THESIS

INDECISION-INACTION PHENOMENON: DEVELOPMENT AND VALIDATION OF THE INDECISION-INACTION PHENOMENON SCALE (IIPS)

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ABSTRACT

INDECISION-INACTION PHENOMENON: DEVELOPMENT AND VALIDATION OF THE INDECISION-INACTION PHENOMENON SCALE (IIPS)

Many people are familiar with the experience colloquially known as "analysis paralysis," yet this concept has not precisely been defined, much less operationalized via a measurement instrument. The purpose of this study is to develop a scale to operationalize the latent variable "analysis paralysis," referred to in a more sensitive manner as "indecision-inaction phenomenon," and to establish initial psychometric support for its scores. Indecision-inaction phenomenon is a system of maladaptive cognitive processes that interfere with task completion in individuals, in which excessive deliberation without progression toward execution paradoxically prevents decision-making or goal-oriented action. This study proposed and tested a three-factor model for the latent variable indecision-inaction phenomenon, comprising the perceived choice paradox dimension, the irrational prospection dimension, and the unfulfillment dimension. An item pool was generated, and subject matter expert feedback was integrated to enhance content validity by refining items. A Qualtrics survey was administered to a student sample, including items in the proposed scale as well as several other established scales to explore initial validity evidence. Exploratory Factor Analysis (EFA) was conducted to investigate the underlying factor structure of the proposed items and inform subsequent scale revisions. The EFA revealed a three-factor structure reflecting the dimensions IIP- Perceived Choice Paradox, IIP- Irrational Prospection, and IIP- Unfulfillment, as hypothesized. Next, this factor structure was rigorously tested and confirmed using Confirmatory Factor Analyses (CFA), again demonstrating a good fit for the three-factor model. Finally, initial reliability and validity

evidence for the scale was explored using correlations with scores on scales measuring established criterion variables, generally revealing relationships in expected directions and magnitudes with other constructs. This study offers a framework and instrument— the Indecision-Inaction Phenomenon Scale (IPPS)— for understanding and measuring the experience of indecision-inaction phenomenon, which may be used in future research on maladaptive cognitive processes.

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"Our doubts are traitors//And makes us lose the good we oft might win,//By fearing to attempt" (Shakespeare, 1632, 1.4, p. 64).

Introduction

Indecision is a person's inability to make choices and execute decisions in a given domain in their life (Frost & Shows, 1993; Rassin, 2007; Rassin et al., 2007). Indecision is associated with conditions such as obsessive-compulsive disorder (Reed, 1976, 1977), major depressive disorder, bi-polar depression, and hoarding disorder (American Psychiatric Association, 2013), as well as poor outcomes such as such as low self-esteem, interpersonal difficulties, and neuroticism (Ferrari, 1994; Germeijs & De Boeck, 2002; Jackson et al., 2009). Indecision can be considered both a situation-specific state as well as a more chronic, trait-level phenomenon (i.e., indecisiveness). Overthinking is the tendency to analyze a situation to a degree that is excessive, repetitive, unhelpful and dysfunctional. Overthinking is sometimes referred to in a clinical context as rumination, which is prevalent at high levels in conditions such as depression (Nolen-Hoeksema, 1991), anxiety (Nolen-Hoeksema, 2000), social anxiety (Kocovski et al., 2005), and obsessive-compulsive disorder. Researchers have examined the effects of both indecision and overthinking, but there is a dearth of literature on the unique combination of the two, including how they may play a role in the obfuscation of the choice selection process and the obstruction of goal-oriented action.

The purpose of this study is to explore and develop a psychometric scale to measure the latent construct often referred to in common vernacular as "analysis paralysis," though here it is referred to in a more sensitive manner as "indecision-inaction phenomenon." The scale developed in the current study— the Indecision-Inaction Phenomenon Scale (IIPS)— aims to

measure the unique experience of excessive deliberation over a decision or approach to a project while feeling unable to move forward.

The mechanisms of excessive deliberation are theoretically related to choice paradox (or choice overload) and prospection into the future (i.e., attempts to select the "best" option, or future-oriented thinking with the goal of avoiding negative consequences). These processes, when engaged with excessively without forward progression, paradoxically prevent decision-making or goal-oriented action. Thus, indecision-inaction phenomenon is conceptualized as a form of dysfunctional or unproductive thinking that interferes with task completion; a mental labyrinth in which important parts of the decision-making and goal-planning processes are engaged with, but continue in a closed-circuit loop without resolution, resulting in an inhibition of goal-oriented action.

A possible consequence of indecision-inaction phenomenon is the marked discomfort one experiences while in this state of mental stagnation; a level of exacerbated distress or negatively valanced emotional arousal linked to their awareness of unattained needs or goals which may be described as a feeling of being stuck, in a gridlock, or static. The etymology of the word analysis (n.) means to break down something complex into its more simple and manageable parts. On the contrary, over-analysis in indecision-inaction phenomenon creates more perceived problems and overcomplicates an issue. People experiencing indecision-inaction phenomenon may experience emotional and cognitive burdens in addition to behavioral implications, and may theoretically experience higher degrees of shame, guilt, rumination, and hopelessness. The experience of indecision-inaction phenomenon may have clinically significant implications and may negatively impact the objectives of organizations.

Indecision-inaction phenomenon is conceptually distinct from procrastination, which is defined as a phenomenon in which a person may "voluntarily delay an intended course of action despite expecting to be worse off for the delay" (Steel, 2007, p. 66). In contrast, a person who experiences indecision-inaction phenomenon is committed to and actively engaging in the process of comparing options, and may spend ample time, focus, and effort doing so. Furthermore, consequences of indecision-inaction phenomenon may be more likely to breach the threshold of clinical significance than similar constructs such as procrastination.

Developing an instrument to measure indecision-inaction phenomenon is an important step in filling the gap in the literature; as this phenomenon, which has not been adequately explained by extant literature or measured by existing scales, may contribute or be related to conditions such as obsessive-compulsive disorders, anxiety disorders, and mood disorders as well as constructs such as rumination, learned helplessness, perfectionism, problem solving, motivation, avoidance, self-efficacy, and self-esteem. Based on the complex nomological network of constructs that are theoretically related to indecision-inaction phenomenon, the latent construct that this scale measures may explain unique variance and assess patterns in cognitive, affective, and behavioral phenomena in a way that existing constructs fail to capture. Furthermore, developing a scale to measure indecision-inaction phenomenon may inform future research on this construct, including the examination of state versus trait indecision-inaction phenomenon, individual differences, contextual factors, mediator and moderator relationships, cultural implications, antecedents, and prevalence. On a practical level, indecision-inaction phenomenon may lead to wasted time, missed opportunities, failed projects, low levels of productivity, and unfulfilled dreams. These negative outcomes may be improved through empirically-supported interventions that develop in the future as a result of the current study.

Construct Definition

Operationalizing a latent variable begins with clearly defining the construct (Dawis, 2000; Lambert & Newman, 2022). Indecision-inaction phenomenon is conceptualized as a system of maladaptive cognitive processes (i.e., patterns of dysfunctional or unproductive thinking) that interfere with task completion in individuals, in which engagement in irrationally excessive deliberation over a decision or approach to a project without progression toward execution paradoxically prevents decision-making or goal-oriented action. The mechanisms of indecision-inaction phenomenon are theoretically subdivided into three dimensions: perceived choice paradox (or choice overload), irrational prospection (i.e., the degree to which a person excessively thinks about aspects of perceived potential outcomes attempting to predict how each selection might impact the future), and unfulfillment (i.e., the awareness of having prevented oneself from engaging in goal-oriented action). Definitions for the latent construct and its proposed dimensions can be found in *Table 1*, as well as the Proposed Three-factor Model section below. These processes, when engaged with excessively without forward progression, contradictorily prevent decision-making or goal-oriented action. While important parts of the decision-making and goal-planning processes are engaged with, they continue in a closed-circuit loop without resolution which can be observed as the inhibition of goal-oriented action.

Proposed Three-factor Model

Derived from a review of literature in these three areas, the author of the present study subsequently proposed a three-factor model for the latent variable indecision-inaction phenomenon: the perceived choice paradox dimension (*IIP- Perceived Choice Paradox*), the irrational prospection dimension (*IIP- Irrational Prospection*), and the unfulfillment dimension (*IIP- Unfulfillment*). *Table 1* depicts the definitions of each dimension below.

IIP- Perceived Choice Paradox

The perceived choice paradox dimension of indecision-inaction phenomenon measures what is conceptualized as perceived choice paradox or choice overload, wherein a person, in the process of comparing two or more alternatives, may spend a considerable amount of time perceiving an excess of variables related to each option, an excess of perceived options in general, or a combination or the two— an excess of perceived options in which each option is likewise divided into overcomplicated subcomponents. It is theorized that in a person experiencing indecision-inaction phenomenon, perceived choice paradox involves the desire to optimize one's decisions and choices. This motivates the stockpiling of information that is perceived as relevant to the process of option comparison to a degree that is excessive, maladaptive, or unhelpful. A person may accumulate or deliberate over information related to choices so much that they overwhelm their cognitive load capacity. Accordingly, they may exhibit difficulties narrowing down, simplifying, or hierarchically valuing various components of perceived options. Deliberating over and gathering information does not produce the intended result of choice execution. Even when a person begins to prefer one option over others or possess the desire to move forward with a selection, they may frequently second-guess themselves and cycle back to the information-gathering phase of decision-making. Their inability to move beyond this phase substantially compromises their ability to engage in goal-oriented action.

IIP- Irrational Prospection

Also known as "outcome hopping", irrational prospection measures the degree to which a person excessively thinks about aspects of perceived potential outcomes attempting to predict how each selection might impact the future. People who engage in irrational prospection may excessively involve themselves in future-oriented thinking, considering how the aspects of

perceived potential outcomes compare and contrast to the individual's sense of an ideal self. They may also possess a desire to select the "best" option, or future-oriented thinking with the goal of avoiding negative consequences. The content of the thoughts may involve a continuous yet unresolved cost-benefit analysis of options, in which one speculates gains and losses of various paths forward attempting to predict how each selection might impact the future without reaching tangible conclusions. While speculating about the consequences of a given action is a normative function of any decision or choice-making process, *IIP- Irrational Prospection* is a debilitating cycle in which a person becomes fixated on hypotheticals to a degree that goes beyond typical prospection such that it obstructs goal-oriented action. Theoretically the *IIP-Irrational Prospection* dimension stipulates that any selection an individual ponders is perceived to include the acquisition of perceived losses that are mutually exclusive with the perceived gains of alternative selections. This assumption is uniformly applied to all paths forward without hierarchical organization, so that no selection is perceived to be satisfactory, thus inhibiting goal-oriented action.

IIP- Unfulfillment

This theorized factor has been named the unfulfillment dimension, which measures the respondent's awareness that they have engaged in excessive deliberation over their decision or project, and yet have also failed execute goal-oriented action. They may experience a feeling of being stuck, "paralyzed", or unable to move forward in spite of actively thinking about ways to approach a decision or project. While they may have engaged in comparing options, envisioning outcomes, and engaging in various stages of planning, they recognize that their efforts have been fruitless in that they remain stagnant in the domains of execution and action.

Theoretical background of Proposed Dimensions

This section will focus on three parts that inform the current study: choice paradox theory, prospection theory, and extant literature on unfulfilled decisions or goals.

Choice Paradox

"But suppose that the centre is not its place, and that the reason of its remaining there is this necessity of indifference— on the analogy of the hair which, it is said, however great the tension, will not break under it, if it be evenly distributed, or of the man who, though exceedingly hungry and thirsty, and both equally, yet being equidistant from food and drink, is therefore bound to stay where he is" (Aristotle, 350 BCE/1984, p. 486).

Choice paradox theory posits that having more choices available can lead to greater dissatisfaction with choices, anxiety, and stress (Schwartz, 2004). For many of us in the modern, Western world, an abundance of options exist for nearly every aspect of a person's life: what brand of bread to buy, what college to attend, what clothes to wear, where to live, who to associate with, where to work, when to retire, and so on. Even for people with limited financial resources, numerous options exist for most domains of choice. The range of choices span from trivial to central in terms of their impact on our lives, and yet even the most insignificant choices, such as what color shirt to wear to work today, still have the capacity to cause rifts in daily functioning. This phenomenon has been referred to as the "tyranny of freedom" (Schwartz, 2000). Notably, Yalom's (1980) ultimate concern of freedom captures choice paradox: an abundance of options, when combined with free will, awakens the anxiety-provoking awareness that we are responsible for our own choices. The difficulty of resolving this ultimate concern, the question "what shall I do with my life?," may contribute to what is known as an "existential crisis."

It is theorized that the maximizer trait, which involves the tendency to hoard information by collecting as much data on as many choices as possible, contributes to relatively slow and painstaking decision making (Huang, 2000; Schwartz et al., 2002; Roese, 1994; Sweeny & Vohs,

2012). When one gathers an excess of information related to a choice, the process of choice-making may be impeded rather than optimized. Like cognitive load (Sweller, 1988; 2018), choice overload, or overchoice (Dar-Nimrod et al., 2009; Schwartz et al., 2002) is the idea that people are limited in their cognitive capacity in terms of memory and attention (Bendor, 2004; Hogarth, 1987; March, 1988, Miller, 1965; Simon, 1990), which in turn limits their bandwidth for comparing choices. Choice overload would therefore fit within descriptive models of decision-making rather than normative models (Bell et al., 1988), and the resulting effect may be that the person feels overwhelmed, shuts down, or experiences decision fatigue (Grant & Schwartz, 2011). In a meta-analysis of 99 studies (n = 7202), Chernev and colleagues (1999) identify four moderators which moderate the relationship between assortment size and choice overload: choice set complexity, decision task difficulty, preference uncertainty, and decision goal. Furthermore, research has suggested that having more choices to compare to one another may contribute to inner conflict which then impedes or even halts selection (Dhar, 1997; Shafir et al., 1993; Shafir & Tversky, 1992). Other researchers hypothesize that, "Being confronted by a plethora of options, each possessing unique attributes, may instead simultaneously attract and repel choice-makers" (Iyengar & Lepper, 2000, p. 1004), suggesting that the default, then, may be to revert to affective heuristics to ultimately make their choice.

While choice paradox does not have an empirically validated scale, attempts have been made to study this phenomenon empirically. In a paper consisting of three studies, Iyengar and Lepper (2001) discuss findings from 3 different experimental conditions that challenged the proposition that having more choices leads to greater satisfaction or is more intrinsically motivating than having fewer choices. In this study 1,754 shoppers were observed across two 5-hour periods in a high-end grocery store in California. Two independent, blind raters watched

video recordings of the shoppers' interactions with solicitors in the store, rating the "friendliness" of the solicitation on a 1-5 Likert-type scale. Of the 754 customers, 502 stopped to view a display of various types of jams in two types of conditions: extensive-selection (24 jams) or limited-selection (6 jams). In total, 242 participants looked at the extensive-selection (24 jams) and 260 participants looked at the limited-selection (6 jams). Approximately 60% (145) of the total 242 customers who passed by the extensive selection display of jams stopped at the booth to browse the jams more closely. Approximately 40% (145) of the 260 customers who passed by the limited-selection jams display stopped to browse the jams more closely. This suggests that the extended-choice condition was more attractive at first than the limited choice condition.

In Study 2, 193 students in an introductory social psychology course at Stanford University were presented with the option of writing a two-page long essay for extra credit. Students were given two choice conditions for their essay topics: a choice from 6 essay topics and a choice from 30 essay topics. The authors evaluated intrinsic motivation by measuring how many students from each condition completed the assignment as well as the quality of each essay. Roughly 74% of the 70 students assigned to the limited-choice condition (6 possible essay topics) turned in the assignment. In contrast, 60% of the 123 students in the extensive-choice condition (30 potential essay topics) completed the assignment.

In study 3, 130 Columbia University students selected from a limited or extended menu of chocolates. The control group was then given a sample chocolate whereas the experimental group was allowed to choose a chocolate to sample. Following these conditions, purchasing behavior of the two groups was observed using measures of satisfaction and decision-making. Results showed that participants in the limited condition were more satisfied with their choice in

chocolate. Altogether, studies 1, 2, and 3 supported the hypothesis that the extended choice condition led to less satisfaction with choices made.

