitive decision-making.

Literature Review

The purpose of this chapter is to review the relevant literature related to intuition and decision-making. First, we explore what intuition is by reviewing the emerging trends and how to define it. Secondly, we examine the complexities of intuition. Then we explain the relationship between intuition and decision-making. Finally, we note the demand for evidence of intuition in research.

Emerging Trends within Intuition

There are many emerging trends of intuition and ways to define it. The trends include intuition as ways of knowing, intuition as a feeling that resonates in the gut, practical intuition, and internal intuition.

Ways of knowing. Nyatanga and Vocht (2008**)** describe intuition as the ability to know something without concrete evidence of how one arrives at knowing. Similarly, Volz and Cramon (2006) define intuition as the capacity to know something instantaneously without conscious effort. The internal process of sensing or feeling as a way of knowing comes from subconscious data and arises through an awareness perceived by the individual (Effken, 2001). Varying characteristics of intuition involve identification of various patterns, despite having little concrete information (Nyatanga & Vocht 2008). Eubanks, Murphy, and Mumford (2010) explain intuition as not requiring objective analysis when making complex decisions, or problem solving. In addition, intuition is decision-making without the rational mind interrupting the thoughts (Woolley & Kostopoulou, 2013). Similarly, Brien, Prescott, Owen, and Lewith (2004) report, *a precise definition of intuition has yet to be developed but the key features have recently been described as being a rapid and unconscious process, involves selective attention to small details, does not follow simple, cause and effect logi*c (p. 126). Beck (1998) suggests, *Intuition*

has been defined as knowledge obtained in an immediate way and perceived as a whole (p.169). The impulses experienced by an individual, derived from intuition, are stronger than calculated thoughts (Inbar, Cone, & Gilovich, 2010). The way of knowing is sensory impulses emerging from an unknown source (Farr-Wharton, Brunetto, & Shacklock, 2011). Intuition is an exclusive whole brain function, which extracts from both our higher cognition, and our complete lifetime of experience housed, in our subconscious mind. Perhaps it is our most significant process of incorporating our conscious and subconscious thought processes (Ammon-Wexler, 2004).

Ammon-Wexler (2004) explains how the brain contains "grey matter." which is the cerebral cortex. The cerebral cortex together with the dense system of nerves connecting them, called the corpus collusum, produce the higher thinking portion of the brain (Ammon-Wexler, 2004). This portion of the brain accounts for intellectual skills such as judgment and reasoning, and interprets input from the five physical senses (vision, smell, hearing, touch, and taste) (Ammon-Wexler, 2004). The following is an example of how intuition functions, in a millisecond, you enter an unfamiliar location where the brain incorporates:

(1) Input from all higher thinking,

(2) Input from all five senses, and

(3) The entire lifetime of experiences (Ammon-Wexler, 2004).

The whole brain instantaneously examines the situation, associates it to the lifespan of experiences, and provides a spontaneous gut- level sensation about the situation. Either it is safe and one feels undisturbed and content, or it is somehow frightening and one feels uneasy or irritated. This process transpires on a non-rational level as an immediate *ah ha* sensation (Ammon-Wexler, 2004).

An additional way of knowing is presentiment intuition. Radin and Borges (2009) define presentiment intuition as hunches, which are accurate in predicting the future, in the absence of any logical knowing. Presentiment effects are apparent in reactions of the human eye and observed prior to viewing random emotional and calm images (Radin & Borges, 2009). For example, prior to the participant viewing an emotional photo such as pain, the pupils dilate and the eye blinks spontaneously (Radin & Borges, 2009). An additional way of knowing and recognizing intuition includes feelings resonating in the gut (Radin & Schlitz, 2005).

Gut feeling. Another dimension of intuition describes the feeling of knowing originating from the gut (Luu et al., 2010). King and Hicks (2009) found that reacting on our intuitive gut sensations is an example of following one's intuitive guidance. Koontz (2001) also emphasizes intuition as *knowing something you have no logical way of knowing, it may help to think of it as the gut feeling you get when you instinctively know what to do in a certain situation-but you don't quite know why* (p. 99). Radin and Schlitz (2005) identified key findings in their study, which indicate that a physical or sensory connection may exist between two distant subjects when sending and receiving messages. For instance, an individual's gut feelings can influence another individual's mental state, even from a distance. This demonstrates how people can mentally influence one another's physiological state in a manner that does not fit with the traditional modes of human sensory capabilities (Radin & Schlitz, 2005). The electrogastrography (EGG) values detected the gut feelings, supporting their hypothesis that intuition is a gut feeling. Their study also suggests the sender's emotional state can influence the gut feelings produced, as seen in the EGG results. Therefore, when the participant was shown images of positive or negative emotions, by the researcher, the receiver noticed those feelings (Radin & Schlitz, 2005). Neurotransmitters and cellular circuits in the gut that produce the gut feelings may have a direct connection with intuitive qualities, which is open for future research

(Radin & Schlitz, 2005). Through recognizing intuition in the body, one can utilize it in practical decision-making (Ferre, 2012).

Practical intuition. Clinical practices utilize intuition and describe it as practical intuition with four distinct aspects. These aspects include embodied knowledge, developed from experience and repetition, the ability to follow and track rapidly changing conditions, retention of theoretical knowledge, and repetitive activities geared toward a goal of optimal patient results (Green, 2012). Intuition has various practical uses and is a valuable form of knowledge (Green, 2012). Practical knowledge directs actions and decisions (Green, 2012). Harnessing and practicing intuition allows for enhanced decision-making skills in both professional and personal relationships, (Cattelan, 2015). By utilizing intuition as a guide, it allows for potential successful careers and meaningful relationships (Ferre, 2012).

Internal intuition. Anderson (2004) argues internal intuition is a way of knowing that manifests within an individual. Internal intuition is the inclusion of combinations of insights originating from many areas within the self (Anderson, 2004). The insights include dreams, visions, feelings or sensations, and can be in conjunction with personal practices such as prayer, dance, or writing (Anderson, 2004). Correspondingly, intuition is about discovering the wisdom that resides within and provides continuous answers guiding an individual to their inner truth (Cusmariu, 2008). By utilizing intuition, one can draw upon the authentic self and create purposeful living (Cusmariu, 2008). Internal intuition results from multiple experiences, combining factors such as personality, the environment, knowledge-based wisdom, relationships, and the recognition of intuition as a possibility (Truman, 2003).

Clarity and peace of one's life may emerge once trust and reliance on intuition is established (Cusmariu, 2008). There are many aspects of everyday experiences where intuition presents information warranted for observance. For example, many people can relate to the

experience of thinking of someone and suddenly the phone rings and coincidently that person is calling. Likewise, when a song is in one's head then simultaneously it begins playing in the background of the current location. These situations are not random, everything is meaningful and non-coincidental (Cattelan, 2015). The more these messages are recognized by an individual, result in greater confidence relying on them to provide insight and clarity (Cusmariu, 2008).

Complexities of Intuition

Intuition is a complex process that scientists are trying to understand through research (McCraty & Atkinson 2014; Volz & Cramon, 2006). Here we review the science of intuition, followed by the autonomic nervous system (ANS) and intuition connection, and, lastly, recognizing and developing intuition.

Science of intuition. Much of the literature discusses the theories of intuition stemming from a combination of the brain and heart (McCraty & Atkinson 2014). McCraty, Atkinson, and Bradley (2004) suggest that the heart and brain work together in a partnership when receiving, processing, and understanding intuitive knowledge. They further describe intuition as a system-wide process. Therefore, many areas within the body are involved in developing intuition. A later study by Volz and Cramon (2006) found that certain areas of the brain activate during intuitive judgments. The particular areas of the brain that were activated included the median orbito-frontal cortex, anterior insula, ventral occipito-temporal regions and the amygdala, specifically the lateral segment (Volz & Cramon, 2006).

Continued research on the intuitive process within the body expands on the role of the heart and its involvement in processing nonlocal material (McCraty & Atkinson, 2014). Intuition falls under the category of nonlocal material because it stems from unconscious thought. The data showed that the heart initially reacts to the intuitive information, followed by

the brain and other organs (McCraty & Atkinson, 2014). They also suggest that the heart is a sensory organ with a comprehensive nervous system able to decipher intuitive material (McCraty & Atkinson, 2014). McCraty and Atkinson (2014) state intuition is highly complex and a challenging process to grasp, a process existing beyond ordinary senses.

The autonomic nervous system and intuition connection. Connections also exist between intuition and our autonomic nervous system (ANS) (Nyatanga & Vocht, 2008). An experiment on gambling demonstrated how the ANS generates a stress response and sends a message, of a strategy to be followed, prior to the participant's conscious awareness of such a strategy (Nyatanga & Vocht, 2008). In the experiment, the participants used false money, and chose red or blue cards with the goal of winning money. What they were unaware of, was that the red cards would not win money—they could only lose with the red cards. The researchers found that after participants turned over around 50 cards, they began to realize something was happening. After they turned over around 80 cards, most all of the participants realized they could only win with the blue cards. A polygraph connected to the participants measured the activity of their sweat glands on the palms of their hands. Researchers suggested that after about the tenth card, the ANS was generating a stress response and sending a message of a strategy to follow prior to the participant's conscious awareness of such a strategy. This experiment aids in understanding the physiological (ANS) aspect of intuition and the relation to the decision-making process (Nyatanga & Vocht, 2008). This is an example indicating how intuitive abilities produce physiological responses— the stress response activated before the participant understands the game. The ANS has multiple cells and neurotransmitters that form a complex cellular circuit similar to the brain (Nyatanga & Vocht, 2008). This circuitry functions independently from the brain. Valuable ideas and decisions emerge when recognizing and

utilizing one's intuitive thinking verses relying primarily on the conscious mind (Nyatanga & Vocht, 2008).