Prospection

Many philosophers have considered the tendency to think about the future as a defining feature of the human experience (Heidegger, 1962; Minkowski, 1970). At its core, all decision-making involves some level or degree of uncertainty (Tversky & Kahneman, 1974), which calls for predictions as to how decisions might impact the future. Therefore prospection, or "the mental process of projecting and evaluating future possibilities and then using these projections for the guidance of thought and action" (Seligman et al., 2016, p. 6), provides the means through which people experience continuity between their choices and actions. However, research on prospection reveals that people do not evaluate potential losses equally with potential gains; in fact, people tend to value loss aversion more heavily than predicted gains. In addition, the related concept of status quo bias (SQB) suggests that people may tend to avoid change by sticking with their current option when presented with alternatives (Samuelson & Zecker, 1988). Born out of economics, prospection theory's descriptive model of decision-making developed by Kahneman and Tversky (1979) became known as prospect theory, and was one of the major reasons Daniel Kahneman was awarded the Nobel Prize in Economics in 2002.

According to prospect theory, prospection occurs in two phases. In the first phase, known as the editing phase, decisions are organized according to heuristics or cognitive biases (unlike normative models of decision-making which do not account for human error and preference). A concept termed *framing effects,* or how a choice is presented in terms of having either a negative or positive connotation, also occurs during the editing stage. Next, in the evaluation stage, a person attempts to calculate how much value or utility a choice will have. Kahneman (2011) later

went on to summarize decades of he and Tversky's research, while further developing prospect theory, in his well-known book titled *Thinking Fast and Slow.* In it, he distinguishes between two types of cognitive processes known as System 1 and System 2. System 1 is the fast, emotional, instinctive type of thought process, whereas System 2 is slower, but more logical and meticulous.

Another compelling argument for the ways in which people use prediction to evaluate choices is called a cost-benefit analysis (CBA). In its earliest form, the term is credited to Jules Dupuit (Dupuit, 1844 [1952]; Dupuit, 1849 [1962]; Dupuit, 1853). Today, the term cost-benefit analysis can be used to describe the process of estimating potential value and benefits against risks and drawbacks for any decision, project, investment, or endeavor; both at the individual level and at the public, political, or commercial level. Emerging theories from neuroscience have even coined terms related to inhibited decision-making ability as "decisional anhedonia," described as a condition in which "the ability to balance costs and benefits when selecting among multiple options is impaired" (Treadway & Zald, 2011, p. 545), which may be linked to the brain's reward systems. The purpose of a cost-benefit analysis is to mitigate risks and uncertainties as much as possible, to enhance the possibility of selecting the best option with the most return.

Choices Undecided, Goals Unattained

"There is no more miserable human being than one in whom nothing is habitual but indecision, and for whom the lighting of every cigar, the drinking of every cup, the time of rising and going to bed every day, and the beginning of every bit of work, are subjects of express volitional deliberation" (James, 1890, p. 122).

Decisions and goals are necessitated by the need to survive in an ever-changing landscape (e.g., deciding when, where and how to obtain food, water, and shelter) and by higher-order needs such as the need for competence, autonomy, and relatedness (Deci & Ryan, 1980; 2000) or the need to self-actualize (Maslow, 1943). Theoretically, through excessive deliberation

that impedes goal-directed actions and goal attainment, indecision-inaction phenomenon may impede motivation, self-efficacy, agency, self-actualization and positive emotions, and contribute to rumination.

Chronic indecision, or indecisiveness, is associated with poor outcomes such as major depressive disorder (Mitchell, 2009), obsessive-compulsive disorder (Reed, 1976, 1977), low self-esteem, interpersonal difficulties, and neuroticism (Ferrari, 1994; Germeijs & De Boeck, 2002; Jackson et al., 2009). Perfectionists (Straus, 1948) and maximizers (Edwards, 1954, 1961; Schwartz et al., 2002), a name given to those with a decision-making style aligned with spending more time deliberating in attempts to make the "best" decision, are thought to experience higher rates of indecision due to the desire to avoid mistakes.

The peril of living in a state of indecision is a long-time theme of the human condition, as evidenced by some of the most influential writings in history. For example, in the Hebrew Bible's book of Numbers, after the Children of Israel left Egypt, they could not decide upon where to settle. Thus, God called upon them and said, "Because your men explored the land for forty days, you must wander in the wilderness for forty years— a year for each day, suffering the consequences of your sins. Then you will discover what it is like to have me for an enemy," seeming to punish them for the sin of failing to commit (Numbers 14:34, New Living Translation). Another well-known trope comes from the Shakespearean character Hamlet*,* a man dominated by over-rationalization, overthinking, indecision, and hesitation. Hamlet is famously quoted saying, "To be, or not to be, that is the Question," referring to the quandary of suicide, wherein he debates the choice of continuation of his suffering versus ending it all (Parvini, 2015; Shakespeare, 1632, 3.1, p. 285).

Building on precursors such as Ryan (1970), Locke and Latham (1990) describe goal-directed actions as behaviors and processes which at the most basic level are driven by the need to survive. These authors also assert that goals that are specific and challenging are more likely to strengthen motivation and performance. In organizational contexts, Vroom's (1964) expectancy theory describes goal-directed behaviors as being driven by expected rewards and the degree to which the person values those rewards (Rotter, 1954; Vroom, 1964). Bandura (1977, 1986) describes the reinforcement effect in which behaviors that are reinforced create expectations for the future, in that we expect that behaviors that result in satisfying outcomes will continue to do so. Bandura (1997) also emphasized a link between self-efficacy, the belief that one can succeed at a given task, and goals. Some conceptualize goals as cognitive processes which involve the construction of notions of what a future in which a desired outcome is achieved would be like (Austin & Vancouver, 1996). Snyder's hope theory (Synder, 2002; Snyder et al., 1991) conceptualizes goals along dimensions of agency, or successful goal-directed actions and pathways, or goal-directed planning. Goal Phase Theory or the Rubicon Model of Action Phases set forth by Gollwitzer (1990) suggests that motivation involves decision-making, planning, and striving for one's goals. Goals are also integral to vocational models such as Social Cognitive Career Theory (Lent et al., 1994) which distinguishes between the content of one's goals and quality of one's performance.

While these theories vary in structure and etiology, they seem to converge in their multi-phase conceptualization of goals which link appraisals of past behaviors with future expectations. These theories also place an emphasis on goals as both cognitive processes such as deciding, planning, and visualizing as well as behavioral processes such as pursuing and striving.

Generally, goals that are both valued and attained result in pleasant feelings and outcomes. Goal progress or attainment tends to contribute to personal growth, emotional well-being, positive affect and satisfaction with life (Brunstein, 1993; Brunstein et al., 1998; Sheldon, 2002; Sheldon & Houser-Marko, 2001). Goal attainment and goal-directed activities also fall within the domain of intentional activities, which, as outlined by Lyubomirsky and colleagues (2005), account for 40% of influences affecting chronic happiness in addition to our happiness set point (50% of happiness that is genetically determined) and life circumstances (10% of happiness). Deci and Ryan (2000) identified links between autonomous (or intrinsic) motivation and facets of successful goal attainment in areas such as children's reading competency (Grolnick & Ryan, 1987), children's proactive coping behaviors in school (Ryan & Connell, 1989), less dropout among junior college students (Vallerand et al., 1997), and increased goal attainment among college students (Sheldon & Elliot, 1998).

The importance of developing attainable goals has been studied. For example, the criteria for SMART goals (Doran, 1981; Weintraub, 2021) a goal-setting framework often attributed to Peter Drucker's (1954) Management by Objectives (MBO) theory, stipulates that optimal goals be specific, measurable, attainable, relevant, and timebound. Others have demonstrated that structuring goals into "proximal subgoals" that "provide immediate incentives and guides for performance" boost self-efficacy in schoolchildren, while "distal goals are too far removed in time to effectively mobilize effort or to direct what one does in the here and now" (Bandura & Schunk, 1981). Likewise, Locke and Latham (1990) emphasize the importance of specific goals. Accordingly, frameworks that aim to hone and scaffold the goal planning and striving process, theoretically reducing cognitive load (Kirschner et al., 2006; Sweller, 1988) may proactively

safeguard against the negative consequences of indecision-inaction phenomenon such as deleterious impacts to self-efficacy and increased rumination.

In stark contrast to the desirable consequences of goal attainment, goal failure is associated with negative feelings and outcomes. When we allow time to pass while neglecting to make and follow through with an important decision, we prolong the duration of our unmet needs. For example, Carver and Scheier (1998) describe a model of self-regulation involving feedback loops which assess one's status in comparison to their desired goal or outcome. As one becomes aware that they have not made progress toward achieving their goal they may experience negative emotional states (Carver & Scheier, 1998). Other consequences of goal failure include excessive rumination (Martin & Tesser, 1996) and shame (Fisher & Tangney, 1995; Turner et al., 2002). Goal failure is also intrinsically tied to definitions of learned helplessness (Abramson et al., 1978; Hiroto & Seligman, 1975; Maier & Seligman, 1969, 1976, 2016; Seligman & Maier, 1967). For example, Peterson and colleagues (1993) clarify, "Uncontrollability per se does not threaten someone's self-esteem — hence there is no need to protect against it. Rather, it is failure — actively trying to achieve some goal (solve a problem) and then falling short of this intent— that produces later decrements in performance because failure threatens oneself in a way that uncontrollability per se does not" (p. 131).

Utilizing Weiner's (1985) concept of attribution theory, the extent to which unmet goals feel like a failure may depend on how the person appraises the specific circumstances of that goal. Martin and Tesser (1996) propose a compelling argument in Goal Progress Theory (GPT) relating to the undesirable consequences of goal failure, which purports that the awareness that one's goals remain unfulfilled may catalyze rumination. These authors state that people tend to ruminate more over unattained goals that they believe are connected to their well-being than they

do over more frivolous goals, postulating that the amelioration of rumination is connected either to attainment of the desired goal or at least re-entering a flow state (Csikszentmihalyi, 1990) in relation to goal progress.

Given that indecision-inaction phenomenon is conceptualized as an illogical or irrational cognitive process with affective and behavioral consequences, a person experiencing indecision-inaction phenomenon may be aware, on some level, that they have sabotaged their own needs and goals, and may therefore be more likely to feel a sense of personal failure rather than dispersing blame to external factors. Assuming that needs and goals exist on an axis with values, the degree to which a person values the driving factors behind their need to make a decision or the goal they have set may also impact the intensity with which they experience the negative consequences of indecision-inaction phenomenon.

In clinical settings, clients often report the feeling of "being stuck" when they first seek therapy (Carter et al., 2020). Beaudoin (2008) describes the experience of a lack of forward movement in therapy, encountered by both the client and clinician. When experienced by the therapist, a clinician might endorse an "absence of movement or as movement toward an unhelpful direction" or as "an inability to foster change" (p. 78). Lack of progress in therapy can pose problems to the likelihood of reaching treatment goals (Hayes et al., 2009) and can be addressed using techniques such as motivational interviewing which can help clients shift from ambivalence about change to the contemplation stages of change (DiClemente, 2003; Miller & Rollnick, 1991; Norcross & Prochaska, 2011; Norcross et al., 2011; Prochaska & Norcross, 2010). Empirically validated therapies that include homework and goal setting, such as Cognitive Behavior Therapy (CBT; Beck, 1976; Beck, 2020) demonstrate favorable impacts on treatment (Kazantzis et al., 2010).

The discomfort that arises from indecision and goal failure are potent themes across literary periods. In the Odyssey, the myth of Scylla and Charybdis (Homer & Wilson, 2018) demonstrates the peril of being caught between two equally unpleasant choices. Fourteenth-century French philosopher Jean Buridan's discussions of free will and determinism are depicted satirically in the apocryphal tale of a donkey who dies of starvation between two equidistant hay bales. The origins of what is jestingly known as "Buridan's ass" has been attributed to Aristotle's writings (Aristotle, 350/1984), and demonstrates the plight of indecision and inaction. In Shakespeare's comedy *Measure for Measure*, the character Lucio laments on the consequences of inaction in the face of uncertainty when he utters, "Our doubts are traitors, And makes us lose the good we oft might win, By fearing to attempt" (Shakespeare, 1632, 1.4, p. 64). Sylvia Plath describes the consequences of indecision and inaction hauntingly in her description of the fig tree in *The Bell Jar*. The narrator, sitting in the crotch of a fig tree, gazes up at branches imagining that each fig is a different potential future. Plath writes, "I wanted each and every one of them, but choosing one meant losing all the rest, and, as I sat there, unable to decide, the figs began to wrinkle and go black, and, one by one, they plopped to the ground at my feet" (Plath, 2005, p. 77). Similarly morbid imagery is offered by Langston Hughes in his poem, *'Harlem' (A Dream Deferred)* in which he poses the question, "What happens to a dream deferred?" (Hughes, 1994).

Distinction From Related Constructs

The experience of indecision combined with inaction is a complex and multifaceted phenomenon that is conceptually interconnected with a number of established theories and constructs. Rumination, neuroticism, cognitive load, perfectionism, obsessive-compulsive disorders, approach-avoidance conflict, decision-making, indecisiveness, motivation, self-efficacy, agency, goals, procrastination, writer's block, learned helplessness, and cognitive

dissonance may all intersect with or influence indecision-inaction phenomenon. This section will focus on constructs that will be examined in the current study: procrastination, decision-making (i.e., indecisiveness), perfectionism, and neuroticism (and other personality traits), and satisfaction with life.

Procrastination

According to a meta-analysis which integrated numerous definitions of the phenomenon, "to procrastinate is to voluntarily delay an intended course of action despite expecting to be worse off for the delay" (Steel, 2007, p. 66). One of the most prolific researchers on procrastination, Joseph R. Ferrari, has defined procrastination as "the purposive delay in beginning or completing a task to the point of experiencing subjective discomfort" (Ferrari, 1991, p. 245). Others have defined procrastination as "irrational delay" in which "putting off is inherently dysfunctional by our own standards" (Steel, 2010, p. 929). Twin studies have revealed that procrastination may have genetic factors (Arvey et al., 2003), while other studies have identified personality correlates (Roberts et al., 2005). In Steel's (2007) comprehensive meta-analysis, the impact of environmental factors (known as task characteristics) and demographic variables on procrastination are also reviewed. Procrastination has been shown to be related to perfectionism (Ferrari, 1992b, 1995), impulsiveness (Ferrari, 1993), and obsessive-compulsive disorder (Ferrari & McCown, 1994). Ferrari (1991) suggests that there may be some perceived utility (albeit irrational) of procrastination, wherein procrastinators "sabotage an upcoming performance thereby providing a useful external explanation for failure other than the participant's lack of ability" (p. 246).

Some research has investigated procrastination and decision-making specifically, also known as decisional procrastination (Ferrari & Dovidio, 2000; Ferrari et al.., 1995). People who

score higher in decisional procrastination tend to take longer on tasks, especially when more choices are available. Consistent with the findings of Frost and Shows (1993), Ferrari and Dovido (2000) found that people high in decisional procrastination may require a higher degree of certainty before making a decision, and may be more risk avoidant.

The level of irrational thinking seen in procrastination is theoretically shared by indecision-inaction phenomenon. However, whereas procrastination is the tendency to hinder oneself by not engaging with or even avoiding a task, the person experiencing indecision-inaction phenomenon may be quite engaged with deliberating over various approaches to a task, albeit in an excessive and paradoxically fruitless manner. While the end-state of both procrastination and indecision-inaction phenomenon may look similar (i.e., not deciding or not following through with goal-oriented action), the mechanisms of irrational thinking involved in these two constructs are theoretically distinct (i.e., procrastination involves irrational avoidance and voluntary distraction, while indecision-inaction phenomenon involves irrational, fruitless engagement). Much like how distraction responses to depression, or "the purposeful turning of one's attention away from one's symptoms of depression and its possible causes and consequences to pleasant or neutral activities" (Nolen-Hoeksema, 1991, p. 570) differ from ruminative responses, procrastination may involve turning to activities that distract while indecision-inaction phenomenon involves dwelling or stalling within a particular domain. Furthermore, the act of procrastination is often synonymous with traits among people known as procrastinators. Like indecisiveness, procrastinators who tend to delay in general do not fall within the situation-specific umbrella that the author of the current study aims to measure using the proposed scale. Furthermore, procrastination involves voluntary delay whereas indecision-inaction phenomenon is conceptualized as being more outside of a person's awareness or control.