Recognizing and developing intuition. Intuition is a valuable tool to develop in order to enhance decision-making skills in professional settings or general life (Woolley & Kostopoulou, 2013). Initially, recognizing intuition can be challenging. Intuition emerges in a non-linear, sometimes abstract form of thought or insight (Peirce, 2009). Developing intuition requires practice, as does attempting to learn any new skill (Effken, 2001). Effken (2001) proposes that, *intuition as direct perception can be developed through education and extensive deliberate practice* (p. 255). With continued practice, intuition is easier to recognize and use effectively. Woolley and Kostopoulou (2013) emphasize that as practice of intuition increases, intuitive occurrences increases. Recognizing and developing intuition is complex and manifests in the body, yet can be translated through decision-making (Woolley & Kostopoulou, 2013).

The Relationship Between Intuition and Decision-Making

Intuition is a valuable component in decision-making (Nyatanga & Vocht, 2008). Decision-making plays a major role in the intuitive process. Here we review the types of intuitive decisions and intuitive decision-making in professional settings.

Types of intuitive decisions. When thinking about intuition it is crucial to observe the decision-making process. Decision-making can occur in a number of ways. Woolley and Kostopoulou (2013) looked at professional intuition and suggest that there are three courses to take when making a decision: gut feelings, insights, and recognitions. Results of this study show that participants claim that rational judgment frequently inhibits intuitive reasoning (Woolley & Kostopoulou, 2013). There is also evidence that suggests people tend to make rational decisions when it comes to areas such as finance or education but make intuitive choices for simpler

decisions such as dessert options (Inbar, Cone, & Gilovich, 2010). Inbar et al. (2010) suggest decision- making occurs based on the task. Complex decisions may elicit rational choices; whereas, simpler decisions use intuition (Inbar et al., 2010). Inbar et al. (2010) argue that intuitive impulses can have the power to override deliberate decisions. In many aspects of one's life, including professional environments, one utilizes intuitive decision-making (Mick, 2014).

Intuitive decision-making in professional settings. Nyatanga and Vocht, (2008) explain intuitive decision-making is applied in professional settings such as clinical and business. Specifically in clinical settings, one's intuition gives light to valuable ideas and actions that may not occur when relying on conscious thinking alone (Nyatanga & Vocht, 2008). Clinical decision-making plays an important part in providing effective patient care in experienced nurses (Beck, 1998). Many experienced nurses have developed patterns, unconsciously or intuitively, based on previous experience with similar situations. An example includes making effective decisions based on the conscious assessment of a patient in combination with their previous experience of a similar situation and outcome. The experienced nurse is better able to access and use this stored information due to multiple experiences retained in the subconscious mind (Nyatanga & Vocht, 2008). When recognizing and accessing these unconscious patterns, intuition can manifest (Eubanks, Murphy, & Mumford, 2010). Intuitive decision-making is rapid and utilizes one's instincts (Pearson, 2013).

If intuition is strengthened in clinical settings, nurses and others may be able to anticipate and prepare for certain patient situations (Ruth-Sahd, 2003). The combination between intuition and evidenced-based nursing practice suggests nursing decisions should not fully rely on evidenced-based practice alone, but rather as an adjunct to intuitive decisions (Effken, 2001). The intention is to incorporate intuitive ways of knowing in order to enhance the scientific approach (Ruth-Sahd, 2003). When using evidenced-based practice alone, one may overlook

important, beneficial information that could enhance the patient outcome. To deny nurses the opportunity to utilize intuition in part of their practice discourages the benefits of effective decision-making (Truman, 2003). As professionals make informed decisions, they observe their options and possible interventions. Intuition is an important tool for clinicians to use during the process of making quality decisions for their patients (Effken, 2001). Medical professionals can achieve optimum patient outcomes through proper courses of action (Leung, Adesara, & Burr, 2005). While intuition is difficult to scientifically measure, neglecting it in practice is unacceptable; to denigrate the use of something merely because it cannot be measured is inappropriate, over simplistic and potentially damaging to a profession that promotes holistic patient care (Truman, 2003).

Intuition is a valuable tool in business settings, especially in work processes (Mick, 2014). Microsoft Corporation founder Bill Gates said, *one often has to rely on intuition* (Mick, 2014, p. 1). Similarly, Albert Einstein also was an advocate for intuition, stating, *the only real valuable thing is intuition* (Mick, 2014, p. 1). Nurturing and sustaining a work setting that inspires intuitive thought can be challenging. In a competitive environment, where attracting and maintaining a superior workforce is essential for a successful business, cultivating an atmosphere that fosters utilization of intuition is crucial (Mick, 2014). Ammon-Wexler (2004) agrees:

> *In the latter half of the last century business decisions and results were defended using such rational, linear measures as rate of return, cost of capital, net income, etc. But all the while, the most successful leaders were using an additional tool – intuition. And today intuition is being touted by management consultants as essential* (p. 1).

Selecting highly intuitive individuals may increase production as well as creativity in the workplace (Mick, 2014). Some individuals are more innately intuitive than others; therefore,

recognizing the common traits of naturally intuitive persons combined with the ability to foster those traits in the workplace can be beneficial. Some of these traits include:

- Innovative
- Creative
- Lack of limiting beliefs.
- Ability to verbalize imaginative thoughts.
- Proactively pursues opportunities to improve the business (Mick, 2014).

Workplaces are shifting from task-oriented decisions to demanding more complex intuitive problem-solving (Mick, 2014). The way that business leaders historically made one-dimensional decisions is no longer an indicator for making future decisions. Accepting a multidimensional methodology that goes beyond old-style intellect alone is rapidly becoming a vital business practice (Mick, 2014). Such complexity allows for creativity and a focus on the role of human intuition in the workplace (Mick, 2014). Undoubtedly, data analysis and historical outcomes remain important in generating business decisions. However, following one's gut instinct has enabled success for many businesses (Mick, 2014). Rather than overanalyzing information, which can lead to second-guessing or slowing the progression of a project, intuition motivates effective decision-making (Mick, 2014). Intuitive decision-making in conjunction with logical intelligence exposes opportunities and permits organizations to thrive (Mick, 2014).

Demand for Evidence of Intuition in Research

The scientific research community demands research-based evidence on intuition (Truman, 2003). "Intuitive skill application is needed in education, practice, and research (Robert, Tilley Scott, & Peterson, 2014, p. 348). Further research on intuition in clinical decision-making will reinforce evidence-based practice (Truman, 2003). We discuss the complexities of researching intuition, followed by research on intuitive decision-making.

Complexities of researching intuition. Evidence of intuition is a major concern for acceptance as a suitable method for decision-making; there is little consensus, however, on what constitutes quality evidence in intuition (Truman, 2003). It is difficult to measure quantitative evidence of intuition (Truman, 2003). The complexity of intuition poses challenges to identifying the relevant variables (Effken, 2001). Intuition is mysterious and incomprehensible (Lieberman, 2000). Seligman and Kahana (2009) suggest that it may be because we do not understand its 'cognitive architecture.' Hammond (2010) argues that first it is essential to become familiar with the mysterious mechanism of intuition. Determining intuitive processes contribute to accurate professional judgments (Woolley & Kostopoulou, 2013), especially in terms of decision making when under stress.

Research on intuitive decision-making. An abundance of research on intuition focuses on how intuitive impulses can give rise to decisions that may be superior to deliberate thoughts (Ammon-Wexler, 2004; Inbar, et al., 2010; Mick, 2014). To access and integrate intuition in moral decision-making one must actively engage in the intuitive process (Schmidt, 2014). Betsch and Glöckner (2010) found intuition processes integrate information without considerable mental effort. The participants solved decision problems rapidly, only taking on average twenty seconds (Betsch & Glöckner, 2010). In terms of decision-making required by professionals, researchers could study how they make productive decisions during times of stress to examine the specific role intuition plays (Ramezani-Badr et al., 2009). Through various forms of scientific research, we understand intuition (Ruth-Sahd, 2003).

Summary

Emerging trends of intuition in the literature include: intuition as a way of knowing without conscious thought, a feeling that resonates in the gut, intuition used practically, and manifested internally (Anderson, 2004; Green, 2012; Luu et al., 2001; King & Hicks, 2009; Nyatanga & Vocht 2008; Radin & Schlitz, 2005). Through research, scientists are determining the complex process of intuition (McCraty et al., 2004; Volz & Cramon, 2006). Nyatanga and Vocht (2008) review the science behind intuition by analyzing the ANS connection to gain understanding of the complex process. Others argue intuition is challenging to recognize and develop because it emerges in a non-linear, abstract form of thought or insight (Peirce, 2009; Woolley & Kostopoulou, 2013).

Intuition is a valuable component in decision-making (Nyatanga & Vocht, 2008). Woolley and Kostopoulou (2013) explain that intuition manifests in the body and translates through decision-making. They claim the three specific types of intuitive decisions include insights, gut feelings, and recognitions. In many aspects of one's life, including professional environments, one utilizes intuitive decision-making (Mick, 2014).

The scientific research community demands research-based evidence on intuition (Truman, 2003). Truman (2003) discusses the complexities of researching intuition and research in relation to intuitive decision-making to reinforce evidence-based practice. Therefore, our research question is: how can developing intuition influence intuitive decision-making?

Lenses

The purpose of this chapter is to articulate the relevant research lenses that have influenced the development and implementation of this study. While not always specifically noted in many published studies, we recognize how critically important this is given the changing landscape of research: multiple epistemologies, axiologies, and cultures of inquiry, not to mention multiple methods of data collection and types of data collected. When researchers do not specify their underlying assumptions, readers can only speculate as to how these assumptions may have influenced the design of the study, data collection, data analysis, and conclusions drawn by the researchers. When researchers are transparent about these assumptions, however, they encourage their readers to think more critically about how these assumptions impact any type of research. Moreover, researchers who do this make it possible for readers to hold them accountable to the researcher's standards, rather than artificially impose other standards (which may or may not be relevant). The reliability and validity of this study's findings may thus be more accurately assessed in light of this full disclosure.

First, we elaborate on how our research paradigm and culture of inquiry framed this research project. Next, we describe the theoretical lenses guiding our study and how they impacted the development of this project. This is followed by an articulation of relevant professional lenses and how they have impacted this study as well as our relevant personal lenses and their impact.

Research Paradigm and Culture of Inquiry

Our Post Positivist paradigm, with its realist ontology and its objective epistemology led us to the conclusion that the quasi-experimental method was most appropriate for this study. It also informed how we designed this study. We designed this study with prediction and control, where the researchers established the specific tests to use during

experimentation and what the participants practice. Similarly, the empirical approach taken in this study presumes a number of things breaking down a whole, discovering the regularities, predicting outcomes, and identifying common themes (Leedy & Ormrod, 2005). These principles are also reflected in how we designed this study. We designed this study to break down the concept of developing intuition and the influence on intuitive decision-making to determine if increased intuitive development practice improves intuitive decision-making skills. With our quasi-experimental approach, we were able to discover the quantitative regularities of potentially improved access to intuition and identify emerging qualitative themes. The researchers were open to multiple sources of information with secondary constructivist perspectives, including qualitative components in data collection and analysis.

Theoretical Lenses

One theoretical framework provided the necessary conceptual grounding for this study. The Dual-Process -Process Theory. We describe this theory and make specific connections to this particular project.

Dual-Process Theory. Although multiple models exist around dual-process theory, many current theories agree that two systems encompass the process of reasoning (Evans & Over, 1996; Sloman, 1996; Stanovich & West, 2000). These systems recognize as having distinct functions and roles that result in different responses (Osman, 2004). Kahneman (2003) suggests that these two systems or processes of thought include intuition and reasoning. Intuition, or system 1, is rapid, implicit, unconscious, and instinctive. It is typically associated with strong emotional bonds based on formed habits and is difficult to change or influence. Conversely, reasoning, or system 2, is much slower, explicit, more volatile, and is comprised of conscious judgments and attitudes (Kahneman, 2003). An interactive relationship exists between the two

systems with overlapping fields; however, they can produce conflicting responses (Stanovich & West, 2000).

The design and development of this project by the researchers included dual-process thinking. Intuitive, or system 1, thinking occurs throughout the project, where the researchers trusted their unconscious reasoning during the process; however, reasoning, or system 2 thinking, which includes explicit conscious thought in decision-making. Pertaining to the construction of the project process, the majority of decisions, and data analysis, the researchers primarily relied on the system 2 processes of thinking. The researchers relied on their analytical, explicit, conscious reasoning. Conversely, when the researchers were determining the types of instrumentation to utilize for the project, they accessed and followed their system 1 or intuitive thinking and developed their own simple instruments. The researchers utilized system 2 or analytical reasoning as the basis for design of the quasi-experimental method. The data and instruments in the research reflect this system also. System 2 aligned with our post-positivist culture of inquiry because it relies on conscious and analytical decision-making; whereas, system 1 correlates with the portion of our culture of inquiry grounded in constructivism, as it uses unconscious intuitive decision-making.

Professional Lenses

As we explored the relationship between intuition development and intuitive decision-making, we acknowledged our professional experiences resulting in potential biases. First, we explain Courtney's professional lenses, followed by Jody's professional lenses and the influences these lenses had on the research process.

Courtney. With an undergraduate education in Exercise Sport Science and a job as the Business Manager of a youth athletic company, I have experience with exercise and health. The experience has fueled my passion for health and healing. I was fortunate enough to have the

opportunity to shadow and intern in many clinical settings such as Hennepin County Medical Center and Gillette Children's Hospital. Currently as a graduate student studying Holistic Health, I have been immersed in alternative and complementary medicine and theories. These experiences have influenced my participation in this project in a number of important ways.

First, having an educational background in Exercise Sport Science from a private university influences how I research. I find joy in academic writing and scientific ways of learning. Coming from a post-positivist perspective, my reality is driven by an understanding of natural laws. However, I have also grown up with a portion of my being living in a constructivist paradigm, being open to multiple realities, desiring to deconstruct assumptions. This tension affected our project. For example, we tried to do a quasi-experiment on intuition. Intuition is a topic that typically falls under a constructivist set of beliefs. As intuition is a complex topic to understand, it has been challenging to quantitatively measure. My studies have provided a well-rounded experience in science and I continue to find curiosity in learning about internal body processes. This has influenced the articles that interest me, and the direction of the topic leaning towards incorporating both a clinical and professional focus. Secondly, the experiences in clinical settings have influenced my outlook on medicine. I do not agree with mainstream medicine and want to see more holistic health and complementary therapies be incorporated into medicine in the future. This drives my passion for researching complex phenomenon in hopes of expanding others' views of holistic approaches. Third, being a holistic health student I am able to choose a topic that is less common in other areas of study. This opportunity led to my decision on choosing a topic focusing on intuition.

Jody. My experience in the medical field spans 31 years and have worked as a Registered Nurse for the past 22 years. This experience in the medical field, especially as a

Registered Nurse, has inspired my contribution to this research project in the following ways: First, prior to graduation, I was given an unforgettable message from one of the nursing instructors. She told us one of the most important things to remember in our nursing practice is to always listen to that little voice in your head or gut feeling— "It will never steer you wrong." I can say first hand that when I follow that advice I rarely regret the decision. Second, I believe, we humans are energetic beings with a universal connection to all other energies in the universe and I strongly believe we receive inner guidance (intuitive guidance) because of this interconnectedness. Third, we must remain open-minded, grounded, and trust the intuitive messages when we receive them. During the process of developing this project, I focused on remaining open and aware of the three beliefs described above and listened to my inner guidance. Prior to most sessions with my research partner, I would take a few minutes to become grounded, centered, and connected to the universal energies for guidance. However, this was not always easy as my analytical mind tended to intrude on occasion and cause me to second-guess decisions, which was frustrating and challenging. Having said this, trusting the analytical mind and thought process holds value as well. The challenge, at times, can be incorporating balance between the two. The flow of the working sessions varied with my research partner. At times, they flowed smoothly from the start or the contrary, where we felt immobile and had difficulty facilitating a productive working session. On other occasions, at the start our session, we would slowly trudge along, frequently feeling stuck, and then suddenly the energy shifted and began flowing smoothly and productively. Nonetheless, maintaining a grounded connection and open mind while trusting my inner guidance was the process I attempted to follow with each working session on the project.

In reference to my paradigm(s), ontologies, and axiology, I will explain the various changes and shifts, as I see it, over the years as an adult. In the mid-1980s, my paradigm was

from a positivist perspective. My ontology was from the perspective that one reality exists by natural consistent laws, also referred to as realist ontology. My axiology stemmed from order, prediction, and control. In the late 1980s, my medical field education and employment began. Initially, I was employed as a certified nursing assistant, then a certified health unit coordinator (ward clerk was the correct title at that time), and finally in 1990, I initiated my degree in nursing. From the mid '80s to 1994, at which time I graduated as a Registered Nurse, I was a steadfast positivist. Only one reality existed in my mind, which was true of the typical western medical perspective. Alternate explanations for a diagnosis or decision-making were non-existent. Then, after working in the field of nursing, I soon began to see that more than one reality might exist. Thus began my paradigm shift from positivist to post-positivist and eventually to constructivist. Over the years in my nursing practice, I discovered that gut hunches, visceral gut, and heart feelings were authentic. Not only were they real, they were messages intended to guide me in making accurate decisions. The more experience I gained in the medical field, the stronger the messages became and they expanded into my personal life as well. I discovered a completely new way of viewing reality! I never completely lost sight of the positivist or post-positivist viewpoint; I still believe it holds value. However, I believe the paradigm of choice depends on the context of the situation or issue at hand. By living in this dual-paradigm, in relation to my research project development, it has posed some struggles and discord. I feel intuition can be viewed from both a constructivist perspective as well as a post-positivist perspective. In my opinion, intuition would seem to originate more naturally from a constructivist perspective with the absence of concrete, tangible, realities, which I feel is difficult to argue. However, in this project, I attempted to challenge this thought and also incorporate and reveal intuition from a post-positivist paradigm, which is less natural. I wanted to explain that intuition is real, tangible, and can be measured. One can view the

statements above as contradicting; however, I believe intuition can emanate from both and be viewed in relation to both post-positivist and constructivist paradigms.

Personal Lenses

In addition to the professional lenses, we next discuss the personal lenses connected to our research journey. First Courtney, followed by Jody, describes the personal lenses influencing their role as researchers.

Courtney. As an individual with a high spiritual focus and a family suffering from many health issues, I am aware of a number of personal biases related to this topic. My spiritual journey is very important to me. Growing up with a single mom grounded in constructivism, I have been open to multiple realities and ways of knowing. Personally, I find joy in practicing ways to develop my spirituality through approaches such as meditation, prayer, and yoga. Holistic education has inspired a personal process of strengthening the underlying intuitive abilities within my spirit. Studies abroad in India have provided opportunities to practice multiple yoga and meditation methods as well as strategies to develop my intuition such as yoga nidra. My personal practices influence the research process, as we chose our topic of developing intuition and the relationship it has with decision-making. We have also taken an intuitive approach in certain research processes, seeking intuition as a guide for specifying our research question.

Next, I explain how my family health issues have affected my passion for the topic. I have experienced many Western medical doctors who provide no answers to family health crises, yet easily recommend a multitude of prescriptions that seem unnecessary, especially for minors. These struggles have influenced my passion for holistic health and lit the fire under my belt to learn about other ways of healing and knowing such as intuition in professional settings such as healthcare. Yet, as primarily post-positivist, I am able to step outside of my own

conscious thoughts and values while conducting inquiry. As I considered ways of maintaining reflexive awareness of these issues, I have decided to be aware of these biases in order to develop research in an accurate and precise manner, avoiding an effect to the results. For example, we designed the intuitive decision-making tests to measure strictly quantitative results. In addition, during data analysis of qualitative components, we extracted direct quotes and phrases to refrain from manipulating data into our own desired themes. For instance, we initially thought a major theme would include gut feelings. However, the participant quotes suggested other feelings such as temperature sensations during intuitive decision-making.