Decision-making

Ward Edwards produced one of the first theoretical perspectives on decision-making, applying the economic concept of expected utility (von Neumann & Morgenstern, 1947) to psychology in a 1954 article, and formally establishing Behavioral Decision Theory in a subsequent paper in 1961 (Edwards, 1954, 1961). Ward was influenced by a book called *The Foundations of Statistics* by Jimmy Savage (Savage, 1954), including Bayes' Theorem which involves the use of a probabilistic framework to mathematically predict the likelihood of an event. Ward then worked with Savage to develop models that explained human behavior by applying Bayesian principles (Edwards et al., 1963), a framework adopted by other notable pioneers in decision-making theory (Raiffa, 1968). Edwards's application of the term expected utility refers to the human tendency to try to predict the outcome of a proposed choice. Basic assumptions underlying expected utility include the idea that risky options can be arranged in hierarchical order according to how useful they are. Edwards noted that the probability of expected utility that a person assumes is not the same as the mathematical probability according to Bayes' theorem (Edwards, 1954). Edwards worked toward applying these ideas to predict human decision-making.

Decision-making, specifically under conditions in which outcomes are uncertain, has been organized into three models of decision-making analysis: normative, descriptive, and prescriptive (Bell et al., 1988). As indicated by the name, normative decision-making describes the ideal decision-making style, in which a person will be able to evaluate all alternative choices and select the choice that is expected to provide the best outcome. However, the normative model of decision-making is easily criticized (e.g., Tversky and Kahneman [1974]) for its assumption that a decision-maker has the infinite capacity to compare options continuously and

consistently. For example, Bendor (2004) proposes the counterargument that the theory of bounded rationality (March, 1988), or the idea that human beings are cognitively limited and that such limits impede decision-making capacities, will inhibit a person's decision-making bandwidth when confronted with highly complex problems. Cognitive constraints include working memory (Miller, 1965) and selective attention (Hogarth, 1987; Simon, 1990).

Descriptive models of decision-making (Bell et al., 1988) describe how people make decisions in the real world by accounting for the cognitive capacity constraints noted above in the model. The use of heuristics (Gigerenzer & Brighton, 2009; Kahneman, et al., 1982; Simon, 1957, 1977), the idea that human judgement utilizes shortcuts rooted in bias (e.g., generalization) which are imperfect but still useful to predict outcomes, is a central feature of descriptive models of decision-making. In addition, descriptive decision-making accounts for individual differences among decision-makers in terms of decision-making style. Not all decision-makers will attempt to maximize the projected utility of every decision they make, but will rather settle for satisficing (Simon, 1988). In general, descriptive models aim to examine the ways that people actually make real-life decisions, whereas normative models explain how people ought to make decisions, without real-world constraints (Bell et al., 1988). Descriptive models of decision-making are especially relevant to the study of indecision-inaction phenomenon, since it involves a decision-making style that is counterintuitive and irrational in a way that is not explained by normative models.

Prescriptive models of decision-making (Bell et al., 1988) are models which often utilize mathematical algorithms, probability, and analytic tools to systematically standardize the process of decision analysis. By combining normative models with the descriptive models (which

account for human nuance and human limitation), prescriptive models aim to facilitate decision-making.

Individual differences in decision-makers' decision style also play a role in the decision-making process. For example, Schwartz and colleagues (2002) distinguished between maximizers and satisficers. Far from a new concept, maximization was one of the basic assumptions about humans' economic decision-making outlined by Ward Edwards (Edwards, 1954, 1961), one of the earliest decision-making theorists. Maximizers attempt to execute a normative model of decision making; they tend to want to spend more time deliberating over a decision, collecting and analyzing information on as many possible options as they can in attempts to make the best decision. Satisficers on the other hand are more likely to settle for the "good enough" decision, rather than trying to maximize the expected utility of any choice they make.

Voltaire's well-known aphorism, "perfect is the enemy of good" and the maxim of Ockham's razor (or the principle of parsimony), which touts that the best explanation is the simplest one (i.e., "'Never posit pluralities without necessity' ['Numquam ponenda est pluralitas sine necessitate']") echo the merit of satisficers' ability to simplify the decision-making process (Ockham, 1495). Negative outcomes associated with maximizers include lower satisfaction with their choice (Dar-Nimrod et al., 2009) whereas satisficers are more likely to feel content with their choice (Roese, 1994; Sweeny & Vohs, 2012). Research (e.g., Huang, 2000) suggests that a balance between more information gathering and the effort saved by executing a decision quickly may decrease decisional avoidance, and satisficers are more aligned with the descriptive model of decision-making (Schwartz et al., 2002).

In spite of similarities between the concept of maximization in decision-making and its links to negative outcomes, theories of maximization do not adequately capture the causal mechanisms which lead to said outcomes; nor do they focus on potential affective components of maximization. Furthermore, the term maximizer implies that maximization is more of a trait-level characteristic rather than a state that is specific to a situation but not consistent across time. With the development of the indecision-inaction phenomenon scale, the author of this study aims to capture the affective component of indecision and inaction, marked by psychological discomfort, more accurately than maximization theory has.

Baumeister and colleagues (1998) introduced the concept of "ego depletion" which proposes that humans have limited resources from which to cope with stress and self-regulate. Accordingly, when a person has used up their resources, their capacity for self-control is reduced. Building on this concept, Pignatiello (2020) proposed the concept of decision fatigue, a form of ego depletion relating specifically to decision-making. Decision fatigue is said to occur when a person has made a series of decisions using their limited resources until their ability to do so is at capacity. Their ability to continue making decisions beyond that point is subsequently diminished or impaired.

Indecisiveness

While there is plentiful research on career indecision (for a recent, comprehensive review, see Gati & Kulcsar, 2021), comparably little research examines indecision as a construct, specifically. In the career development literature, a distinction is made between career indecision— in which a person undergoes a normal and expected level of indecision related to career choice— and indecisiveness— or chronic career indecision, which is "rooted in emotional and personality difficulties" (Gati & Kulcsar, 2021, p. 2) which can create a myriad of lasting

issues (Di Fabio & Palazzeschi, 2012; Germeijs et at., 2002; Osipow, 1999; Saka et al., 2008). Yet, outside of the career development literature, the emphasis has been on indecisiveness rather than indecision, in spite of the fact that there is no clear metric which clarifies the length of time nor breadth of life domains one's undecidedness must span across to be considered a person suffering from indecisiveness rather than indecision. Slaney (1988) astutely pointed out that these two constructs have not been differentiated empirically in career literature, yet few scholars outside of the career field have made this important point. One study found that indecisiveness was more strongly correlated with low self-esteem than career indecision was (Germeijs et al, 2002).

Indecisiveness has been identified in mental health disorders such as major depressive disorder (Mitchell, 2009), obsessive-compulsive disorder (Reed, 1976, 1977), and poor outcomes such as low self-esteem, interpersonal difficulties, and neuroticism (Ferrari, 1994; Germeijs & De Boeck, 2002; Jackson et al., 2009). It has been thought to be especially prevalent in people preoccupied with perfectionism, where the desire to avoid imperfect mistakes underlies indecisiveness (Straus, 1948).

Indecisiveness has also been linked to individual differences. For example, the tendency toward a maximization style (Schwartz et al., 2002) in decision-making has been linked to indecisiveness by multiple theorists (Cheek & Schwartz, 2016; Dar-Nimrod et al., 2009; Turner et al., 2012). However, the dearth of literature on the experience and implications of prolonged or sustained indecision (outside of the career development field) indicates that the development of a scale measuring indecision-inaction phenomenon is much needed.

The most well-known scale measuring indecisiveness is the Indecisiveness Scale (Frost & Shows, 1993). The Indecisiveness Scale is a 15-item 5-point Likert-type scale with responses

ranging from “strongly disagree” to “strongly agree.” This scale showed convergent validity with measures of perfectionism, hoarding, compulsivity, and procrastination. A number of items in this scale are fundamentally different from what the author of the current study aims to capture with the proposed scale. For example, the item “I try to put off making decisions” is more consistent with procrastination than with indecision-inaction phenomenon, because people who experience indecision-inaction phenomenon are actively engaging in the decision-making process and yet feel unable to proceed. As Germeijs and De Boeck (2002) noted, the Indecisiveness Scale is also closely related to other constructs such as anxiety (e.g., “I become anxious when making a decision”), and may therefore be limited by confounds.

Perfectionism

Perfectionism is characterized by rigidity of one’s standards directed by one’s desire to strive for perceived flawlessness or correctness. Individuals with obsessive compulsive personality disorder may be preoccupied with perfectionism (American Psychiatric Association, 2013). While perfectionism can be unproblematic when linked to normative striving for excellence (Burns, 1980), perfectionism can also lend to dysfunction. For example, perfectionism has been linked to the development and maintenance of eating disorders (Fairburn et al., 1998; Fairburn, et al., 1999; Garner et al., 1983; Lilenfeld et al., 1998; Lilenfeld et al., 2000; Mitzman et al., 1994; Slade, 1982) and treatment-resistant depression (Blatt et al., 1998; Zuroff et al., 2000). Perfectionistic people may feel like they are never good enough, may impose unrealistically high standards on themselves, may be biased (i.e., overly critical and self-defeating) in their self-evaluations (Shafran et al., 2002) and may orient their self-concept in relationship to their ability to attain goals (Burns, 1980; Hamachek, 1978). Karen Horney (1950) proposed a concept relevant to perfectionism called the “tyranny of the shoulds” to describe the

rigid rules surrounding an ideal self-image that neurotic people place on themselves. Dysfunctional perfectionism that contributes to undesirable consequences is a criterion for what Shafran and colleagues (2002) describe as "clinically relevant perfectionism" (p. 778). These authors emphasize the debilitating impact of feelings of failure that perfectionists experience when their self-imposed goals are not met (Burns, 1980; Fairburn, 1997; Hamachek, 1978; Hollender, 1965; Vitousek, 1996). They note that perfectionists are more likely to engage in black-or-white thinking (Antony & Swinson, 1998) as well as task delay or abandonment (Frost et al., 1990; Slade & Owens, 1998).

Researchers have conceptualized perfectionism as a multidimensional construct. For example, Frost and colleagues (1990) identified six key dimensions of perfectionism: Concern over Mistakes (CM), Personal Standards (PS), Parental Expectations (PE), Parental Criticism (PC), Doubts about Actions (D), and Organization (O). The Revised Almost Perfect Scale (APS-R: Slaney et al., 2001) conceptualizes perfectionism as a three-dimensional model with the dimensions High Standards, Order, and Discrepancy, with the Discrepancy dimension appearing to capture negative consequences of perfectionism.

Perfectionism spans across more domains of life than indecision-inaction phenomenon. For example, a perfectionist may obsess over maintaining the "perfect" weight as a means of their commitment to pursuing their notion of an ideal self. At the same time, they may generalize similar perfectionistic standards out to striving to maintain "perfect" grades in school. In both cases, the striving is born out of trait-level perfectionism. A person experiencing indecision-inaction phenomenon, on the other hand, is more likely to be deliberating over a domain-specific decision or project. Perfectionism also spans both dysfunctional thinking and compulsive or self-defeating behaviors, but indecision-inaction phenomenon is vastly a cognitive process as it is

conceptualized as the absence of goal-directed behaviors. Finally, perfectionism may lead to good outcomes such as success and excellence, whereas indecision-inaction phenomenon is theoretically more likely to be confined to poor outcomes.

Neuroticism and Other Personality Traits

Like the other four major personality traits in the Five-Factor Model of personality, neuroticism, also referred to as negative emotionality (e.g., Soto & John, 2017a), has been studied extensively (Costa & McCrae, 2011; John & Srivastava, 1999; Rammstedt & John, 2007; Soto & John, 2017a, 2017b, 2019). Neuroticism is a personality trait, meaning it describes a person's patterns of responding that are consistent across situations (Allport, 1954; Allport & Odbert, 1936). Neuroticism is the dimension of personality that measures a person's tendency to experience distressing negatively valanced emotional states associated with the perception of impending threat (Costa & McCrae, 1992). Accordingly, those low in neuroticism score high in its opposite, emotional stability.

People who score high in the trait neuroticism tend to experience more anxiety, depression, negative emotions, pessimism, increased vigilance, and relationship conflict (Belsky et al., 2003; Karney & Bradbury, 1995; Ozer & Benet-Martinez, 2006; Soto & John, 2019; Trull & Sher, 1994). Subjective well-being (Deiner et al., 1999) is strongly predicted by neuroticism and may be associated with responses to punishments and rewards in the environment (Deiner & Lucas, 1999; DeNeve & Cooper, 1998).

The other four dimensions of personality may be less likely to intersect with or relate to indecision-inaction phenomenon than neuroticism. Openness to experience measures the degree to which a person is curious, willing to engage in new experiences, and receptive to new or different ideas. Conscientiousness measures how disciplined, organized, motivated, and goal-

oriented a person is. Extraversion measures how sociable, emotionally expressive, and talkative a person is. Finally, agreeableness measures how prosocial, kind, polite, and accommodating a person is (Costa & McCrae, 2011).

Satisfaction with Life

Satisfaction with life is considered one of the major facets of subjective well-being (see Diener, 1984). In their paper on the development and validation of the Satisfaction with Life Scale (SWLS), Diener and colleagues (1985) describe satisfaction with life as a cognitive process in which a person judges or appraises their current, overall quality of life compared to their standards for an ideal life. Deci and Ryan's (1980) self-determination theory asserts that certain innate human needs drive behavior, including the need for competence, autonomy, and relatedness. Deci and Ryan (2000) considered these needs to be foundational to subjective well-being and life-satisfaction.

According to the 2017 World Happiness Report (Helliwell et al., 2017), countries with higher average income tend to have higher life satisfaction. Social connections, including relationships with family, community, and friends, have been found to be positively related to life satisfaction (Helliwell & Putnam, 2004). Other authors have found that life satisfaction is associated with better health (Strine et al., 2008), low levels of neuroticism, and disposition toward positive emotions (DeNeve & Cooper, 1998; Fredrickson, 2001).

Summary: Theoretical Nomological Network (Relationship to Other Constructs)

Indecision-inaction phenomenon is theoretically related to but unique among other constructs elaborated upon above. Indecision-inaction phenomenon's relationship parallels procrastination in that it involves a degree of irrational thinking. However, procrastination is

viewed as a voluntary avoidance of decision-making or action whereas indecision-inaction phenomenon involves active and even excessive engagement with the problem at hand.

While sharing certain aspects of decision-making processes, indecision-inaction phenomenon is devoid of an execution phase of decision-making which is the linchpin of many models. Indecision-inaction phenomenon is comparable to indecisiveness in that it is viewed as a prolonged state, but is characterized by more cognitive overload, active deliberation, and stifled goal-directed action than indecisiveness. Indecision-inaction phenomenon may also share irrational cognitive processes in common with indecisiveness. It may be adjacent to the decision-making style that maximizers are known for and may result in similar consequences as indecisiveness, but indecision-inaction phenomenon is not necessarily a trait-level decision-making style.

While both perfectionism and indecision-inaction phenomenon appear to share in common goal appraisal, negative cognitions, dysfunctional thinking, and a sense of failure, they differ from each other in a number of important ways. Perfectionism appears to encompass a broader range of domains (e.g., weight control, appearance), whereas indecision-inaction phenomenon is more likely to relate to a decision or project. Perfectionism may also be more closely linked to obsessive or compulsive behaviors whereas indecision-inaction phenomenon leans more towards deliberation and decision-making. In addition, certain dimensions of perfectionism, such as High Standards and Order in Slaney and colleagues' (2010) Revised Almost Perfect Scale, may lead to high levels of achievement, whereas indecision-inaction phenomenon is defined as a form of dysfunctional thinking that inevitably leads to undesirable outcomes.

People who experience indecision-inaction phenomenon may be more likely to score high in neuroticism, though indecision-inaction phenomenon is not considered to be a trait-level phenomenon. Indecision-inaction phenomenon may be linked to one's desire to avoid negative outcomes, which aligns with the heightened vigilance to threat in neuroticism. Of the Big Five personality traits, neuroticism is conceptualized as the most likely to be positively related to indecision-inaction phenomenon, while the other 4 dimensions of personality (openness to experience, conscientiousness, agreeableness, and extraversion) may be conceptually unrelated.

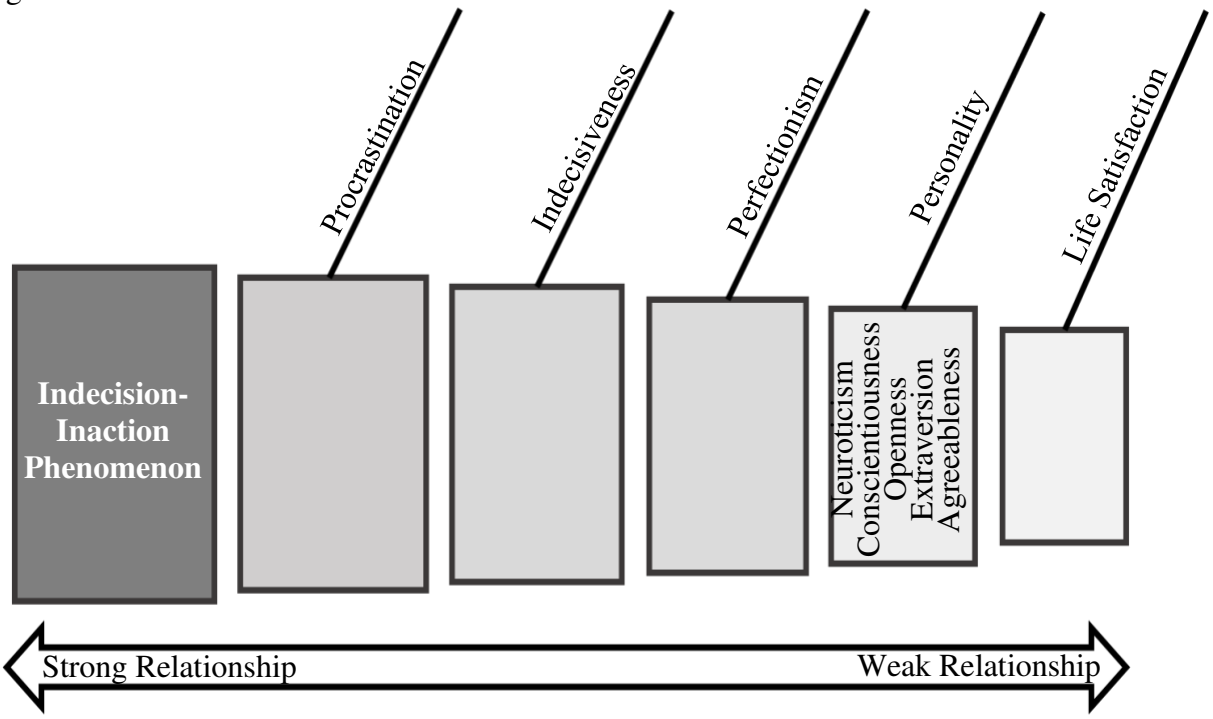
It may be true that people who refer to themselves as perfectionists or people who score high in neuroticism may be more likely to experience indecision-inaction phenomenon. However, a person might experience indecision-inaction phenomenon relating to a specific circumstance in their life (e.g., "Should I quit my job to join a start-up?"), without exhibiting perfectionistic cognitions and behaviors or neuroticism in other domains of their life.

Satisfaction with life is subjective and derived from many factors. While indecision-inaction phenomenon may interfere with a person's quality of life in the domain of the particular decision or goal it hinders, it is less likely to significantly impact life satisfaction as a whole. For example, a person may be experiencing indecision-inaction phenomenon as it relates to their job search and application process, but may be satisfied with life as a whole which may encompass their family role and relations, sense of community, spirituality, physical health, hobbies, interests, and values. For this reason, life satisfaction is conceptualized as having a weaker relationship with indecision-inaction phenomenon compared to other constructs investigated in the current study.

Indecision-inaction phenomenon is therefore conceptualized as informed by but distinct from these related constructs. A visual to aid in understanding the proposed relationships

between indecision-inaction phenomenon and the constructs included above is provided in Figure 1, below. These expected relationships are also captured in Hypotheses 2-5 proposed in the current study.

Figure 1



Note. Figure 1 represents indecision-inaction phenomenon's relationship to other constructs, derived from its theoretical nomological network

The Present Study

The purpose of the present study was to develop a theoretical framework and psychometric scale to operationalize the latent variable indecision-inaction phenomenon. In line with steps for psychometric development and evaluation proposed by Lambert and Newman (2022), indecision-inaction phenomenon was conceptualized, operationalized, and empirically validated. A sample was collected from the Colorado State University (CSU) Psychology Department research subject pool. Prior to the current study, an item pool was generated by the author (see Developing an Item Pool section below) and subject matter expert feedback was

collected to enhance content validity of selected items. Once the items were refined based on subject matter expert feedback, a Qualtrics survey was administered to the participants. Informed consent was obtained, and participants were asked to respond to the items in the proposed Indecision-Inaction Phenomenon Scale, as well as several other scales designed to establish initial evidence of validity. The present study investigated item information as well as factor structure of indecision-inaction phenomenon through Exploratory Factor Analysis (EFA), informing subsequent scale revisions. This study also tested the model suggested by the EFA using Confirmatory Factor Analysis (CFA). Finally, the present study sought to establish preliminary evidence of convergent validity and discriminant validity to determine whether indecision-inaction phenomenon is unique enough (compared to established constructs) to justify the need for its own scale (Campbell & Fiske, 1959; Cronbach & Meehl, 1955; Schwab, 2005).

Hypotheses

Hypothesis 1: Exploratory Factor Analysis (EFA) will reveal that indecision-inaction phenomenon consists of three distinct factors reflecting the conceptualized dimensions of IIP-Perceived Choice Paradox, IIP- Irrational Prospection, and IIP- Unfulfillment.

Hypothesis 2: Confirmatory Factor Analysis (CFA) will confirm the three-factor structure of IIP- Perceived Choice Paradox, IIP-Irrational Prospection, and IIP- Unfulfillment that emerge from Exploratory Factor Analysis.

Hypothesis 3: Indecision-inaction phenomenon will have a moderate-to-strong positive correlation with procrastination (Steel, 2010), indecisiveness (Frost & Shows, 1993), and perfectionism (Rice at al., 2014), with correlation strengths being highest with procrastination, second-to highest with indecisiveness, and third-to-highest with perfectionism.

Hypothesis 4: Indecision-inaction phenomenon will lack a positive correlation or exhibit a nonsignificant relationship with satisfaction with life (Diener et al., 1985) and personality (Rammstedt & John, 2007).

Hypothesis 5: Indecision-inaction phenomenon will have higher correlations with the neuroticism/emotional stability factor of personality than openness, conscientiousness, extraversion, or agreeableness.

Method

Participants and Procedure

A total of 1351 participants from the Colorado State University (CSU) Research Subject Pool were recruited across two sequential semesters and administered the cross-sectional survey in the current study. The survey was designed using CSU Qualtrics. Participants were asked to fill out a consent form and a demographics survey assessing for age, gender, and sex. In addition to the items in the Indecision-Inaction Phenomenon Scale, respondents were asked to respond to the measures listed in the section titled Measures, below, to test for initial validity (see Appendix D to view the full survey). Participants were assigned an identification code and their responses were de-identified and stored separately from their identification codes to eliminate researcher bias. All measures and questions administered were reviewed and approved by Colorado State University's Institutional Review Board (IRB) prior to administration. This study abided by the American Psychological Association's ethical guidelines and was approved by Colorado State University's Institutional Review Board (IRB).

To complete the full survey, students had to answer affirmatively attesting that they were over the age of 18, that they were a student at Colorado State University, and that they consented to participating in the study. Some students were eliminated based on these questions, leaving a

total of 1341 students who proceeded and were asked the question, “People sometimes struggle to make decisions or follow through with projects. Are you currently thinking about a decision or project?” Only students who answered “Yes” to this question (79% of the students who answered this question) among the binary yes or no response options were enabled to proceed to complete the full survey, and received credit in psychology courses in exchange for their participation in this research.

For questions about indecision-inaction phenomenon, students were primed with directions orienting them to the concept, and were asked to “recall a current situation in your life in which you are faced with making a decision or moving forward with a project,” keeping this decision or project in mind as they responded to each item in the 66-item version of the Indecision-Inaction Phenomenon Scale (see Appendix A to view these items). Appendix D includes the full survey that was administered to participants, which is available for further review of how students were oriented to the topic of indecision-inaction phenomenon.

For Exploratory Factor Analysis (EFA), Tinsley and Tinsley’s (1987) suggested ratio of at least 5 and up to 10 subjects per item was followed, resulting in a subsample sample of n = 536 that was used for EFA and an initial round of CFA. This subsample of n = 536 was derived from the first 700 participants who responded to the survey, after filtering for attention check items which eliminated 164 respondents. EFA was conducted on this subsample of n = 536, followed by an initial CFA procedure. For cross-validation purposes, an additional round of CFA was conducted on another, smaller subsample using the revised, 13-item version of the scale. Jackson (2001) suggests that samples of 200-400 participants produce adequate results for Confirmatory Factor Analysis (CFA). The 701st to 1100th participants to respond to the survey (n = 399) were filtered using attention checks, eliminating 129 respondents, and resulting in a

subsample of n = 270 that was used for cross-validation (i.e., second round of CFA on the revised version of the scale; see Appendix A to view these 13 items, included in bold). See Table 9 for detailed demographic information for both subsamples (i.e., n = 536 and n = 270) used in the current study.

Missing data was addressed throughout the analyses in this study. During EFA, pairwise deletion (Little & Rubin, 2019) was used, which calculates correlations using only data that is not missing when assessing relationships between variables. Pairwise deletion is commonly used (Peugh & Enders, 2004), and readily available in the R software package that was utilized for analyses in the current study (R Core Team, 2017). Furthermore, as Enders (2010) notes, "virtually every structural equation modeling software package now implements maximum likelihood missing data handling" (p. 113), including those used for factor analysis. The maximum likelihood method included in the available R function that was used in CFA in the current study (Mair, 2018) implemented a robust approach to missing data. Correlations obtained during analyses examining convergent and discriminant validity only included participants who filled out at least 75% of each scale in the survey, following recommendations set forth by Parent (2013). Participant mean imputation was applied in this instance, in which the mean of available responses was used to replace missing responses.

Purpose of the Study

The purpose of the present study was to test Hypotheses 1-5 by developing and testing an item pool. Specifically, once the items were developed, the purpose of this study was to conduct EFA and CFA to develop and test the measurement model. Finally, the last aim of the present study was to establish initial reliability and validity evidence for the Indecision-Inaction Phenomenon Scale, utilizing other scales with established validity. The present study

investigated whether indecision-inaction phenomenon is dissimilar to constructs that it should be weakly or non-significantly correlated to and whether it is similar to theoretically related constructs, while retaining enough of its own uniqueness to warrant its own scale. The scale's purpose is to yield scores that accurately capture the full domain of the latent variable being measured (i.e., indecision-inaction phenomenon). In addition, the present study aimed to investigate item information (i.e., the squared factor loading for each item divided by its uniqueness) to remove items that may not be particularly informative to indecision-inaction phenomenon.

Developing an Item Pool

DeVellis (2017) proposes several guidelines for item creation for psychometric scale development which have been adhered to during the item writing process. The purpose of the scale is to measure the latent variable characterized by the feeling of being stuck in the analysis stage while comparing choices or paths forward, where people experience a feeling of being unable to make a decision, follow through with a decision, or move forward with a personal or work-related project. Therefore, all items were created with the goal of measuring the strength of that latent variable (see Table 1 for definitions of the latent variable and its dimensions). At the item generation stage of scale development, it was impossible to know the strength with which items would correlate with one another, so the domain was oversampled by writing enough items to ensure that enhancing internal consistency in the final item pool was possible. More than five times as many items were included in the initial item pool compared to the final item pool. Items were written to be unambiguous, concise, and accessible to the average person's reading level. Double-barreled items which convey more than one idea were avoided. To avoid agreement bias, some items were reverse scored and worded accordingly so that items that were endorsed at a

low level indicated a high level of the latent variable when reverse scored. The initial item pool consisting of 66-items of the Indecision-Inaction Phenomenon Scale that were distributed to participants is included in Appendix A.

Format for Measurement

A Likert-type scale with an even number of response options was utilized, precluding the availability of a "neutral" response option (e.g., "neither agree nor disagree"). Given that participants were recruited from the CSU Research Subject Pool and were not financially compensated for participating other than course credit, including an even numbered Likert-type scale forced participants to commit to either agreeing or disagreeing with each item, which helped to mitigate the possibility of students choosing a neutral option to hasten the completion of the survey. In addition, there are statistical advantages of an even number of response options, including "fulfilling the commonly required statistical assumption of linearity (a 2-point scale is always linear)" (Dawis, 2000, p. 73). In this study, the measurement was formatted according to one of the most common Likert-type scales according to DeVellis (2017), a 6-point Likert-type scale with the following response options: *1= strongly disagree*, *2= moderately disagree*, *3= mildly disagree*, *4= mildly agree*, *5= moderately agree*, *6=strongly agree* (Dawis, 2000).

For the purposes of fitting within the scope of this study, this scale measured college students' difficulty making specific decisions or moving forward with particular projects, to enhance the scale's capacity to measure situation-specific scores rather than chronic indecisiveness (Germeijs & De Boeck, 2002; Steyer, et al., 2015). At the beginning of the survey, participants were asked, "Think of a current situation in your life in which you are faced with making a decision or moving forward with a project". This prompt is captured in the directions found in Appendix B. A total of 66 items for the Indecision-Inaction Phenomenon

Scale (IIPS) were administered to participants. These 66 items are included in Appendix A. Based on the aforementioned prompt, participants were asked to assess the degree to which they agree with each item as it pertains to the current situation they had in mind, using the 6-point Likert-type scale.

Initial Item Pool Review by Experts

DeVellis (2017) recommends that initial items be reviewed by experts in the field, to either confirm or dispute the degree to which the initial item pool accurately captures the phenomenon described. In accordance with best practices recommended by DeVellis (2017), each item was evaluated by a panel of experts, assessing for relevance, ambiguity, clarity, and conciseness, as well as any missing items that ought to be added to the pool. Three subject matter experts who each hold doctoral degrees in cognitive or general psychology and who publish research, teach, and give talks in areas including but not limited to decision-making, choice paradox, and human cognition and behavior were consulted for review in an effort to enhance content validity. Their feedback was integrated into edits to the items, and instrumental in determining which 66 items were ultimately administered to participants (see Appendix A).

Measures

Demographic items. Participants were asked to fill out a demographics survey assessing for age, gender, and sex. See Table 9 for detailed demographic information.

Indecision-Inaction Phenomenon Scale (IIPS). The Indecision-Inaction Phenomenon Scale (IIPS) was hypothesized to be composed of three dimensions: IIP- Perceived Choice Paradox, IIP- Irrational Prospection, and IIP- Unfulfillment. For a description of what each of these proposed dimensions measure, see the section Proposed Three-Factor Model and Table 1. The Indecision-Inaction Phenomenon Scale (IIPS) asks respondents to recall a situation in which

they have had difficulty with a decision or project, endorsing items on a 6-point Likert-type scale with response options ranging from “strongly disagree” to “strongly agree”.

Convergent validity measures. To test the validity of the hypothesized, three-factor Indecision-Inaction Phenomenon Scale (IIPS), convergent validity was assessed using:

Pure Procrastination Scale (PPS). Using the 12 out of the 14 items with the highest loadings on the first factor of the factor analysis (e.g., “I delay making decisions until it’s too late”; “I generally delay before starting work that I have to do”), Steel (2010) developed a one-factor measure to what he calls “dysfunctional delay” called the Pure Procrastination Scale (PPS). Scores on the PPS were shown to have a Cronbach’s alpha reliability of α =.92 in a large sample of over 4000 participants recruited from the Internet (Steel, 2010).