Jody. As a child I operated as a constructivist, however when I transitioned to nursing school I was required to function in a positivist paradigm. Although my parents were loving and caring, growing up an only child left me with a considerable amount of alone time. I had a very vivid imagination and my sense of reality was in my mind— I was a constructivist. Concrete measurable reality, as with a positivist viewpoint, was not conceivable to me as I reflect back on those years. For the most part, in relation to my personal lens, that remains unchanged.

As a Registered Nurse and graduate student of holistic health studies, I am aware that personal biases exist relating to our research topic. For many years, I have held a strong interest in the area of intuition and a desire to gain a clearer understanding of intuition and its origin. I practice utilizing my intuition frequently and look for opportunities to continue to develop and strengthen it. It is my belief that intuition can surface from a spiritual perspective, in connection with the universe for example, or also from a practical perspective in which the intuition stems from previous experience. As I reflect on the above-mentioned biases, and although the results of the project did not transpire as expected, I maintained an undefended viewpoint as I expanded my understanding and knowledge in the intuitive field.

Method

The purpose of this chapter is to describe the quasi-experimental method used to answer our research question, "How can developing intuition influence intuitive decision-making?" A quasi-experimental design is often used when a true experimental design is not practical or feasible (Leedy & Ormrod, 2005). Similar to randomized trials, quasi-experiments reveal the causation between an intervention and an outcome (Harris et al. 2006). Since quasi-experiments are natural experiments, findings allow some generalizations about a population (Shadish, Cook, & Campbell, 2002). An empirical culture of inquiry grounds this study.

We start this chapter by situating the project in the empirical culture of inquiry followed by the rationale for the quasi-experimental methodology. Next, we discuss the sampling procedures and rationale. What follows is an illustration of the type of instrumentation, data collection, and analysis procedures, followed by the rigor applied in data collection and data analysis. Lastly, we describe the ethical considerations and specific design limitations.

Culture of Inquiry

An empirical culture of inquiry grounds this study. Empirical inquiry observes the parts, evaluates the relationships among the observed parts, and then gathers data to make assumptions about the whole. Empirical research seeks to evaluate the effects of an intervention (Bentz, Malhotra, & Shapiro, 1998).

The researchers are primarily functioning in a post-positivist paradigm seeking to explore the concrete evidence of developing intuition and its relationship to intuitive decision-making skills. Drawing from a post-positivist perspective, the researchers are motivated to understand intuition as a reality through natural laws (Guba, 1990). With the chosen empirical culture of inquiry, the researchers established control of the research via the intuition development tool.

As secondary constructivists, the researchers were open to multiple sources of information and did not exclude qualitative data, despite the primarily post-positivist desire to conduct empirical research with quantitative data. The researchers live and can function in two worlds, post-positivist and constructivist, which poses a dilemma for traditional research. The research design including both quantitative and qualitative data reflects the collision of the researchers' worldviews.

Quasi-Experimental Method

In an ideal experimental study, a randomized selection of participants is preferred (Leedy & Ormrod, 2005). However, random sampling is not always practical or feasible due to time constraints and lack of resources as is the case in this study. Therefore, the quasi-experimental method is the most appropriate method. To explore the relationship between intuition development and intuitive decision-making, the researchers use a quasi-experimental design. More specifically, the researchers chose to use the one-group pre-test post-test design. This design involved a single group in which the participants were evaluated by the researchers before the experimental treatment, then the experimental treatment was administered by the researchers, followed by a post-test (Leedy & Ormrod, 2005). This design was optimal with the time constraints and limited amount of participants in the study.

Sampling

Due to time constraints, the sampling procedures for the research project included non-random, convenience sampling where the researchers verbally asked people they currently know if they would be interested in participating in the research project. Researchers sent emails to friends and co-workers, with flyers attached (See Appendix A), explaining the project and inviting them to contact

the researchers via email or by phone (Appendix A). Appendix A includes the researchers' script for discussing the study with potential participants. The email included an invitation to forward the project details to others they know, using snowball sampling. The researchers received twenty-two inquiries from potential participants. Of those, all twenty-two met the inclusion criteria. We then scheduled a time and place to meet with each participant. The meetings with participants took place in a, convenient location for the participant, such as a local library, together with one researcher. At the meeting, the researchers first reviewed the Informed Consent form with the participant, asked them to summarize what would happen in the study in their own words, and answered any questions. After selecting twenty-two voluntary participants, the researchers obtained informed consent (Appendix B). The twenty-two participants were adult males and females, and were both literate and English speaking, as the participants must communicate with the researchers during data collection. Two of the twenty-two participants chose to withdraw from the study, for unknown reasons, therefore they did not complete the post-test, resulting in a final twenty participants (n = 20).

Instrumentation

The researchers used four instruments to explore the relationship between developing intuition and intuitive decision-making: the *Intuition Development Tool*, the *journals*, the *Intuitive Decision-Making Test* and *field notes*.

Intuition Development Tool. The researchers developed an *Intuition Development Tool* for the participants to utilize in order to develop their intuition (Appendix C). The researchers used review of the literature on accessing and strengthening intuition to create the *Intuition Development Tool* (McCraty & Atkinson, 2014; Wan et al. 2012). The *Intuition Development Tool* consisted of instructions by the researchers, for the participants to practice fifteen minutes per day, for two weeks. The tool began with instructions for participant to center and ground

followed by shuffling a deck and placing four cards face down. The participant was instructed to intuitively guess the card color, red or black, of the four cards and record the results. The *Intuition Development Tool* provided instructions for the participant, to practice intuition development by intuitively guessing and journaling various events throughout the day such as, the person calling or texting them, and number of co-workers absent at work. As a new tool used by the participants in the research, reliability and validity were not established, which poses a limitation to this study. This particular experiment did not utilize previously tested and valid tools due to the inability to answer the researchers' question.

Journals. The researchers provided each participant with a notebook to journal. Participants were invited, by the researchers, to journal any visceral experiences, such as gut feelings or sensations, that occurred throughout the two-week intuition development period. The participant's journaling was optional with no specific instructions. Thematic analysis of shared experiences in journal entries and participant testing provided a qualitative component to the data (Braun & Clarke, 2006). Researchers extracted direct quotes and phrases from the journal entries to ensure reliability and validity.

Decision-Making Test. Appendix D outlines an additional instrument in data collection, The *Decision-Making Test*. The *Decision-Making Test* is a tool, developed by the researchers' review of intuitive decision-making literature; therefore, hindering reliability and validity, creating a limitation to this study (McCraty & Atkinson, 2014; Wan et al. 2012). The *Decision-Making Test* consisted of the researcher instructing each participant individually to center and ground and then to shuffle the deck of fifty-two cards and place one card face down on the table. The researcher instructed the participant to intuitively guess the suit of the card, and then flip the card over to see the result. This process repeated for ten total trials. The researcher used a stopwatch to time each participant-testing period, including the time to center and ground. After

testing completed, the researcher calculated the amount of correct answers and documented any shared experiences from the participant. Throughout the testing, the researcher also took note of any observations such as placement of card drawn, concentration approach, whether the participant talked or was quiet, number of shuffles, shuffle style, and hand placement during intuitive decisions. Baseline decision-making scores of all participants resulted from the initial *Decision-Making Test* (pre-test). The post-test scores of all participants were used by the researchers to determine the effect of developing intuition and intuitive decision-making skills, by comparing the results to pre-test scores.

Field notes. The researchers documented observational data throughout decision-making pre- and post-testing. The researchers documented the time of day and the amount of time (in minutes) it took for each participant to center and ground. Time it took to the participant to complete each intuitive decision was also recorded by the researchers. The researchers recorded total time for participant to complete testing. The researchers recorded the participant's intuitive decision of card suit, followed by the actual card suit, of each ten trials. The researchers recorded the method of concentration among participants, such as closing of eyes and hand placement on or above card. The researchers recorded verbalizations of experiences from participants. To increase reliability and validity, the researchers' field notes were visible to the participants.

Data Collection

First, the researchers reviewed the Informed Consent form with the participants, asked them to summarize what would happen in the study in their own words, and answered any questions. Researchers used a one-group pre-test post-test design in this study. The researchers gave all participants a pre-test individually, examining their intuitive decision-making skills. This was the baseline measurement. Researchers used a stopwatch to record the length of time

for each participant to complete pre- and post-testing. After timing began, each participant was invited to take a few calming breaths prior to taking the decision-making test. The researchers invited participants to share any visceral experiences they had throughout the pre- and post-testing, either by verbally describing to the researchers or through journal writing. Researchers documented verbal descriptive experiences shared by participants during pre- and post-testing. The researchers instructed each individual participant to shuffle the deck of cards prior to each trial. The test took approximately five to fifteen minutes to complete. The participants individually received an intuition development tool from the researchers and were instructed to utilize the tool for fifteen minutes a day for a two-week period. Some participants missed days of practice, failing consecutive practice of intuition development for two weeks. The researchers invited participants to journal any experiences or sensations noticed during their two-week development period. The researchers individually re-tested twenty of the twenty-two participants on their intuitive decision-making skills two weeks after the original assessment, using the same process as the pre-test. Two participants withdrew from the study after the pre-test for unknown reasons.

Data Analysis

The researchers used both descriptive and inferential statistics to analyze the data. The researchers used SPSS (version 22), a statistical software program, to analyze the quantitative results. Researchers used a paired sample two-tailed t-test, which measures significant differences between two means to compare pre- and post-test scores. The researchers calculated a *p*-value to determine the statistical significance (Leedy & Ormorod, 2005). The researchers' directional hypothesis is that the mean in the post-test scores would increase after the two-week intuitive development practice. The null hypothesis was that there would be no

difference in decision-making skills between the pre-test and post-test scores. The researchers determined the relationship between developing intuition and intuitive decision-making by analyzing correlation coefficients.