Indecisiveness Scale (IS). The IS consists of 15 items (e.g., “I find it easy to make decisions”; “I try to put off making decisions”), which respondents answered on a 5-point Likert-type scale, ranging from “strongly disagree” to “strongly agree.” The IS measured compulsive indecisiveness, which the authors found correlated with obsessive-compulsive features such as perfectionism and procrastination. Although the scale was originally validated using an all-female sample, the authors established evidence of reliability and validity for scores on the IS (Frost & Shows, 1993). The IS was found to have Cronbach’s alpha reliability levels ranging from α = .80 to .90 in cross-cultural samples (Patalano & Wengrovitz, 2006), consistent with similarly acceptable levels obtained in prior research (Gayton et al., 1994).

The Short Almost Perfect Scale. The SAPS (Rice et al., 2014) is an 8-item scale (e.g., “I have high expectations for myself” or “I am hardly ever satisfied with my performance”) with 7 response options ranging from “strongly disagree” to “strongly agree.” Scores on the SAPS measure the degree to which participants engage in setting, striving for, and evaluating

themselves along perfectionistic standards. The SAPS consists of two factors with 4 items each: Standards (the expectations a person sets for themselves) and Discrepancy (the person's process of evaluating themselves). The SAPS is a shortened version of the Almost Perfect Scale–Revised (APS–R; Slaney et al., 1996; et al., 2001). Rice and colleagues (2014) established psychometric support for scores on the SAPS, demonstrating good internal consistency reliability and acceptable evidence for validity when compared to other established constructs. Using two undergraduate student samples, the Standards and Discrepancy subscales were shown to have Cronbach's alpha reliability of $\alpha = .87$ and $\alpha = .85$ (Standards) and $\alpha = .84$ and $\alpha = .87$ (Discrepancy).

Discriminant validity measures. To test the validity of the hypothesized, three-factor Indecision-Inaction Phenomenon Scale (IIPS), discriminant validity was assessed using:

The Satisfaction With Life Scale (SWLS). The SWLS is a five-item, one-factor scale that measures level of global life satisfaction in respondents and was developed to assess the level of respondents' global life satisfaction (Diener et al., 1985) using a Likert-type response scale of *1 = strongly disagree* to *7 = strongly agree*. Option 3 allows for a neutral response. Factor loadings of .61-.84 for this scale indicate that all items measure one latent construct, with total scores ranging from 5-35. Scores indicate that the higher the total score, the higher the level of life satisfaction (Diener et al., 1985). For a review of evidence supporting the validity of the SWLS, see Pavot and Deiner (2008). This includes Cronbach's alpha reliability of $\alpha = .87$ found by Adler and Fagley (2005) or $\alpha = .86$ found by Steger and colleagues (2006), as well as test-retest reliability of $\alpha = .84$ over a one-month period (Pavot et al., 1991).

The Big Five Inventory-10. The BFI-10 measures the well-established five-factor model of personality traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism

(Rammstedt & John, 2007). The BFI-10 touts the ability to measure personality "in one minute" by including two items for each of the Big Five personality traits. Participants are asked to endorse items based on their understanding of how well each item fits a description of themselves. One out of each of the two items for the five personality traits are reverse scored. For each dimension of personality in the BFI-10, Mastrascusa and colleagues (2024) recently demonstrated factor reliability (Omega) of ω = .88 (Openness), ω = .72 (Conscientiousness), ω = .81 (Agreeableness), ω = .84 (Neuroticism), and ω = .87 (Extraversion). These authors also observed bivariate correlations on the BFI-10 to be acceptable, and similar to the original 44-item version of the BFI (John et al., 1991).

Results

Data Analysis Plan

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was conducted to inform factor structure and to provide guidance on which items to eliminate on a portion of the sample large enough to sustain EFA (n = 536), an adequate sized sample for a 66-item scale according to Tinsley and Tinsley's (1987) suggested a ratio of at least 5 and up to 10 participants per item. Participants who did not pass attention checks were not included in this subsample. The purpose of utilizing EFA was to determine the number of factors recommended for a best-fitting model. Following the suggestion of Ford et al. (1986), a certain threshold based on eigenvalues, scree plot test, and parallel analysis for factor variance were used to determine which factors should remain. Some scholars suggest relying on Eigenvalues > 1 (Guttman, 1954; Kaiser, 1960) as a guideline for extracting factors, positing that lower Eigenvalues discern a factor that is explaining less variance than the average item in the scale. Other, more recently articulated perspectives (e.g., Bandalos &

Boehm-Kaufman, 2009; DeVellis, 2017) suggest using parallel analysis to simulate identically sized random data, which would not be expected to produce common factors. Using this method, the possibility of overextraction of factors, or extracting factors in a manner that is not theoretically relevant, can be mitigated by comparing one's sample to random data. Examining the resulting scree plot, which displays eigenvalues in descending order drawing a comparison between the random data and this sample, meaningful factors are assessed. Referring to the "elbow" of the plot, DeVellis (2017) states, "The magnitudes of eigenvalues that lie above the line representing the random data are greater than would be expected by chance alone" (p. 156), suggesting that factors to the left of the elbow of the plot are likely the most meaningful factors and that factors beneath the cutoff line explain lesser degree of variance.

Upon initial examination of the scree plot, it appeared that four factors explained a meaningful amount of variance (see Figure 2). Because parallel analysis will recommend any number of factors that fall slightly above chance levels (DeVellis, 2017), the author of the present study followed the suggestion of Lim and Jahng (2019) who advocate for considering models with numbers of factors within ±1 of that which is recommended by parallel analysis, combined with theoretical considerations, to prevent overextraction of factors. A four-factor model was compared to one-factor, two-factor, and three-factor models, using the minimum likelihood (ML) method to determine the best model fit. The variance explained by the four-factor model (58%) compared to the three-factor model (56%) was not a particularly meaningful difference. In addition, the fourth factor revealed by the four-factor model did not have any items with sufficiently high factor loadings without undesirable cross-loadings. On the contrary, the three-factor model had numerous acceptable factor loadings (e.g., falling within suggested cut-offs of eliminating items with loadings < .32 on all factors or > .32 on more than one factor

suggested by Costello & Osborne, 2005). Furthermore, the three factors revealed by the three-factor model appeared to conceptually reflect the theoretical dimensions of IIP- Perceived Choice Paradox, IIP- Irrational Prospection, and IIP- Unfulfillment proposed in this study. In addition, fit indices and theoretical implications were considered when comparing each model in accordance with recommendations by trustworthy authors (Fabrigar et al., 1999; Goretzko et al., 2019). Available fit indices produced by this form of EFA were evaluated. For the three-factor model, the RMSEA or Root Mean Square Error of Approximation = 0.07 with 90% Confidence Interval = 0.06 - 0.07, which falls beneath the cut-off for good-fitting models of < .10 suggested by Brown and Cudeck (1993). The Tucker Lewis Index of factoring reliability (TLI) = 0.83, falling slightly below acceptable levels of > .90 suggested by McDonald and Ho (2002). The Root Mean Square of the Residuals (RMSR) of 0.04 was below 0.08, suggesting a good fit. Based upon the fact that factors of this construct were expected to correlate, oblique rotation was used (Bandalos & Boehm-Kaufman, 2009; DeVellis, 2017), specifically a type of oblique rotation called oblimin (Costello & Osborne, 2005). Taken together, through a series of evaluative processes in which theoretical considerations were integrated with fit-indices and best practice guidelines, EFA revealed that a three-factor model was the best fit. Thus, Hypothesis 1 of this study was supported.

Next, factor loadings were examined to determine items that should be removed. Using a cutoff point of < .32 on all factors, insufficiently loading items were removed. Cross-loading items were also removed using a cutoff point of > .32 on more than one factor (Costello & Osborne, 2005; Tabachnik & Fidell, 2001). Removing insufficiently loading or cross-loading items resulted in the elimination of 9 items. Next, EFA was conducted again using this 57-item version of the scale. Figure 3 depicts parallel analysis for this iteration of EFA, and factor

loadings and item information are available in Table 2. On this 57-item version of the scale, the fit indices made available by this iteration EFA were again taken into consideration. For the three-factor model, the RMSEA = 0.07 with 90 % confidence intervals between 0.07 - 0.07, which indicates a good fit. The TLI = 0.85, demonstrating a slight improvement from the TLI of 66-item version of the scale, but not quite meeting acceptable levels of > .90 suggested by McDonald and Ho (2002). The RMSR was again 0.04, indicating a good fit.

To ensure parsimoniousness and utility of the scale, more items were eliminated by again considering factor loadings using the aforementioned cutoffs (i.e., removing items with factor loadings of < .32 on all factors or > .32 on more than one factor suggested by Costello and Osborne, 2005 and by Tabachnik and Fidell, 2001). To guide further revision of the scale, item information was also considered to determine the degree to which each item minimizes measurement error and which items most effectively reflect true score variance. Using the formula $I(\text{xi}) = \lambda^2/\psi^2$ to calculate item information, the squared factor loading for each item was divided by its uniqueness or the proportion of variance that remains after accounting for variance explained by common factors. Additionally, theoretical considerations were taken into account when determining whether to retain or eliminate items, including the importance of avoiding redundancy and reducing participant burden, while also ensuring that important conceptual components of the construct were retained to adequately address its complexity. Taken together, these revisions resulted in an accepted, 13-item version of the scale, which included Items 4, 7, 12, 13, 23, 24, 26, 27, 29, 49, 58, 59 and 60 (see Appendix A). A final round of EFA was conducted on this 13-item version of the scale, and factor loadings and the conceptual content for these 13 items are available in Table 3. Lambert and Newman (2022) note that "standardized factor loadings should be $\lambda \geq .4$", clarifying that "Factor loadings $\lambda \geq .4$ mean that the latent

factor accounts for at least $\lambda 2 \geq .42 = 16\%$ of variance in the measure (it also implies that interitem correlations are at least r = .16)" (p. 19). All factor loadings fell within this range. In addition, fit indices made available by this iteration of EFA were considered. For the three-factor model, RMSEA = 0.06 with 90% confidence intervals of 0.047 - 0.072, indicating a fairly good fit compared to < .06 suggested by Hu and Bentler (1999). The TLI = 0.97 which likewise indicated a good fit of > .95 suggested by Hu and Bentler (1999). The RMSR = 0.02, which again indicated a good fit falling below acceptable levels.

Confirmatory Factor Analysis (CFA)

Next, Confirmatory Factor Analysis (CFA) of the 13-item version of the scale was conducted on the same portion of the sample that EFA was initially conducted (n = 536). Confirmatory Factor Analysis (CFA) was used to test the hypothesis (i.e., Hypothesis 2) that CFA will confirm three factors underlying the Indecision-Inaction Phenomenon Scale. Experts such as Brown (2015) and Lance and Vandenberg (2002) elaborate on necessary steps for conducting CFA. CFA is a subcomponent of structural equation modeling proposed by Anderson and Gerbing (1988) which allows researchers to determine if the theoretical model is upheld by goodness-of-fit measures (O'Boyle & Williams, 2011). According to Floyd and Widaman (1995), CFA provides empirical guidelines for assessing model fit, allowing for the comparison of models. Following guidelines proposed by Marsh and colleagues (2004), these cut-off points were used to inform evaluation, but not so much as to override the comprehensive theoretical picture based on any one of the good fit indices on its own.

Factor loadings for this model of CFA are reported in Table 4. Fit indices were examined in this accepted version of the scale and are available in Table 6. The RMSEA of 0.07 was acceptable according to the cut-off of < .10 suggested by Brown and Cudeck (1993), and just shy

of < .06 suggested by Hu and Bentler (1999). The TLI of 0.96 and CFI of 0.97 were acceptable according to cut-off points suggested by McDonald and Ho (2002) of > .90 and by Hu and Bentler (1999) of > .95. The SRMR of 0.05 was below the acceptable cut-off point of < .08. Examining the chi-square test of model fit, which was significant, $\chi 2(62) = 218.24$, p <. 001 indicated that this model may not be the best fit. However, given that this sample size was large and Chi-square is known to be sensitive to sample size (Fabrigar et al., 1999), this statistic alone was not considered to indicate a poor-fitting model. Ultimately, Hypothesis 2 was strongly supported by CFA, given that this process again confirmed the three-factor model proposed by the author of the current study, reflecting the dimensions of IIP- Perceived Choice Paradox, IIP-Irrational Prospection, and IIP-Unfulfillment.

Cross-validation Using CFA

Next, on another portion of the sample (n = 270), the measurement model was rigorously tested again using Confirmatory Factor Analysis (CFA). The same indices of model fit elaborated upon above were used and are available in Table 6. Factor loadings for this model are provided in Table 5. The step of conducting a second CFA on the second half of the sample was designed to provide further evidence for the stability and validity of indecision-inaction phenomenon across subsamples. The RMSEA of 0.08 was acceptable according to the cut-off of < .10 suggested by Brown and Cudeck (1993). The TLI of 0.94 was acceptable based on the cut-off suggested by McDonald and Ho (2002) of > .90. and the CFI of 0.95 was acceptable according to cut-off points suggested by Hu and Bentler (1999) of > .95. The SRMR of 0.04 was below the acceptable cut-off point of < .08. The chi-square test of model fit, which was significant, $\chi 2(62) = 169.804$, p < .001, was deemphasized in spite of being poor when assessing model fit due to chi-square tests' sensitivity to sample size.

Convergent and Discriminant Validity

An important step in the development of psychometric scales involves the curation of constructs to be used to test the validity of scale scores, including convergent validity and discriminant validity (Campbell & Fiske, 1959; Cronbach & Meehl, 1955; DeVellis, 2017; Raykov, 2011). Embarking on this step in this study allowed for testing of Hypotheses 2-5, which made predictions about how indecision-inaction phenomenon would relate to other established variables.

Convergent validity was assessed using the Pure Procrastination Scale (PPS; Steel, 2010), the Indecisiveness Scale (IS; Frost & Shows, 1993) and the Short Almost Perfect Scale (SAPS; Rice at al., 2014). According to Campbell and Fiske (1959), convergent validity is part of a multitrait-multimethod matric (MTMM) that assesses whether two theoretically similar constructs are reflected in similar measurements. Scales with hypothesized convergent validity should be robustly correlated with one another, and Hypothesis 3 posited that the PPS, IS, and SAPS would be positively correlated with indecision-inaction phenomenon.

The PPS measures dysfunctional delays of decision and tasks, which should theoretically be similar to indecision-inaction phenomenon. The IS measures compulsive indecisiveness, which was expected to be similar to indecision-inaction phenomenon. The SAPS measures a person's perfectionistic tendencies and expectations, which was expected to be similar to maximization tendencies known to the experience of indecision-inaction phenomenon.

Discriminant validity was assessed using the Satisfaction With Life Scale (SWLS; Diener et al., 1985) and the Big Five Inventory-10 (BFI-10; Rammstedt & John, 2007). Discriminant validity measures the degree to which two constructs that are theoretically unrelated are not strongly correlated with one another (Campbell & Fiske, 1959).

The SWLS is theoretically dissimilar to the proposed scale, being that it primarily measures global life satisfaction (Diener et al., 1985) and is hypothesized to be a different construct from the latent variable measured by the proposed scale with a nonsignificant relationship (Hypothesis 4). The BFI-10 measures dimensions of personality traits using a five-factor model (Rammstedt & John, 2007). Indecision-inaction phenomenon was expected to be more highly correlated with the neuroticism/emotional stability factor of personality than with openness, conscientiousness, extraversion, or agreeableness (Hypothesis 5).

Correlations with Other Variables. To test Hypotheses 3-5, the relationships between indecision-inaction phenomenon and other variables were examined in the process of evaluating convergent and discriminant validity by observing the Pearson correlation (r). A correlation table to evaluate relationships between variables is available in Table 7. Hypothesis 3 was supported, showing a strong positive relationship between indecision-inaction phenomenon and procrastination ($r = .51$, $p < .01$) and moderate positive correlations with indecisiveness ($r = .39$, $p < .01$) and perfectionism ($r = .38$, $p < .01$). Hypothesis 4, which predicted that indecision-inaction phenomenon would have lack of a positive relationship with or have a nonsignificant relationship with satisfaction with life was partially supported, as the relationship was negative but nonsignificant ($r = -.09$). In addition, most of the dimensions of personality had nonsignificant relationships with indecision-inaction phenomenon, including conscientiousness, extraversion, and agreeableness. Interestingly, openness had a weak positive but significant relationship with indecision-inaction phenomenon ($r = .14$, $p < .05$). Hypothesis 5, which predicted that neuroticism would be more highly correlated with indecision-inaction phenomenon than the other four factors of personality was supported ($r = .33$, $p < .01$ for Neuroticism, $r = -.09$ for Conscientiousness , $r = .14$, $p < .05$ for Openness, $r = -.10$ for

Extraversion, and $r = .04$ for Agreeableness). These relationships are presented in a correlation table (Table 7).