Researchers evaluated emerging themes from the participants that chose to share subjective experiences and sensations from their two-week intuition development period. Researchers used thematic coding to analyze experiences and sensations voluntarily shared from all participants during decision-making testing. Thematic analysis is widely used among qualitative data analysis and is an effective approach to identifying common themes (Braun & Clarke, 2006). The researchers refrained from biased opinions by following a thematic analysis procedure with the qualitative data (Braun & Clarke, 2006). The researchers individually read all the field notes of each participant pre- and post-testing. Then the researchers reviewed field notes of each participant's pre-test followed by post-test, coding potential themes. The researchers extracted direct quotes and phrases from the qualitative data collected and categorized into common themes. Next, the researchers tallied the number of participants applicable to each theme. Finally, the two researchers then collaborated by cross-referencing common themes.

Rigor in Data Collection and Analysis

Conscious awareness by the researchers allowed for responsiveness and reflexivity when unexpected occurrences arose. The researchers documented unexpected occurrences and included the resolution process they used. Although the researchers provided detailed instructions in Appendix A to the participants, the participants utilized various methods of intuition development practice. Researchers responded to participants that misunderstood

instructions by verbally re-informing participants of daily intuitive development practice instructions immediately as the questions arose. The researchers refrained from biased opinions by following a thematic analysis procedure with the qualitative data, extracting direct quotes and phrases from the participants to reinforce reliability and validity (Braun & Clarke, 2006). Data collected by the researchers in field notes were visible to participants, increasing reliability and validity.

Ethical Considerations

This study had minimal risks: confidentiality and the possibility of coercion. In order to maintain confidentiality the researchers de-identified the data by numbering participants and participant data one through twenty- two. The researchers stored all identifiable participant data in a password-protected document on a password-protected computer or in a locked file cabinet in the researchers' homes until May 30, 2016, the data destruction date. The researchers permanently deleted and shredded all identifiable data. To prevent coercion, the participants were voluntary and aware they had the option to withdraw at any time from the experiment. Similarly, participant journaling during two-week development period was optional. Researchers extracted direct quotes and phrases from participant shared experiences to refrain from data manipulation. The researchers, with this particular research project, foresaw minimal ethical consequences. The decision-making test and intuition tool did not include aspects that probed for personal or sensitive information.

Design Specific Limitations

A significant limitation of this research is non-random convenience sampling was used by the researchers, decreasing validity and probability that the results represent a general population. The intuition development tool as well as the pre-test and post decision-making skills test were not previously used in research, therefore reliability and validity were not

established, which poses another limitation to this study. There was a potential for the participants to become familiar with the decision-making test as the researchers used it as the initial assessment and again at the conclusion of the two-week period. In attempt to prevent familiarity, the researchers refrained from informing participants of the same decision-making test after the experimental treatment. The participants' two-week development practice was limited to practicing intuitive decisions on card color verses suit.

Results

The purpose of this chapter is to report the findings exploring the relationship between developing intuition and intuitive decision-making skills. To produce a foundation to assist future research on this topic, the researchers conducted a pilot study. The researchers developed instruments and extracted data through quasi-experimental design.

The researchers begin this chapter by providing a description of the participants. Next the researchers discuss the results of the quantitative data. Then, the researchers report the qualitative data results and lastly report the observational data.

Description of Participants

The twenty adult participants were two males and twenty females, both literate and English speaking, as the participants were asked by the researchers to communicate during data collection. The participants ranged in age from twenty to seventy-four years old.

Quantitative Results

First the researchers report the t-test results of quantitative data. Next they report the results of pre and post intuitive decision-making test times.

T-test results. The researchers ran a two-tailed t-test ($p \leq .05$) to determine statistical significance between developing intuition and intuitive decision-making skills. A p-value significance level was set by SPSS in advance. The t-test, t (19) = .127, p = .900, indicated no statistical significance between developing intuition and intuitive decision-making skills. Mean (M) values and standard deviation (SD) were as follows: Pre-test M = 23.0%, SD = 11.74. Post-test M = 22.5%, SD = 13.3. Correlation coefficient (r) was calculated ($p \leq .05$), for change in test scores (post-tests - pre-tests) over time (14 days). These values were, r = .017; p = .944, indicating no statistical significance between change in scores over time (days). Figure 1.1 shows the differences in test scores among each participant in pre and post-tests. Of the

twenty participants, seven increased in test score percentage, eight decreased in test score percentage, and five had no change in test score percentage. The range of pre-test scores was fifty percent, with an outlier scoring sixty percent and the post-test range was forty percent.

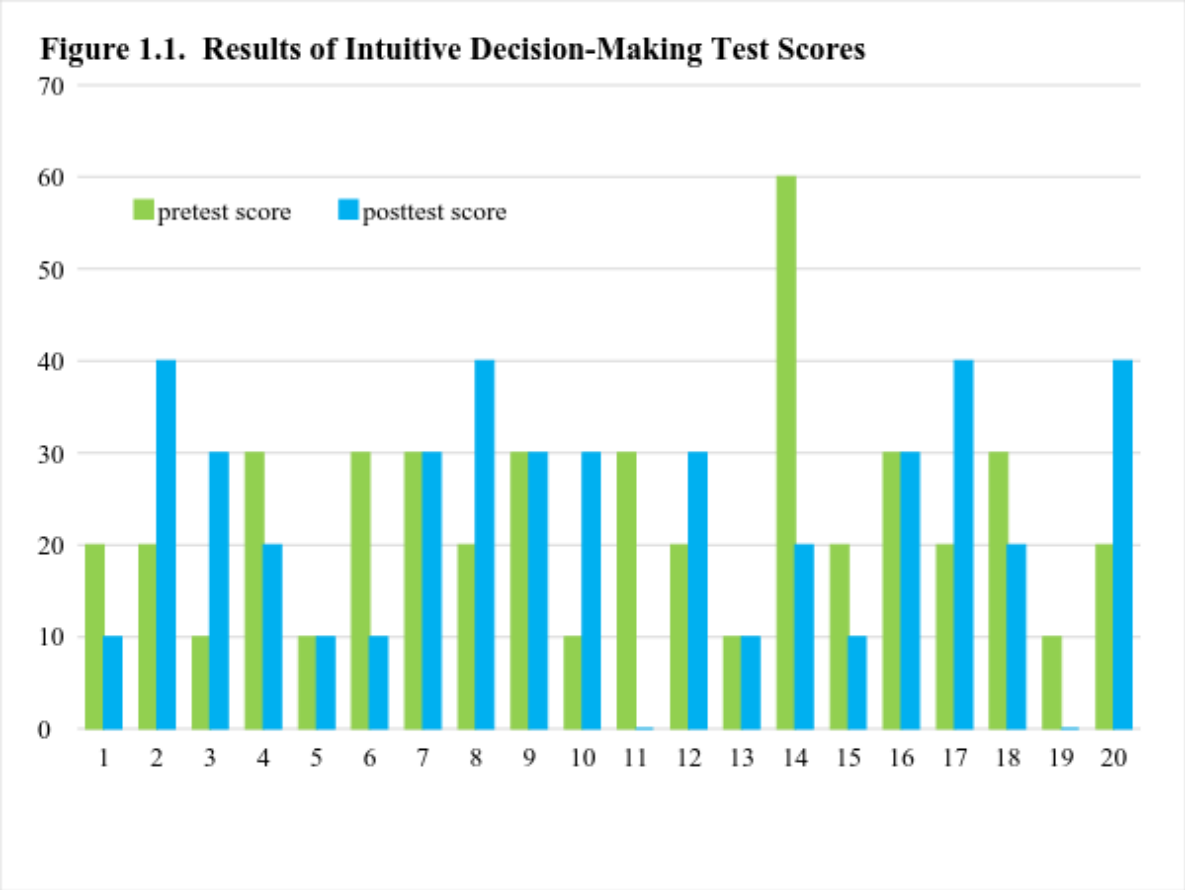

Figure 1.1 Bar graph of pre-test and post-test intuitive decision-making scores (percentage) of participants (n = 20).

Test time results. Secondary data analysis, using SPSS (version 22), compared the time (minutes) it took for participants to complete pre- and post-tests. The researchers for both participants' pre and post-tests determined calculated mean, median, mode, and range. Pre-test M = 9.4 minutes, pre-test median = 8.0 minutes, pre-test mode = 6.0 minutes, and pre-test range = 12 minutes. Post-test M = 6.0 minutes, post-test median = 5.0 minutes, post-test mode = 4.5 minutes, and post-test range = 10 minutes. Figure 2.1 displays the pre-test time (minutes) mean and post-test time (minutes) mean.

Figure 2.1. Mean Results of Intuitive Decision-Making Test Times

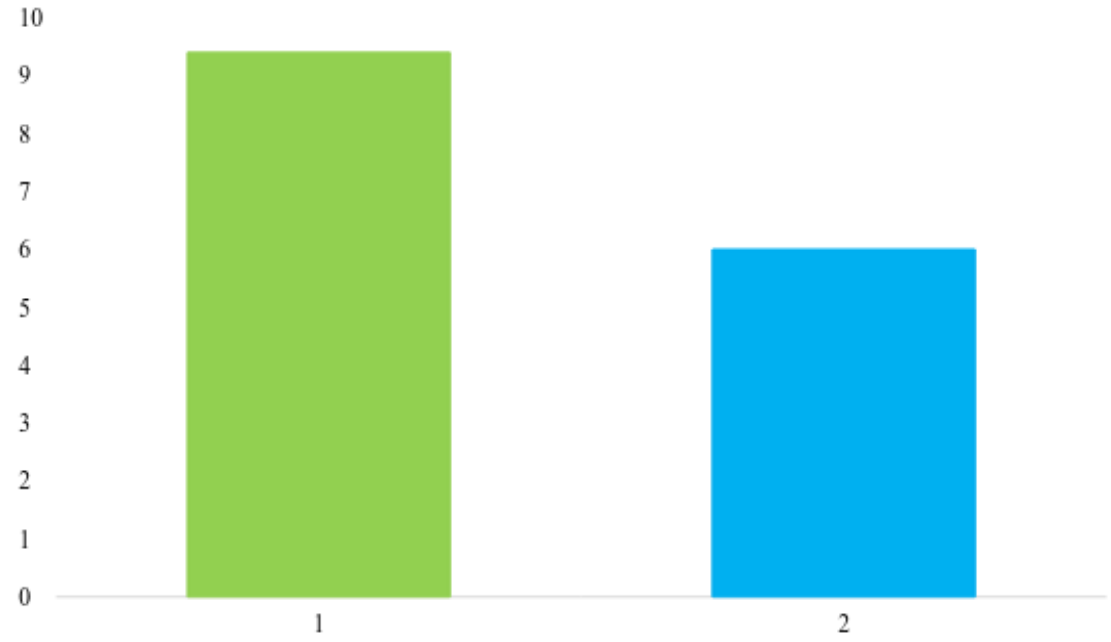

Figure 2.1 Bar graph of pre-test and post-test time (minutes) means (M) of the participants (n = 20). Pre-test mean (M) time (minutes) displayed in green bar. Post-test mean (M) time (minutes) displayed in blue bar.

Hypothesis findings. The researchers' directional hypothesis that the mean in the post-test scores would increase after the two-week intuitive development practice was rejected. The null hypothesis of no difference in decision-making skills between the pre-test and post-test scores was accepted.

Qualitative Results

First the researchers provide a description of the themes that emerged from the qualitative data: various intuitive decision-making processes, factors affecting concentration of participants, participant's abilities to follow instructions, second guessing decision-making, and enjoyment of practice.

Various intuitive decision-making processes. There were various shared experiences of intuitive decision-making among the participants during pre- and post-decision-making testing, which include visualization and imaging, using temperature sensation, first instinct, use of hands, and lastly closing of eyes. It was common for many participants to have an image of the card suit or card color emerge in their mind during testing and self-practice. One participant said, "I see the color of the card in my mind." Another said, "I would see black and then think spade or club." A different participant explained, "Again, I saw flashes of the colors while I laid them down." In addition, while eyes were closed, a participant shared how they saw an image of a diamond in their head. A few participants mentioned how card color was easier for them to visualize versus card suit.

Along with visualization, participants verbalized using temperature sensation during decision-making testing as a frequent method for intuitive decisions. Of the eight participants that experienced temperature sensations of the hands during intuitive decision-making, all claimed red cards emitted warmth and black cards radiated coolness or no temperature. One

participant used heat to get a sense for red cards and said, “The first four felt warm so I thought red, with exception to the second one because black popped into my head.” Another said, “Colors were easier, I felt warmth for red.”

Sixty-five percent (n = 20) of the participants that shared their experiences and methods of intuitive decision-making expressed following their first instinct. Of the sixty-five percent, approximately half explained how this technique led to more accurate and successful intuitive decisions. One participant explained, “I was going to guess diamond but the back of my mind said club, I still chose diamond because it was my first guess.”

Another common trend among the participants was the choice of using hands to intuitively choose card suit and card color. Some placed hands directly on the card while others hovered their hands above the card. There were also differences between using one or two hands, right or left hand, and holding card in hand versus placing it on the table. One participant said, “By putting both hands on the cards and closing my eyes, I was more in tune.” Another stated, “I touched them all first before guessing each one individually. I think it is easier for the color to come to me.”

Lastly, a few participants commented on closing their eyes as a different approach to determining card suit and card color. They commented, “I get in tune by closing my eyes and taking deep breaths,” also “I close my eyes and shuffle until I feel I should stop.”

Factors affecting concentration of participants. Participants reported numerous factors that contributed to their ability to concentrate. The majority of participants commented on factors such as environment, time of day, and state of mind affecting their concentration during intuitive decision-making. One participant explained, “My intuitiveness varies daily. I am sure many factors are at play.”

Almost all participants voiced how environment was a major contributor to their concentration. The two most noted environmental factors were noise level and other people or pets being present. Participants in a quiet environment were able to concentrate more effectively. Noisy distractions such as music, children, pets, and household appliances inhibited capabilities to practice intuition development. Participants described these scenarios, "I had a few distractions going on this time, washing machine and kids." A different participant stated, "When I was by myself I got more correct answers." Another said, "When I had my daughter with me, I felt less concentrated." Likewise, a different participant described, "My daughter was watching TV and it was distracting." Yet again, another participant stated, "I started strong and then my daughter started distracting me, so I think I lost my focus."

Eight participants reported time of day as a factor affecting concentration levels. Nighttime practice posed difficulties for multiple participants' concentration effectiveness. Participants explained how their busy minds struggled to calm at night to focus on their intuitive practices. Physical and mental states of tiredness and fatigue also influenced their ability to focus. A participant explained how, "I felt more tired now" as a reason affecting her intuitive decision-making test score reflecting a low percentage. Due to conflicting scheduling, morning practices were not attainable. One participant said, "It would have been better in the morning." Similarly, "I felt morning exercises were more confident." Alternately, one participant stated, "With an irregular schedule, I didn't get to practice at the same time of the day."

Several descriptions of varying states of mind influenced participants' perception of being centered and grounded. Negative influencing factors mentioned by the participants included feelings of stress, difficulty relaxing, emotional imbalance, reduction of mental clarity, and dehydration. However, intuitive decision-making practice after yoga or meditation yielded positive focus. A participant said, "I felt really focused and connected with the cards" during

post-testing. Alternatively, a different participant said, “Well I just broke up with my boyfriend, and so that’s a huge influencing factor.” Another stated, “I feel dehydrated and not feeling centered.” A different one said, “It’s not always easy to stay in the moment.” Some participants expressed reduction in mental clarity affecting their ability to maintain a centered and grounded state: “At the end, there was a lot in my head, getting harder.” Similarly, another commented, “In the beginning I felt better … and then concentration decreased, and it was tough for mind clearing in general.”

Participant’s abilities to follow instructions. Despite the researchers providing daily intuitive development practice instructions, eighty percent of participants practiced in a different way than instructed to do so. Participant journals documented various methods of intuitive development practice. Multiple participants practiced rounds of ten trials with one card, versus four cards. Others focused on card suit versus card color. Some alternated between card suit and card color, also between ten single rounds and ten rounds of four cards.

Second guessing decision-making. A major theme among the majority of participants was the conflict of the mind between their initial intuitive guess and other options. This feeling, described by participants, was pressure to second-guess their intuitive decision. Some felt their first guess was more accurate, saying, “Usually my first guess was correct.” Others felt torn between decisions saying, “Spade was the first thing that came to mind,” then debating, “spade or club,” the actual card was a club. This similar scenario happened again with the participant debating between the original intuitive guess of spade and the “little voice in the back of my head saying club; the card was a club. A different participant had a similar situation occur three times, “After I said it aloud, a voice in the back of my head said I should’ve guessed spade, then it was spade.” Another described how their first thought was the correct suit of diamond but

since they just had diamond in the previous trial they guessed club instead, they said, "I was thinking diamond, but just had that."

Enjoyment of practice. All participants verbally expressed excitement for the opportunity to practice intuition development during pre-testing. One explained, "This practice will be a good exercise for me, using my gut versus analytical mind controlling all thoughts. This is something I should work on and this gives me the opportunity to practice." Another stated, "I'm excited to participate and to tap into my intuition, this is exciting!" Similarly, another participant said, "I'm so excited to do this, I love it!"

Participants expressed intuition development practice promoting self-awareness, stress-reduction, self-care, a feeling of balance and calmness, and an awareness of their environment. After post-testing, some explained, "It was enjoyable doing the practices you gave me, forcing me to take time to balance out and calm down from my busy schedule." Likewise, one described their practice, "it was calming in a sense." One participant explained how the practice aided in de-stressing, stating, "I feel like if you get stressed out you have to get in tune with your body and it calms you down." There was one participant who described a self-awareness during testing while acknowledging an awareness of the environment, articulating "I was thinking about the cards, the snow falling, and listening to you write at the same time."

Observational Data.

Researchers observed four main trends during pre- and post-intuitive decision-making participant testing: centered and grounding approach, concentration methods, shuffling variations, and location of card drawn.

Researchers used a stopwatch to track individual participant time of center and grounding and total time during intuitive decision-making. On average, participants took 5.13 minutes to center and ground, ranging from thirty seconds to eight minutes. Participants used a variety of

methods to ground themselves: deep breathing, nose breathing, closing of the eyes, directing eyes to a focal point, resting of the hands, and upright posture.

Participants used various methods for concentrating including hand placement, eye focus, and verbalization state. The researchers observed various hand placements including hands directly on card or hovering two to three inches over the card. Two participants held the card in their hands. Some chose to close their eyes during the process of intuitive decision-making. Sixty percent of participants were quiet throughout the testing process and forty percent were talkative.

The researchers noticed variations of shuffling among the participants. We observed six distinct shuffling styles, number of shuffles, and combinations between the two. The six include the standard shuffle, bridge shuffle, corner shuffle, fold through shuffle, longitudinal shuffle, and mixing the cards on the table. During testing, participants shuffled once or three times per round. Some alternated between shuffle style and number of shuffles.

Location of card drawn from the deck varied among the participants. The majority drew the top card from the deck. The next favorable option was drawing from the middle of the deck. Three participants chose to draw a card near the bottom of the deck or close to the top.