Reliability

Reliability was tested across the sample to ensure that all of the items correlated with each other. Item interrelation was measured using alpha and omega coefficients, which enabled the assessment of internal consistency (Cronbach, 1951).

In the first round of CFA (n = 536), across all three dimensions, alpha and omega demonstrated good internal consistency reliability of IIP- Perceived Choice Paradox ($\alpha = .82$, $\omega = .83$), IIP- Irrational Prospection ($\alpha = .90$, $\omega = .90$), and IIP- Unfulfillment ($\alpha = .91$, $\omega = .91$). These values were all acceptable according to the cutoff for alpha coefficient of .70 or higher (Nunnaly, 1978) and of $.80 \geq$ for omega (Raykov & Marcoulides, 2011). Omega was utilized to mitigate potential shortcomings of using only alpha (Raykov & Marcoulides, 2011). For the total scale scores, both alpha and omega were acceptable ($\alpha = .90$, $\omega = .90$).

In the second round of CFA used for cross-validation (n = 270), internal consistency reliability was again good across all three subscales according to the same recommendations for cut-offs mentioned above. For IIP- Perceived Choice Paradox $\alpha = .83$ and $\omega = .83$, for IIP- Irrational Prospection, $\alpha = .90$ and $\omega = .90$ and for IIP- Unfulfillment, $\alpha = .90$ and $\omega = .90$. For the total scale in this sample, both alpha and omega were acceptable ($\alpha = .88$, $\omega = .88$).

Discussion

The present study sought to investigate evidence supporting the existence of a unique latent construct referred to as indecision-inaction phenomenon, and to develop a psychometric instrument to measure this system of complex cognitive processes. This study involved exploring and confirming the underlying factor structure of the Indecision-Inaction Phenomenon Scale

(IIPS), followed by establishing initial reliability and validity evidence. An extensive literature review was conducted, to ensure that indecision-inaction phenomenon had not been adequately addressed in the extant literature and to develop a depth of understanding of the nomological network. A conceptual definition was put forth (Table 1), and an item pool was developed to capture the full breadth and complexity of the construct. The initial item pool was distributed to subject matter experts, and their feedback was incorporated into revisions of the item pool. These items were then distributed via a Qualtrics survey to participants, and exploratory and confirmatory factor analysis was conducted, followed by exploring preliminary evidence for convergent and discriminant validity and reliability coefficients.

Each step taken was in following with best practices outlined by expert psychometricians such as DeVellis (2017), Raykov and Marcoulides (2011), Brown (2015), and Lance and Vandenberg (2002). Throughout the process, rigorous testing procedures and recommended cut-offs guided the scale's various iterations refinement, but theoretical considerations were always taken into account when ultimately making decisions. For example, while the item "... I dwell on the pros and cons of any choice I consider" had the lowest factor loading out of the items retained in the IIP- Irrational Prospection dimension (i.e., $\lambda = 0.73$ in the second round of EFA on the 57-item version of the scale, whereas $\lambda > 0.80$ for the other 4 items retained), and may therefore have been a candidate for elimination to enhance parsimoniousness of the scale, doing so would have ignored critical aspects of content validity. Considering the theoretical foundations behind irrational prospection, including Kahneman and Tversky's (1979) prospection theory as well as cost-benefit analysis (Dupuit, 1844 [1952]), retaining this item ensures that the mechanism of conducting a cost-benefit analysis (i.e., "pros and cons") is included and measured by this scale. Likewise, while the item "... despite engaging in thinking

about how to approach it, I feel unable to move forward" had lower item information compared to other items in the IIP- Unfulfillment dimension (i.e., $I[xi] = 1.55$, which was lower than the average amount of item information of 2.07 for items in this factor in the second round of EFA on the 57-item version of the scale), it enhanced content validity when examining the underlying theoretical framework of this dimension. Namely, engagement with the decision-making or project planning process is precisely what distinguishes indecision-inaction phenomenon from adjacent constructs such as procrastination. Taking an overly empirical approach by relying solely on quantitative metrics such as factor loadings and item information for revisions of the scale could have posed risks of erroneously eliminating theoretical breadth or depth of the construct, which could threaten content validity. Instead, content validity was strengthened in this study not only through a robust literature review ranging from historic and canonical literature (e.g., the Bible, Shakespeare) to empirical studies, but also in consultation with subject matter experts. Therefore, knowledge of the underlying theoretical framework and nomological network was taken into consideration when making decisions about retaining or eliminating each individual item throughout the scale development process.

Exploratory Factor Analysis (EFA) guided the extraction of three factors, followed by revisions resulting in a 13-item, three-factor version of the Indecision-Inaction Phenomenon Scale (IIPS) reflecting the dimensions IIP- Perceived Choice Paradox (four items), IIP- Irrational Prospection (five items), and IIP- Unfulfillment (four items). See Appendix B for a list of items that were retained in the finalized version of the scale, as well as suggested directions for administration. This 13-item, three-factor model was a good fit according to two iterations of CFA; one on a larger subsample (n = 526) and one on a smaller subsample (n = 270) comprised of student participants from Colorado State University's research subject pool. Demographics are

available in Table 9. In addition, scores on all three dimensions of indecision-inaction phenomenon, as well as total scores, had good internal consistency reliability. All hypotheses in this study were either fully or partially supported. This study provides initial evidence that indecision-inaction phenomenon is in fact its own construct that is distinct from other constructs, and that it relates to other constructs in expected directions and magnitudes.

Results indicate that the theoretical structure of indecision-inaction phenomenon appears to align with extant literature on related constructs. For example, the dimension IIP- Perceived Choice Paradox aligns well with the theories of Schwartz (2004) and Iyengar and Lepper (2000), addressing the debilitating properties of being overwhelmed by excessive choices. In this study, the dimension captured by the subscale IIP- Perceived Choice Paradox addressed the unique experience of perceived rather than objective choice paradox, acknowledging that this state is more of an internal mechanism rather than the result of external factors or life circumstances. The dimension captured by the subscale IIP- Irrational Prospection aligns well with Kahneman and Tversky's (1979) research on future-oriented cognitive processes involved decision-making and planning, as well as Jules Dupuit's (Dupuit, 1844 [1952]) concept, cost-benefit analysis (CBA). However, like IIP- Perceived Choice Paradox, IIP- Irrational Prospection highlights maladaptive, excessive engagement with what might otherwise be a normative element of evaluative processes when making decisions. Finally, the dimension captured by the subscale IIP-Unfulfillment built upon theories of self-efficacy (Bandura, 1997), learned helplessness (Seligman & Maier, 1967), goal failure, stagnation (Martin & Tesser, 1996), and lack of forward progress toward goals (Carver & Scheier, 1998). IIP-Unfulfillment is unique, however, in that items in this subscale capture both the respondent's awareness that they may be overthinking their approach, and that they have failed to execute goal-oriented action.

As expected, the IIPS was positively correlated with procrastination, indecision, perfectionism, and neuroticism. Given that procrastination is associated with impulsiveness and obsessive-compulsive disorder (Ferrari, 1993; Ferrari & McCown, 1994), that perfectionism is associated with eating disorders and treatment-resistant depression (Blatt et al., 1998; Fairburn, et al., 1999; Zuroff et al., 2000), and that indecisiveness is associated with low self-esteem (Germeijs et al, 2002), these positively correlated, significant relationships may suggest that indecision-inaction phenomenon is likewise associated with negative outcomes. Given that indecision-inaction phenomenon is conceptualized as a system of maladaptive cognitive processes, this finding fits well with the overarching theory put forth by the current study. However, more research establishing mediators, moderators, antecedents, consequences, and criterion relationships is required prior to making such assumptions (see Limitations and Future Directions section below). Neuroticism, in particular, is a personality trait, whereas indecision-inaction phenomenon is conceptualized as a state-level experience (i.e., participants are asked to endorse items as they relate to a "current situation" in their lives), so this link should be interpreted with caution (see Limitations and Future Directions section below). As expected, conscientiousness, extraversion, and agreeableness were not significantly related with scores on the IIPS. Interestingly, openness demonstrated a weak but positive and significant relationship with the IIPS. It could be that people high in indecision-inaction phenomenon may be capable of complex thinking, have a tendency to consider multiple perspectives, or tend to seek a lot of information.

The 53 items that were not retained in the final, 13-item version of the scale had various issues that can be identified. Some of the items that required respondents to draw a connection between their own maladaptive cognitive processes and a potentially negative outcome did not

perform particularly well in terms of factor loadings. For example, in the round of EFA that was conducted on the 57-item version of the IIPS (n = 536), the item ". . . comparing options makes me hesitate to decide" had a relatively low loading onto one factor and was close to cross-loading on another factor (λ = .27 on Factor 1 and λ = .44 on Factor 3). Similarly, the item, "... I sabotage myself by second-guessing each option" loaded at λ = .33 on Factor 1 and λ = .38 on Factor 3 in the first round of EFA on the 66-item version of the IIPS. These relatively low-loading and moderately cross-loading items are not meaningfully relating to the latent construct and/or are not unique enough to one factor compared to items that were retained in the 13-item version of the IIPS. Conceptually, perhaps it is not necessary for people to make connections between their own cognitive processes and behavioral outcomes for a person to experience indecision-inaction phenomenon. While it is implied by the nature of the items in the IIP-Unfulfillment dimension, such as, ". . . I overthink without following through" and ". . . despite engaging in thinking about how to approach it, I feel unable to move forward", the degree to which respondents perceive that there is a link between maladaptive overthinking/excessive deliberation and their own inaction was not explicitly explored in this study (see Limitations and Future Directions section below). Other problems for items that performed poorly and were not retained included double-barreled, poorly worded, jargony, long-winded, or confounded items. This finding aligns well with DeVellis's (2017) guidelines for best practices when writing items. While some of these problems were mitigated by incorporating subject matter expert feedback, some flaws remained in the 66-item version of the scale that was distributed to participants. However, these flaws were ultimately mitigated by EFA and CFA as further revisions of the scale were made.

In general, although a respondent's ability to draw connections between their cognition and behavior may not be required for a person to experience indecision-inaction phenomenon, all items on the finalized, 13-item version of the IIPS require participants to have some degree of awareness that they are engaging in a maladaptive cognitive process in order to endorse the item as "mildly agree" or higher. They just might not draw the connection between their endorsement of, for example, "overthinking" and "excessively deliberating" and their behavior (i.e., failure to act or "inaction"). An important aspect of indecision-inaction phenomenon that distinguishes it from procrastination is that indecision-inaction phenomenon requires considerable engagement with the deliberation and planning phases of a decision or project, rather than a lack of engagement with a task (see Distinction From Related Constructs section above). What remains to be seen, however, is whether that awareness translates to insight in terms of their willingness to identify and accept problems with their approach, and implement adaptive cognitive and behavioral change as a result of such insight.

Implications for Practice

Several important theoretical and clinical implications are revealed by this study. Given that indecision-inaction phenomenon has been demonstrated by this study to be a meaningful addition to the nomological network, opportunities to explore its real-world applications and utility can be explored. With just 13-items, the IPPS is parsimonious and yet its complexity provides a rich, unique breadth and depth of information about dysfunctional decision-making and thinking styles that has not been adequately captured by existing scales. Given that evidence suggests the act of taking a psychological assessment can be therapeutic— especially when guided by a clinician who can interpret results, work collaboratively with the client to discuss what they may mean, and provide recommendations (Finn, 2007; Finn & Tonsager, 1992; Poston

& Hanson, 2010)— the IIPS may offer therapeutic value. However, prior to administering the IIPS in clinical contexts, future research would ideally aide the development of a clinical practice manual, with guidelines for clinicians regarding administration, scoring, interpretation, feedback, recommendations, and report writing for the IIPS. Furthermore, best practices when it comes to psychological assessment suggest that certain guidelines and standards need to be developed. For example, APA standards (American Psychological Association, 2020) stipulate that clinicians who have not administered a particular test before should seek supervision prior to doing so. Maintaining ethical standards, minimizing harm, and striving for cultural competence are also of the utmost importance.

Pending future research including the development of a clinical practice manual to accompany the IIPS, clinicians would be encouraged to administer this scale in individual and group therapy or assessment settings for any client or clients who appear to be struggling with a current decision or project in their life. Administering the IIPS could assist a clinician in assessing the degree to which their clients experience indecision-inaction phenomenon using the total scale score, as well as scores on individual items pending future research on the clinical significance of each item. The IPPS may also offer value in career counseling settings, particularly for those who struggle with career decision-making and project management. A practice manual specific to career counseling may likewise be developed pending future research.

While integral to the definition of indecision-inaction phenomenon, in general, caution around the term “maladaptive” is advised when providing feedback to clients after administering the IIPS. Some people may believe that the processes involved in indecision-inaction phenomenon are helpful to them, and may not identify with the term “maladaptive” per se, as is

the case with many maladaptive cognitive processes and behaviors including rumination (Nolen-Hoeksema, 1991), substance use (DiClemente, 2003), and the stage of change known as precontemplation which is conceptually similar to denial (Norcross & Prochaska, 2011). In such cases, Motivational Interviewing (MI) may be a warranted intervention pending future research on efficacy (Miller & Rollnick, 1991), rather than insisting that a client refer to their mental own processes as maladaptive or illogical. It is important to keep in mind that people who experience indecision-inaction phenomenon may be unsure of, but also defensive of their approach given the considerable amount of time and effort they have dedicated to pondering their decision or project. The theory of naturalistic decision making (Klein, 2008) suggests that particularly when people are highly experienced at the task at hand, they are capable of making quick, effective decisions intuitively, rather than being overly deliberative or logical in their approach. Therefore, it may be that indecision-inaction phenomenon is more impactful when people are novices or feel incompetent. Furthermore, those who do believe that indecision-inaction phenomenon is helpful may not be completely wrong, as it is possible that there are benefits and drawbacks to indecision-inaction phenomenon (See Limitations and Future Directions section below). While clinical significance and co-morbidity with psychological disorders was not addressed in the current study, given the positive correlations between indecision-inaction phenomenon and procrastination, indecisiveness, perfectionism, and neuroticism established in this study, clinicians would be wise to monitor for co-occurring conditions that could exacerbate theoretical consequences of indecision-inaction phenomenon (e.g., rumination).

In terms of recommendations, having a bias toward action or "action bias" as an intervention— described by Patt and Zeckhauser (2000) as a phenomenon found in "decision makers who weight the direct effects of choices above side effects, or who redeploy resources to

produce a positive impact in the 'action' realm while slighting losses in the realm from which they are taken" (p. 45)— may help ameliorate indecision-inaction phenomenon (again, pending future research on efficacy of this treatment method for the IIPS). In other words, for people struggling with high levels of indecision-inaction phenomenon, any action may be preferable to continued inaction. Cognitive Behavioral Therapy's (CBT) concept of Behavioral Activation (Beck, 2020) offers an adjacent premise— that continuing to avoid and withdraw from one's life perpetuates depression, whereas getting out into the world and doing things, even in the face of anhedonia and rumination, is better than continuing a vicious and unhelpful cycle of avolition. Given that learned helplessness may have less to do with control and more to do with goal failure (see Peterson and colleagues, 1993, p. 131), a bias toward action may enable a client more opportunities for corrective experiences of goal obtainment, resulting in positive reinforcement of action-oriented behaviors (Skinner, 1938) and enhanced self-esteem. Finally, clients with indecision-inaction phenomenon may benefit from developing SMART goals related to their decision-making or project-planning approach. Goals that are specific, measurable, attainable, relevant, and time-bound may have a higher likelihood of being achieved over vague or overwhelmingly ambitious goals (Weintraub et al., 2021).