Discussion

The purpose of this chapter is to interpret our research findings. First, we discuss contributions supported by the literature, and then our unexpected findings. Next, we explain implications of this project, including those for the holistic health community and further research. Finally, we offer a brief summary and conclusion.

Contributions Supported by the Literature

The results of this pilot study are congruent with findings on rapid intuitive-decision making, various intuitive decision-making processes, and second guessing decision-making.

Rapid decision-making. Compatible with the literature, intuitive decision-making is rapid and utilizes one's instincts (Pearson, 2013). Other studies have shown participants solve decision problems rapidly when relying on intuition (Betsch & Glockner, 2010; Woolley & Kostopoulou, 2013). Our secondary quantitative data of the mean, median, mode, and range, showed significant decreases in time it took participants to complete the post-test. The researchers propose that after participants developed intuition they were able to access and utilize their intuitive decision-making more rapidly. Our results are congruent with the literature in that through practice of intuitive decision-making, it becomes easier to recognize, access, and utilize intuition. The literature describes initially recognizing intuition can be challenging. Intuition emerges in a non- linear, sometimes abstract form of thought or insight (Peirce, 2009). When developing intuition, practice is required (Effken, 2001). Effken (2001) proposes that, "intuition as direct perception can be developed through education and extensive deliberate practice" (p. 255). With continued practice, intuition is easier to recognize and use effectively. Woolley and Kostopoulou (2013) emphasize that as practice of intuition increases, intuitive occurrences increase.

However, participants may have become familiar with the decision-making test, resulting in decreased testing time.

Various intuitive decision-making processes. A number of our findings are consistent with what the literature predicted. Consistent with the literature that suggests intuitive decision-making incorporates input from higher thinking, all five senses, and life experiences (Ammon-Wexler, 2004); our findings suggest that there are various intuitive decision-making processes. Participant expressed various approaches to making intuitive decisions including visualization, using temperature sensation, first instinct, use of hands, and, lastly, closing of eyes. Ammon-Wexler (2004) explains how the brain accounts for intellectual skills such as judgment and reasoning, and interprets input from the five physical senses (vision, smell, hearing, touch and taste). Intuition is the inclusion of combinations of insights originating from many areas within the self (Anderson, 2004). The insights include dreams, visions, feelings or sensations, and can be in conjunction with personal practices such as prayer, dance, or writing (Anderson, 2004). Participants strongly expressed success of intuitive decision-making during intuition development practice, when relying on visual imaging and sensations such as visualizing card color and suit. They used temperature sensations to determine card color, warmth of the hands represented red cards, whereas coolness or no temperature symbolized black cards.

Second guessing decision-making. Woolley and Kostopoulou (2013) suggest rational judgment frequently inhibits intuitive reasoning. Our participants expressed experiencing mental conflict between intuitive decisions and analytical decisions. Rather than over analyzing information, which can lead to second-guessing or slowing the progression of a project, intuition motivates effective decision-making (Mick, 2014). A feeling described by many participants as pressure to second-guess their intuitive decision, struggling between their initial intuitive guess,

and a different option. Many can relate to situations of the analytical mind interfering with intuitive thoughts when making a decision.

Unanticipated Discoveries

Our pilot study had a number of unexpected findings. First, it was surprising to find participants failed to follow directions successfully, despite receiving verbal and written instructions, for individual intuitive practices. One possible explanation for this is that participant daily intuitive practice was individual without researchers present to guide them. Participant journals documented various methods of intuitive development practice. Multiple participants practiced rounds of ten trials with one card, versus four. Others focused on card suit versus card color. Some alternated between card suit and card color, also between ten single rounds and ten rounds of four cards. In order to obtain accurate results, daily intuitive practice among participants must be congruent. The varying intuitive practice methods may have affected results significantly. T-test results may have been statistically significant had the participants practiced consistently throughout the study.

Another unanticipated complication in the research process was the delay of IRB approval. A malfunction in the IRB approval process delayed starting data collection approximately three weeks behind our anticipated timeline. As a result, we had less time to recruit the desired number of participants for our study. Recruiting fewer participants affected our data analysis. With only a half percentage difference between pre- and post-test mean scores, a larger sample size may have resulted in a statistically significant outcome.

In addition, we were surprised to discover no descriptions of gut feelings among participants' experiences during intuitive decision-making. The literature includes significant information on gut feelings in relation to intuitive decision-making. Literature describes intuition as the feeling of knowing originating from the gut (Luu et al., 2010). King and Hicks

(2009) found that reacting on intuitive gut sensations is an example of following one's intuitive guidance.

Participants spent much less time than expected to center and ground. The participants ranged from thirty seconds to eight minutes to center and ground. It is possible participants were unfamiliar with center and grounding. It may have been beneficial for the researchers to instruct participants on center and grounding methods. While literature on this topic is sparse, the researchers speculate whether spending minimal time on center and grounding affected the results. The literature suggests clearing the mind prior to accessing intuition (Cusmariu, 2008).

The last unexpected finding of our study was that participants reported that the time of day affected most participants' abilities to concentrate on intuitive decision-making. Participants expressed increased focus and clarity during morning intuitive development practice. However, due to daily scheduling conflicts, some participants were unable to practice intuition development in the morning. These participants voiced a preference for morning practice, yet had to develop intuition in the evening. Literature lacks time of day as a factor affecting intuitive development, yet the researchers offer a possible explanation for this finding that enhanced clarity of the mind is during morning hours.

Implications

Based on the results of this pilot study, first we discuss implications for future research. Then, we describe implications for the holistic health community.

Implications for future research. Based on our pilot study, future research could replicate the study after considering the researchers recommendations. In the future, we suggest recruiting a larger sample size in order to utilize simple random sampling, which provides increased probability that the

sample is representative of a larger population, increases validity, and offers an equal opportunity of participants being selected (Leedy & Ormrod, 2005).

Another consideration is to increase intuitive development practice from two weeks to twelve weeks if practical to future researcher's timeline. Two weeks may not be sufficient for intuitive development; however, twelve weeks may reflect results that are more accurate.

Additional recommendations include adding a guided grounding and centering activity, with all participants, led by the researchers prior to pre-test, thus providing participants with a tool to access their intuitive state of consciousness. Recognizing and utilizing one's intuitive thinking versus relying primarily on the conscious mind allow for intuitive decisions to emerge (Nyatanga & Vocht, 2008).

To prevent possible participant self-judgment during intuitive decision-making testing the researchers suggest concealing test scores from each participant. Participants often competed with their pre-test scores, inhibiting intuitive decision-making. Participants expressed second-guessing decision-making, which could be due to analytic decisions overriding their intuitive thoughts, potentially negatively affecting results. Rational judgment frequently inhibits intuitive reasoning (Woolley & Kostopoulou, 2013). Participants expressed a loss of focus throughout intuitive decision-making testing; therefore, the researchers suggest including a step to re-focus after each trial. To promote accessing intuition the researchers suggest that participants must take a deep breath between trials.

Lastly, future research should re-develop the intuition development tool by clearly instructing participants to practice in the morning and to include ten trials of one card each versus four to minimize potential sensation overload of multiple intuitive feelings. One-card trials may allow participants to clearly-access their intuitive decisions without multiple options arising in one's mind. Tools should also be tested for reliability and validity. It may be

beneficial for participants to verbalize their understanding of the instructions to the researchers to affirm clarity of intuition development

practice. With consistency of participants' daily practice, time, quantitative data may attain accurate results.

Implications for holistic health community. Results of our study benefit the holistic health community by providing data on how developing intuition may improve abilities to access, recognize, and utilize intuitive decision-making. Test time quantitative results of the mean, median, mode, and range showed significant decreases in the time it took participants to complete the post-test. Therefore, this supports the literature in that through practice of intuitive decision-making, it becomes easier to recognize, access, and utilize intuition. Although improvements of intuitive decision-making accuracy was not successful in this pilot study, with continued practice intuition may be easier to use effectively.

In addition, participants expressed that practicing intuition promotes an inner stillness and self-awareness as well as personal enjoyment, which could contribute to a holistic way of life. In alignment with holistic research, clarity and peace of one's life may emerge once trust and reliance of intuition is established (Cusmariu, 2008).

This pilot study provided participants the opportunity to develop intuitive decision-making. Participants expressed gratitude for the ability to utilize intuition both practically and professionally. All participants in this pilot study voiced enjoyment during intuition development, including those unfamiliar with holistic health. Although scientific research on intuition is complex, future research, using this pilot study as a foundation could potentially expand knowledge on intuitive decision-making and bring awareness of the benefits to the holistic health and research community.

Conclusion

Intuition is a component in our instinctive intelligence, which anyone can develop and strengthen through practice (Ferre, 2012). Everyone can learn how to access and develop their intuition, enabling them make better decisions in their lives (Horan, 2014). This pilot study explored the relationship between developing intuition and intuitive decision-making through a quasi-experimental research design. The study utilized a one-group pre-test post-test design in which the participants were evaluated on intuitive decision-making by the researchers before the experimental treatment, then the experimental treatment was administered by the researchers, followed by the same intuitive decision-making post-test (Leedy & Ormrod, 2005). The treatment included a two-week intuitive development tool for the participants to practice for fifteen minutes each day. The researchers' directional hypothesis was that the mean in the post-test scores would increase after a two-week intuitive development practice. The null hypothesis was that there would be no difference in decision-making skills between the pre-test and post-test scores. The quantitative results included, $t(19) = .127$, $p = .900$, indicating no statistical significance between developing intuition and intuitive decision-making skills. Mean (M) values and standard deviation (SD) were: Pre-test M = 23.0%, SD = 11.74. Post-test M = 22.5%, SD = 13.3. Correlation coefficient (r) was ($p \leq .05$), $r = .017$; $p = .944$, indicating no statistical significance between change in scores over time (days). Although the directional hypothesis was not supported, other findings are congruent with the literature, contributing data to use for future research. Compatible with the literature, intuitive decision-making is rapid and utilizes one's instincts (Pearson, 2013). The secondary quantitative data of the mean, median, mode, and range, showed decreases in time for participants to complete the post-test. The researchers propose that after participants developed intuition for two weeks, they were able to access and utilize their intuitive decision-making more rapidly. The results are congruent with the literature

in that through practice of intuitive decision-making, it becomes easier to identify, access, and utilize intuition. Themes that emerged from the qualitative data include various intuitive decision-making processes, factors affecting concentration of participants, participant's abilities to follow instructions, second guessing decision-making, and enjoyment of practice. Implications for future research include increasing the sample size, increasing intuitive development practice time, including a guided centering and grounding activity led by the researchers, concealing test scores from participants, and re-developing the intuition development tool with clear instructions.