Limitations and Future Directions

It is important to address the limitations to this study. For example, using the convenience sample of the CSU Psych Pool to develop and validate the Indecision-Inaction Phenomenon Scale may pose limitations related to age, demographics, level of education, and other confounding variables related to the sample. Future research on diverse community samples, working populations, and clinical samples should be conducted. In addition, the two subsamples derived (i.e., n = 536 and n = 270) from the larger sample were selected sequentially, posing

possible systematic differences between participants who responded first compared to participants who responded later. The survey administered relied on self-report, which poses well-established limitations including ambiguity, demand characteristics, and social desirability (Podsakoff et al., 2003; Podsakoff et al., 2012). While not addressed in this study, future research on indecision-inaction phenomenon should address social desirability using tools such as the Marlowe-Crowne Social Desirability Scale (M-C SDS; Crowne & Marlowe, 1960), which include items that very few people would strongly agree with (e.g., "my table manners at home are as good as when I eat out in a restaurant"). Because participants who strongly endorse these items may tend to exaggerate their responses in general, social desirability scales can be used to identify and either exclude or statistically control for respondents who may manipulate responses in future research on indecision-inaction phenomenon.

Most items administered, including the 66-item, 57-item and 13-item versions of the scale carry negative connotations and are negatively framed, including verb choice such as overthink, dwell, obsess, and so on. As recommended by Podsakoff and colleagues (2003), one reverse-coded item was included in the 66-item version of the scale (i.e., "I am okay with selecting a less-than-optimal choice or path forward") to mitigate concerns about response bias or method effects. Method effects introduced by the consistently negative phrasing of items could lead respondents to endorse items for reasons other than the content of the items. This study may have been strengthened by including more reverse-coded items, as would future studies aimed at revising the scale. Common method variance, a form of measurement bias which may inflate correlations due to all measures in this study being self-report and administered at the same time as the IIPS poses limitations (Podsakoff et al., 2003), and may account for large portions of variance in construct validation studies (Cote & Buckley, 1987).

Additionally, the cross-sectional sample obtained in this study is limited in its capacity to identify causal variables and by its vulnerability to confounds.

Procedures used to handle missing data in this study posed limitations. For example, while exceedingly common (Peugh & Enders, 2004), the pairwise deletion method used in EFA assumes that a Missing Completely At Random (MCAR) mechanism applies, whereas data in this study may be missing at random, but not completely at random (Enders, 2010; Little & Rubin, 2019). The maximum likelihood (ML) method of handling missing data also "assumes multivariate normality of the manifest variables, an assumption often not fulfilled in practice" (Mair, 2018, p. 41). More robust ML methods that address normality assumptions, such as those outlined by Finney and DiStefano (2013), should be applied in future research to address these limitations.

In addition, more research should be conducted to further explore reliability and validity evidence. Such research should examine the potential differences in state versus trait-level indecision-inaction phenomenon and explore its stability over time through test-retest reliability. If evidence supports the notion that indecision-inaction phenomenon is indeed a state-dependent rather than trait-level experience, test-retest reliability would need to include participants who are still struggling with the same decision or project across multiple timepoints. Taking better care to mitigate potential errors introduced by methodological limitations addressed above associated with response processes (e.g., common method variance and response bias) could also add to validity evidence. Criterion validity may be enhanced by incorporating a wider breadth of established, relevant constructs in future studies on indecision-inaction phenomenon and examining what outcomes it may be predictive of. When assessing the potential clinical applications of the IIPS, understanding whether indecision-inaction phenomenon may be

predictive of general emotional distress or established constructs such as anxiety, depression, obsessive-compulsive disorder, and other mental health symptoms and conditions is especially relevant. Finally, more research supporting internal structure through CFA on diverse, representative samples, testing invariance across different groups, and exploring alternative models may further enhance validity.

More research revealing causes, correlates, antecedents, and consequences of indecision-inaction phenomenon will be important, including longitudinal studies. Future research on these types of relationships is recommended, with the goal of developing interventions to ameliorate indecision-inaction phenomenon. Remaining, unanswered research questions germane to the discussion of indecision-inaction phenomenon include what kinds of mediator or moderator relationships may exist. For example, perhaps one's sense of urgency, whether or not they have an impending deadline, and the importance of the decision or project to them impacts the degree to which they experience indecision-inaction phenomenon. Other impactful influences may include how much support a person has sought in their approach to their decision or project, whether they are active or passive in their approach, and their perception of progress made. As noted above, whether or not a person is aware of the connection between their own maladaptive cognitive processes and their dysfunctional behavioral responses was not explored in this study, but should be examined in future research. Another intriguing question to be explained in future research is a closer examination of thresholds of clinical significance of indecision-inaction phenomenon, in terms of its impact on a person's level of distress or disturbance to social or occupational functioning. Finally, prevalence rates and individual and cultural differences related to indecision-inaction phenomenon should also be established.

As noted above in the Implications for Practice section, one of the goals of the development of the IIPS is to use this scale in clinical and career counseling contexts. However, prior to the IIPS being ready for application with real-life clients, a clinical practice manual— including sections on interpretation and recommendations for general mental health in individual therapy contexts as well as guidelines specific to career counseling— should be developed in future research. This practice manual should include guidelines for administration, scoring, interpretation, feedback, report-writing, and recommendations. Understanding thresholds of clinical significance, as well as studies on treatment recommendations and their efficacy would also need to be conducted in order to make said manual as comprehensive as possible.

TABLES

Table 1

Definitions for the latent construct and dimensions of the Indecision-Inaction Phenomenon Scale

Latent Construct	*Definition*
Indecision-Inaction Phenomenon	A system of maladaptive cognitive processes (i.e., patterns of dysfunctional or unproductive thinking) that interfere with task completion in individuals, in which engagement in irrationally excessive deliberation over a decision or approach to a project without progression toward execution paradoxically prevents decision-making or goal-oriented action.
Dimension	
1. IIP- Perceived Choice Paradox	The degree to which a person, in the process of comparing two or more alternatives, may spend a considerable amount of time perceiving an excess of variables related to each option, an excess of perceived options in general, or a combination or the two— an excess of perceived options in which each option is likewise divided into overcomplicated subcomponents
2. IIP- Irrational Prospection	The degree to which a person excessively thinks about aspects of perceived potential outcomes attempting to predict how each selection might impact the future
3. IIP- Unfulfillment	The respondent's awareness that they have engaged in excessive deliberation over their decision or project, and yet have also failed execute goal-oriented action

Table 2

Factor loadings and item information for 57-item IIPS based on EFA

Item Number	*Factor 1*	*Factor 2*	*Factor 3*	*Information*
IIPS_1	0.30	0.05	0.26	0.13
IIPS_2	0.36	-0.08	0.29	0.18
IIPS_3	0.27	-0.02	0.44	0.32
IIPS_4	0.01	0.06	0.65	0.81
IIPS_5	-0.16	0.04	0.66	0.68
IIPS_7	-0.06	0.11	0.64	0.74
IIPS_8	0.21	0.08	0.47	0.40
IIPS_9	0.45	-0.05	0.33	0.24
IIPS_10	0.36	0.02	0.32	0.21
IIPS_11	0.34	0.07	0.29	0.19
IIPS_12	0.05	0.02	0.67	0.92
IIPS_13	-0.01	0.07	0.74	1.34
IIPS_14	0.17	0.06	0.53	0.53
IIPS_17	0.48	0.05	0.33	0.27
IIPS_18	0.24	0.02	0.51	0.52
IIPS_19	0.24	-0.07	0.50	0.43
IIPS_20	0.10	0.15	0.45	0.33
IIPS_21	0.15	0.11	0.56	0.68
IIPS_22	0.28	0.10	0.42	0.35
IIPS_23	0.91	-0.10	-0.08	2.40
IIPS_24	0.85	-0.02	-0.07	1.91
IIPS_25	0.72	0.08	-0.03	1.15
IIPS_26	0.73	0.03	0.03	1.31
IIPS_27	0.83	0.00	-0.04	2.03
IIPS_28	0.72	-0.01	0.09	1.28
IIPS_29	0.81	-0.07	0.05	1.92
IIPS_30	0.78	0.07	-0.06	1.57
IIPS_31	0.81	-0.01	-0.05	1.59
IIPS_32	0.81	0.04	-0.04	1.87
IIPS_33	0.73	-0.05	0.01	1.07
IIPS_34	0.67	0.04	0.19	1.40
IIPS_36	0.45	0.18	0.15	0.37
IIPS_37	0.52	0.10	0.25	0.68
IIPS_39	0.55	0.14	0.21	0.80
IIPS_40	0.57	0.11	0.12	0.69

IIPS_42	0.77	0.02	-0.02	1.47
IIPS_43	0.78	0.11	-0.09	1.63
IIPS_44	0.76	0.09	0.04	1.96
IIPS_45	0.26	0.20	0.37	0.28
IIPS_46	0.31	0.22	0.39	0.42
IIPS_49	0.02	0.81	0.04	2.37
IIPS_50	0.10	0.75	0.05	1.94
IIPS_51	0.04	0.82	0.05	2.80
IIPS_52	0.14	0.46	0.21	0.40
IIPS_53	-0.02	0.95	-0.12	4.26
IIPS_54	-0.04	0.99	-0.14	5.28
IIPS_55	-0.02	0.99	-0.16	5.20
IIPS_56	0.10	0.52	0.23	0.59
IIPS_57	0.13	0.49	0.26	0.56
IIPS_58	0.09	0.7	0.13	1.55
IIPS_59	-0.02	0.82	0.12	2.85
IIPS_60	-0.01	0.63	0.30	1.22
IIPS_61	0.06	0.71	0.18	1.93
IIPS_62	0.08	0.56	0.24	0.77
IIPS_63	0.13	0.51	0.30	0.74
IIPS_64	0.24	0.49	0.22	0.70
IIPS_66	0.42	0.28	0.22	0.46

Note. The table above depicts factor loadings for Exploratory Factor Analysis on the 57-item version of the three-factor model suggested by parallel analysis. The content of these items in included in Appendix A. Item information was calculated by squaring the highest factor loading for each item and then dividing that number by its uniqueness

Table 3

Factor loadings and item information for 13-item IIPS based on EFA

Item Number	Item Content	*Factor 1*	*Factor 2*	*Factor 3*
	When it comes to the decision or project I am considering …			
IIPS_4	*... I have trouble simplifying the choice-making process*	0.09	0.16	0.46
IIPS_7	*... I waste time comparing options*	0.01	-0.20	0.48
IIPS_12	*... I overcomplicate the choices*	0.03	-0.02	0.82
IIPS_13	*... I make the comparison of options more complex than it needs to be*	-0.01	-0.01	0.92
IIPS_23	*... I overthink about how things will play out in the long run*	0.92	-0.07	-0.05
IIPS_24	*... I overthink about problems I could run into in the future*	0.86	0.02	-0.05
IIPS_26	*... I dwell on the pros and cons of any choice I consider*	0.65	0.15	0.01
IIPS_27	*... I think too much about the "what ifs" for each choice*	0.76	0.03	0.07
IIPS_29	*... In trying to make the best decision I overanalyze how it would impact me*	0.69	0.01	0.15
IIPS_49	*... I overthink without following through*	0.01	0.82	-0.01

IIPS_58	*... despite engaging in thinking about how to approach it, I feel unable to move forward*	0.05	0.86	-0.05
IIPS_59	*... I overcomplicate my thought process to the point of not acting*	-0.04	0.90	0.01
IIPS_60	*... I spend too much time thinking and not enough time doing*	0.02	0.74	0.09

Note. The table above depicts factor loadings and item content for Exploratory Factor Analysis on the 13-item version of the three-factor model suggested by parallel analysis. Because this process was exploratory by nature, items were able to load onto any factor. In keeping with cut-off points suggested by Costello and Osborne (2005) and Tabachnik and Fidell (2001), no items cross-loaded at > 0.32 on more than one factor, and each item loaded at least > 0.32 on one factor.

Table 4

Factor loadings for the 13-item IIPS based on first iteration of CFA (n = 536)

Item Number	*IIP- Perceived Choice Paradox*	*IIP- Irrational Prospection*	*IIP- Unfulfillment*
IIPS_4	0.67		
IIPS_7	0.63		
IIPS_12	0.82		
IIPS_13	0.89		
IIPS_23		0.84	
IIPS_24		0.83	
IIPS_26		0.75	
IIPS_27		0.83	
IIPS_29		0.80	
IIPS_49			0.82
IIPS_58			0.85
IIPS_59			0.88
IIPS_60			0.81

Note. This table depicts factor loadings for the 13-item IIPS based on first iteration of CFA (n = 536).

Table 5

Factor loadings for the 13-item IIPS based on second iteration of CFA used for cross-validation (n = 270)

Item Number	*IIP- Perceived Choice Paradox*	*IIP- Irrational Prospection*	*IIP- Unfulfillment*
IIPS_4	0.62		
IIPS_7	0.61		
IIPS_12	0.87		
IIPS_13	0.88		
IIPS_23		0.75	
IIPS_24		0.79	
IIPS_26		0.78	
IIPS_27		0.85	
IIPS_29		0.83	
IIPS_49			0.80
IIPS_58			0.86
IIPS_59			0.87
IIPS_60			0.81

Note. This table depicts factor loadings for the 13-item IIPS based on second iteration of CFA used for cross-validation (n = 270)

Table 6

Model fit indices for CFA on 13-item IIPS

CFA (*n*)	*RMSEA*	*RMSEA Confidence Interval*	*CFI*	*TLI*	*SRMR*	*Chi-Square Test*
n = 536	0.069	0.059-0.079	0.965	0.956	0.047	$\chi2(62) = 169.804$, p <. 001
n = 270	0.080	0.066- 0.095	0.953	0.940	0.043	$\chi2(62) = 218.24$, p <. 001

Table 7

Means, standard deviations, and correlations with confidence intervals

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. IIPS	4.56	0.93									
2. Procrastination	3.29	0.84	.51**								
3. Indecisiveness	3.06	0.42	.39**	.48**							
4. Perfectionism	5.32	1.03	.38**	.31**	.25**						
5. Neuroticism	3.47	0.98	.33**	.26**	.07	.29**					
6. Conscientiousness	3.41	0.83	-.09	-.42**	-.13*	.10	-.01				
7. Openness	3.56	0.92	.14*	.03	.05	.09	.13*	.11			
8. Extraversion	2.98	1.06	-.10	-.09	.08	-.15*	-.15*	.14*	.08		
9. Agreeableness	3.56	0.84	.04	.01	-.02	-.09	-.01	-.05	.12	.05	
10. Life Satisfaction	4.59	1.35	-.09	-.26**	-.09	-.27**	-.25**	.23**	-.01	.20**	.19**

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. and ** indicates $p < .01$.