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Appendix A

Email Flyer

Intuition and Decision-Making

Developing Your Intuition

What is intuition?

Some people think of intuition as a mystical power. Skeptics write it off as a matter of lucky guesswork. But scientists who study the phenomenon say it's a very real ability that can be identified in lab experiments and visualized on brain scans.

Your intuition, sometimes referred to as your inner guidance, is a tool of inner or instinctive knowing which does not require logical thought processes. It is an alternative source of knowledge, level of awareness, or as some refer to it, an inner voice. We all possess this tool to varying degrees, as well as the ability to develop it further.

Jody Berkner and Courtney Czerniak are graduate students at St. Catherine University. Jody and Courtney are conducting a research project for their Master's Thesis in Holistic Health Studies. Our project is exploring whether or not practicing intuitive skill development exercises 15 minutes per day for two weeks impacts one's intuitive decision-making skills. You will be asked to complete a 20 minute session with the researcher to take the Decision-Making Test. Then you will be asked to practice developing your intuition for 15 minutes a day for 2 weeks and record your practice. At the end of the two weeks, you will meet individually with the researcher for 20 minutes to take the Decision-Making Test.

This study is being conducted under the supervision of Carol C. Geisler, Ph.D. a faculty member in the Masters of Arts in Holistic Health Studies and Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board.

We are looking for volunteer participants to partake in our experiment. At the completion of the post-examination, each volunteer participant will receive a $5.00 Caribou gift card!

If you are interested in participating in Jody and Courtney's research project, please contact them via cell, text, or email.

We want to thank you in advance for your consideration in your volunteer participation!

Contact Information:

Jody Berkner- Cell- 763-227-4898 (feel free to text or call)

Email- intuitivedecisionmaking10203@gmail.com

Courtney Czerniak- Cell- 612-750-2938 (feel free to text or call)

Email- intuitivedecisionmaking10203@gmail.com

IRB Contact Information:

Dr. John Schmitt- Chair of the St. Catherine University Institutional Review Board

Office- (651) 690-7739

Email- jsschmitt@stkate.edu

In the event that the study becomes stressful, the national crisis hotline is for stressful life events or for those who have uncomfortable experiences, the number is 1-800-273-8255

Script for potential participants who contact us:

"My research partner and I are graduate students at St. Catherine and we are conducting our research project on intuition development. We are asking interested participants to partake in a pre decision-making evaluation with one of the researchers. Then for 2 weeks, we ask that each day you take 15 minutes to do 3 things: calm your mind and relax and practice intuitively guessing the color of the cards. Lastly, track or log any intuitive insights or decision made in your personal and/or professional lives during the 2 week period."

Appendix B

Consent Form

Exploring the Relationship between Developing Intuition and Intuitive Decision-Making; A Quasi-Experimental Design

INFORMATION AND CONSENT FORM

Introduction:

You are invited to participate in a research study investigating the relationship of developing intuition on intuitive decision making. This study is being conducted by Courtney Czerniak and Jody Berkner, graduate students at St. Catherine University under the supervision of Carol C. Geisler, Ph.D. a faculty member in the Masters of Arts in Holistic Health Studies. You were selected as a possible participant in this research because you are above the age of 18, English-speaking and literate, and expressed an interest in participation. Please read this form and ask questions before you agree to be in the study.

Background Information:

The purpose of this study is to explore the relationship between developing intuition and intuitive decision making. Approximately 30 people are expected to participate in this research.

Procedures:

If you decide to participate, you will first be asked to complete a test on decision making skills individually with the researcher. There will be a designated time slot for each participant to complete the decision making test in a safe environment, such as a local library. All participants will take the decision making test in the beginning of the study, it will take approximately 20 minutes to complete. All participants are asked to practice the intuition development tool for 15 minutes each day for two weeks. They will be asked to track the amount of time they practice each day. Participants will individually take the decision making test, with the researcher, two weeks following the first test, it should take approximately 20 minutes to complete. The results of post test scores will then be compared to pre test scores in order to determine any differences observed. This study will take approximately three weeks.

Risks and Benefits of being in the study:

The study has minimal risks. First, the participant may experience discomfort during the decision making test, however it is not likely. If the participant experiences discomfort they may drop out of the study or call the hotline provided. The national crisis hotline is for stressful life events or for those who have uncomfortable experiences, the number is 1-800-273-8255. If the participant experiences severe discomfort, the researcher may terminate the subject's involvement in the study.

There are no direct benefits to you for participating in this research. The participants given the intuition development tool may benefit in intuitive decision-making skills.

Compensation:

If you participate, you will receive a $5.00 gift card to Caribou Coffee after completion of participation in the study. Completion of the study is after the second decision-making test. If you withdraw from the study early or are asked to terminate from involvement, no compensation will be awarded.

Confidentiality:

Any information obtained in connection with this research study that can be identified with you will be disclosed only with your permission; your results will be kept confidential. In any written reports or publications, no one will be identified or identifiable and only group data will be presented. Confidentiality will be maintained through subjects identified by number 1-30.

We will keep the research results in a password-protected document on a password-protected computer or in a locked file cabinet in Jody Berkner's home office. Only Courtney Czerniak, Jody Berkner and our advisor will have access to the records while we work on this project. We will finish analyzing the data by May 30, 2016. We will then destroy all original reports and identifying information that can be linked back to you.

Voluntary nature of the study:

Participation in this research study is voluntary. Your decision whether or not to participate will not affect your future relations with St. Catherine University in any way. If you decide to participate, you are free to stop at any time without affecting these relationships. If the subject withdraws early, the compensation benefit will not be awarded.

New Information:

If during course of this research study we learn about new findings that might influence your willingness to continue participating in the study, we will inform you of these findings.

Contacts and questions:

If you have any questions, please feel free to contact researcher Courtney Czerniak at intuitivedecisionmaking10203@gmail.com. You may ask questions now, or if you have any additional questions later, the faculty advisor, Carol Geisler at (651) 690-7789, will be happy to answer them. If you have other questions or concerns regarding the study and would like to talk to someone other than the researchers, you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board, at (651) 690-7739 or jsschmitt@stkate.edu.

You may keep a copy of this form for your records.

Statement of Consent:

You are making a decision whether or not to participate. Your signature indicates that you have read this information and your questions have been answered. Even after signing this form, please know that you may withdraw from the study.

I consent to participate in the study.

_____

Signature of Participant Date

_____

Signature of Researcher Date

_____

Signature of Researcher Date

Appendix C

Intuition Development Tool

What is intuition?

Some people think of intuition as a mystical power. Skeptics write it off as a matter of lucky guesswork. But scientists who study the phenomenon say it's a very real ability that can be identified in lab experiments and visualized on brain scans.

Your intuition, sometimes referred to as your inner guidance, is a tool of inner or instinctive knowing which does not require logical thought processes. It is an alternative source of knowledge, level of awareness, or as some refer to it, an inner voice. We all possess this tool to varying degrees, as well as the ability to develop it further.

For this experiment, we ask that you practice the following activities 15 minutes per day for 2 weeks and record your practice.

1. Clearing your mind

It is easier to hear the whispers from the soul when your mind is quiet and open. You likely have lots of thoughts running through your mind at any given moment. All of this "noise" makes it difficult to hear your intuitive voice. It is important to find some ways to quiet your mind. You can't shut off your thoughts completely, but you can learn to slow them down. Let all the distracting thoughts flow out of your mind. Let them go. Picture your thoughts floating away on a cloud if that appeals to you. Focus on your breathing and allow your mind and body to relax more with each breath. You might even try counting down from 10 to 1 and allow yourself to relax more with each count. Once your mind is clearer, you can then access your intuition.

2. Using a deck of cards, place four cards face down in front of you see if you can get a sense, which cards are black and which are red. Set the intent for the sensation you will feel with each color. For instance, you might feel a warm sensation with red and a cool sensation for black. Start by slowly moving your hands over each card. Go with your first impression you get from each card. Keep track of the percentage of times you are correct with each practice session.

3. Throughout your day there are also simple ways to practice intuition. When the phone rings or receives a text message, prior to looking at whom it is, make a guess or ask yourself who is calling or texting? The more this is practiced the more clearly and accurate it may become. Other examples include, if you are in a building and using the elevator, right after pressing the button, make a guess at which elevator will come first. In the workplace, there are ways to develop intuition as well. If you work with clients or co-workers, before arriving ask yourself if anyone is not coming into work that day, you could also ask how many people may be gone. Feel free to write down these experiences and the outcomes you receive in a journal.

Appendix D

Decision-Making Test

1. Researcher invites participant to take a few calming breathes, centering and grounding if they wish.
2. Researcher invites participant to share any experiences or sensations such as a gut feeling throughout the testing process.
3. Participant will be asked to shuffle deck of cards.
4. The researcher will instruct the participant to draw one card from the deck and place it face down on the table.
5. The researcher will then ask the participant to make their best guess at the suit of the card.
6. The participant flips the card over and the researcher tally's the result as either correct or incorrect.
7. Steps 3 through 6 will be repeated 9 more times.
8. Researcher will determine the percentage of correct answers after all ten trials are completed.