Table 8

Means, standard deviations, and subscale correlations coefficients of 13-Item IIPS

Variable	*M*	*SD*	1	2	3
1. IIPS	4.56	0.93			
2. IIP-Perceived Choice Paradox	4.40	1.06	.86** [.83, .89]		
3. IIP-Irrational Prospection	4.85	1.02	.85** [.81, .88]	.60** [.52, .67]	
4. IIP-Unfulfillment	4.35	1.19	.85** [.81, .88]	.64** [.56, .70]	.54** [.45, .62]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Table 9

Demographic Characteristics of Participants

Demographic Characteristic	*n* = 536		*n* = 270	
	n or M	% or SD	*n or M*	% or SD
Age	19.4	2.56	19.08	2.14
Sex assigned at birth				
Female	389	72.57%	196	72.59%
Male	147	27.43%	73	27.04%
Intersex	0	0.00%	0	0.00%
I prefer not to answer	0	0.00%	1	0.37%
Gender				
Woman	375	69.96%	183	67.78%
Man	145	27.05%	72	26.67%
Non-binary	9	1.68%	7	2.59%
Gender fluid	2	0.37%	5	1.85%
Gender nonconforming	3	0.56%	4	1.48%
Gender questioning	2	0.37%	1	0.37%
Genderqueer	2	0.37%	3	1.11%
Androgynous	0	0.00%	1	0.37%
Transgender woman	0	0.00%	0	0.00%
Transgender man	4	0.75%	1	0.37%
Transgender person	1	0.19%	2	0.74%
Cisgender	104	19.40%	18	6.67%
Other	1	0.19%	0	0.00%
I prefer not to say	0	0.00%	0	0.00%
Ethnicity				
Hispanic or Latino	41	7.56%	43	15.93%
Not Hispanic or Latino	3	0.56%	4	1.48%
Did not answer	492	91.79%	223	82.59%
Race				
Black or African American	22	4.10%	14	5.19%
American Indian or Alaska Native	9	1.68%	5	1.85%
Asian	33	6.16%	14	5.19%
Native Hawaiian or Other Pacific Islander	6	1.12%	2	0.74%
White or Caucasian	448	83.58%	227	84.07%
Middle Eastern of North African	4	0.75%	3	1.11%
Other	1	0.19%	0	0.00%
Did not answer	44	8.21%	20	7.41%
College year				
First-year	323	60.26%	171	63.33%
Second-year	121	22.57%	57	21.11%
Third-year	64	11.94%	27	10.0%
Fourth-year	22	4.10%	11	4.07%
Fifth-year	4	0.75%	3	1.11%

Other	2	0.37%	1	0.37%

FIGURES

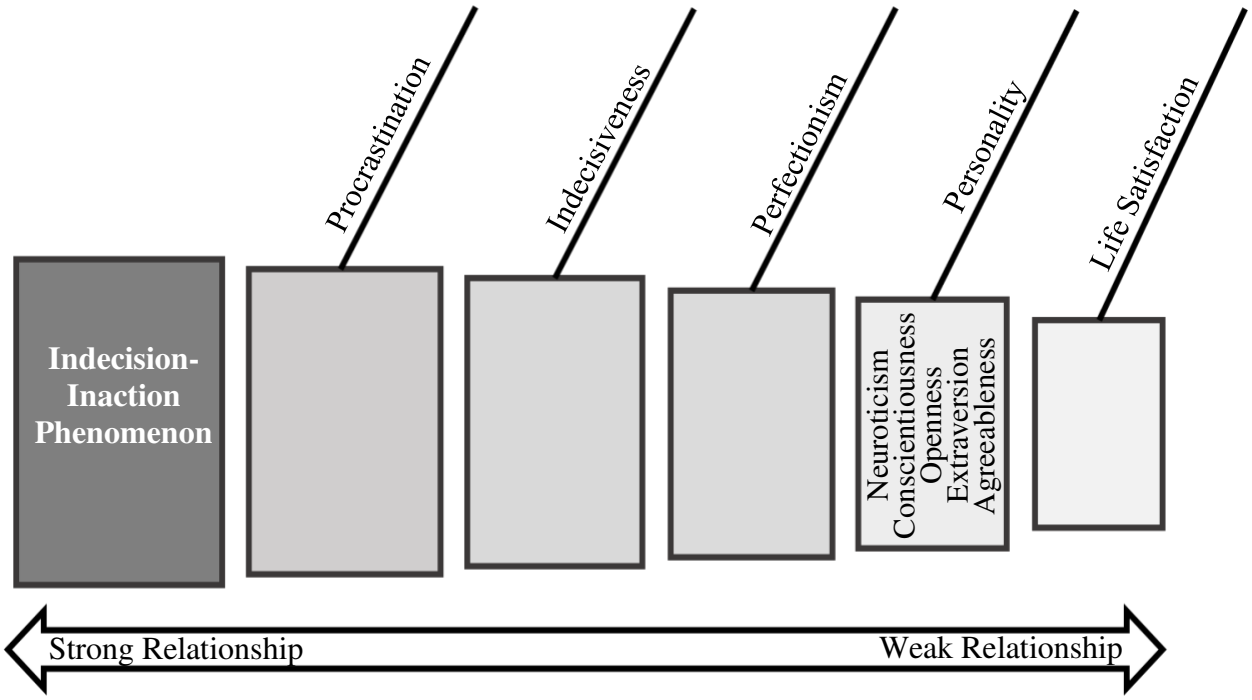


Figure 1. This image represents indecision-inaction phenomenon's relationship to other constructs, or its theoretical nomological network

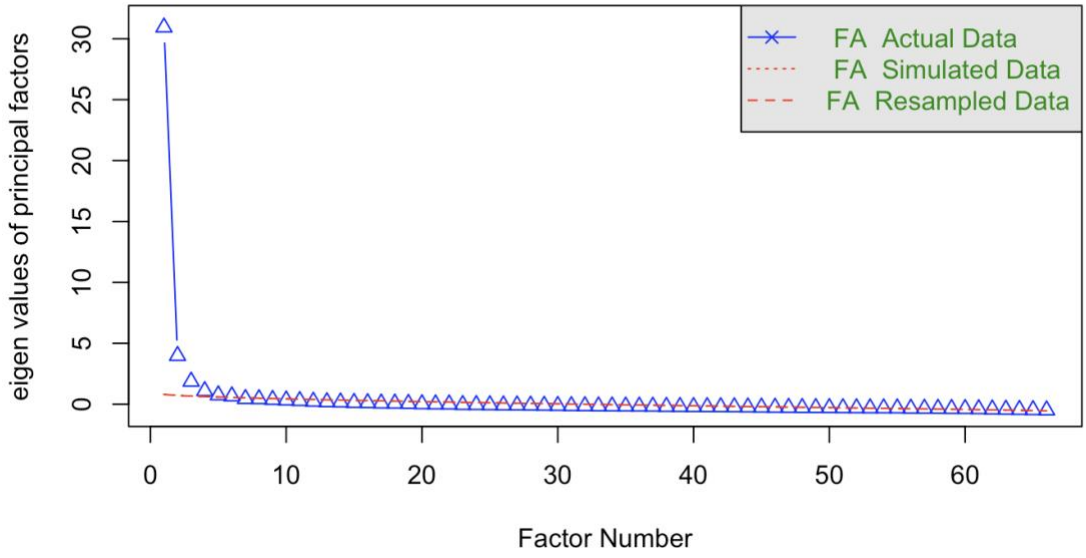


Figure 2. Parallel analysis scree plot on 66-item Indecision-Inaction Phenomenon Scale (Model 1)

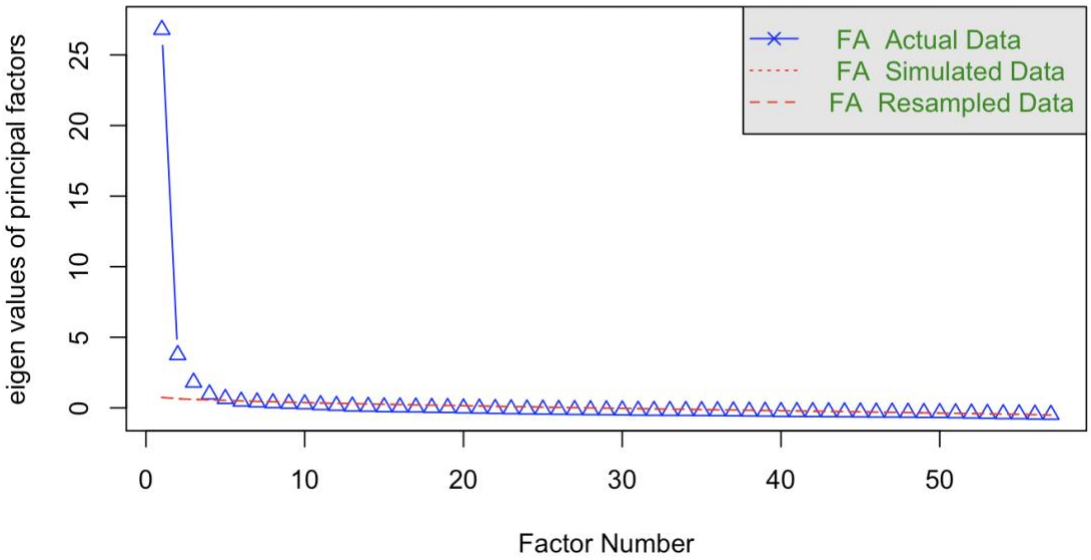


Figure 3. Parallel analysis scree plot on 57-item Indecision-Inaction Phenomenon Scale (Model 2)

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APPENDIX A: 66-Items Administered to Participants for the Indecision-Inaction Phenomenon Scale (IIPS)

Note. Items included in bold were included in the finalized, 13-item version of the IIPS

IIP- Perceived Choice Paradox (Items 1-22)

When it comes to the decision or project I am considering…	Strongly Disagree 1	Moderately Disagree 2	Mildly Disagree 3	Mildly Agree 4	Moderately Agree 5	Strongly Agree 6
Item 1	... I am stuck comparing options					
Item 2	... I find myself continually evaluating alternatives					
Item 3	... comparing options makes me hesitate to decide					
Item 4	**... I have trouble simplifying the choice-making process**					
Item 5	... I have trouble narrowing things down into fewer options					
Item 6	... I think in circles about the options involved in each choice					
Item 7	**... I waste time comparing options**					
Item 8	... the more I think about the choices, the harder it is for me to make a choice					
Item 9	... I dwell on the many elements to consider for each option					
Item 10	... when one option begins to be appealing, I second-guess myself					
Item 11	... when one option starts to become appealing, thinking about the advantages of other options holds me back					
Item 12	**... I overcomplicate the choices**					
Item 13	**... I make the comparison of options more complex than it needs to be**					
Item 14	... I keep thinking over the choices long past when I should have					
Item 15	... I sabotage myself by second-guessing each option					
Item 16	... I go back-and-forth while comparing each option					
Item 17	... I struggle to make a decision among the choices available					
Item 18	... when confronted with too many options, I second-guess my decisions.					
Item 19	... having an excess of choices makes choosing even harder for me					
Item 20	... I experience decision fatigue due to the overwhelming number of choices available.					
Item 21	... I add more complexities to my choices than necessary.					
Item 22	... I keep comparing options long past when I should have					

IIP- Irrational Prospection (Items 23-44)

When it comes to the decision or project I am considering…	Strongly Disagree 1	Moderately Disagree 2	Mildly Disagree 3	Mildly Agree 4	Moderately Agree 5	Strongly Agree 6

Item 23	**... I overthink about how things will play out in the long run**
Item 24	**... I overthink about problems I could run into in the future**
Item 25	... I obsess over the positives and negatives for each possible choice or path forward
Item 26	**... I dwell on the pros and cons of any choice I consider**
Item 27	**… I think too much about the "what ifs" for each choice**
Item 28	… I obsess over making the best decision
Item 29	**… in trying to make the best decision I overanalyze how it would impact me**
Item 30	... I overthink about a series of events that could unfold with each choice
Item 31	... I am bothered by the thought of potentially doing things wrong and regretting it
Item 32	... I speculate too much about how each choice might impact my future
Item 33	... I don't want to regret making the wrong decision
Item 34	... I overanalyze the outcomes of potential choices
Item 35	... when I think about choosing one option, the other options begin to seem more appealing
Item 36	... when I consider choosing one option, I think about all the reasons why I shouldn't choose that option
Item 37	... I second-guess myself when thinking about which option is going to have the best results
Item 38	... I feel that no matter what choice I make, I will regret not choosing the other options
Item 39	... I endlessly compare benefits and drawbacks for possible choices or paths forward
Item 40	... I dwell in thoughts about how anything I do is going to impact the outcome
Item 41	... I am okay with selecting a less-than-optimal choice or path forward
Item 42	... I overthink about what could go wrong in the future
Item 43	... I spend too much time picturing how my choices will impact me in the future
Item 44	... I overthink about the outcomes for each potential choice

IIP-Unfulfillment (Items 45-66)

When it comes to the decision or project I am considering…	Strongly Disagree 1	Moderately Disagree 2	Mildly Disagree 3	Mildly Agree 4	Moderately Agree 5	Strongly Agree 6
Item 45	... I am stuck in the analysis phase					
Item 46	... I feel stuck overthinking					
Item 47	... my overthinking is what holds me back from following through					
Item 48	... my overthinking is what holds me back					

Item 49 **... I overthink without following through**
Item 50 ... I think in circles without following through
Item 51 ... I overthink things to the point of not acting
Item 52 ... I feel caught up in the planning phase
Item 53 ... I am perpetually thinking but never following through
Item 54 ... I am thinking about it a lot but never following through
Item 55 ... I am perpetually thinking but never executing
Item 56 ... my tendency to overthink has been more harmful than helpful
Item 57 ... my hesitation to act is due to overthinking
Item 58 **... despite engaging in thinking about how to approach it, I feel unable to move forward**
Item 59 **... I overcomplicate my thought process to the point of not acting**
Item 60 **... I spend too much time thinking and not enough time doing**
Item 61 ... I rethink my options repeatedly without following through
Item 62 ... my lack of progress contrasts with the amount of energy I have spent thinking about it
Item 63 ... my tendency to overthink has created roadblocks for my progress
Item 64 ... I struggle to move forward or decide
Item 65 ... I am getting in my own way by overcomplicating things
Item 66 ... I feel overwhelmed by my own thought process

APPENDIX B: The Indecision-Inaction Phenomenon Scale (IIPS)

Broadly speaking, "analysis paralysis" refers to a feeling of being stuck while comparing choices or paths forward, where people experience a feeling of being unable to make a decision, follow through with a decision, or move forward with a personal or work-related project. In this study, this experience is referred to as "indecision-inaction phenomenon".

The following questions assess the degree to which you see indecision-inaction phenomenon as relevant to your own life. Think of a current situation in your life in which you are faced with making a decision or moving forward with a project. It could be a decision you are currently having difficulty making or following through with, a project in which you feel stuck in the planning stages, or a choice that you are finding to be challenging in some way.

In simple terms, write down the situation you are thinking of in the box below:

For the following questions, please reflect on the situation you wrote in the box previously and assess the degree to which the following statements are true of your experience, using the following scale. Please respond honestly, not according to what is socially desirable or what you feel you "ought" to think. Please indicate the extent to which each of the following statements currently describe you.

Strongly Disagree = 1
Moderately Disagree = 2
Mildly Disagree = 3
Mildly Agree = 4
Moderately Agree = 5
Strongly Agree = 6

When it comes to the decision or project I am considering …
1. *... I dwell on the pros and cons of any choice I consider*
2. *... I spend too much time thinking and not enough time doing*
3. *... I overthink about how things will play out in the long run*
4. *... I have trouble simplifying the choice-making process*
5. *... in trying to make the best decision I overanalyze how it would impact me*
6. *... I overthink without following through*
7. *... I waste time comparing options*
8. *... I overthink about problems I could run into in the future*
9. *... I overcomplicate the choices*
10. *... despite engaging in thinking about how to approach it, I feel unable to move forward*
11. *... I think too much about the "what ifs" for each choice*
12. *... I overcomplicate my thought process to the point of not acting*
13. *... I make the comparison of options more complex than it needs to be*

Note. IIP- Perceived Choice Paradox (Items 4, 7, 9, 13); IIP- Irrational Prospection (Items 1, 3, 5, 8, 11); IIP- Unfulfillment (Items 2, 6, 10, 12)

APPENDIX C: Measures

Individual Items for the Indecisiveness Scale (Frost & Shows, 1993)

Table 1. Individual items for the Indecisiveness Scale

1= strongly disagree
2=somewhat disagree
3=neither agree nor disagree
4=somewhat agree
5= strongly agree

1. 1 try to put off making decisions.
2. I always know exactly what I want.
3. I find it easy to make decisions.
4. I have a hard time planning my free time.
5. I like to be in a position to make decisions.
6. Once I make a decision, 1 feel fairly confident that it is a good one.
7. When ordering from a menu, I usually find it difficult to decide what to get.
8. I usually make decisions quickly.
9. Once I make a decision, I stop worrying about it.
10. I become anxious when making a decision.
11. I often worry about making the wrong choice.
12. After I have chosen or decided something, I often believe I've made the wrong choice or decision.
13. I do not get assignments done on time because I cannot decide what to do first.
14. I have trouble completing assignments because I can't prioritize: what is most important.
15. It seems that deciding on the most trivial thing takes me a long time.

Items 2, 3, 5, 6, 8, and 9 are reverse scored.

Individual Items for the Short Almost Perfect Scale (SAPS)

The following items are designed to measure certain attitudes people have toward themselves, their performance, and toward others. It is important that your answers be true and accurate for you. In the space next to the statement, please enter a number from "1" (strongly disagree) to "7" (strongly agree) to describe your degree of agreement with each item.

STRONGLY DISAGREE = 1
DISAGREE = 2
SLIGHTLY DISAGREE = 3
NEUTRAL = 4
SLIGHTLY AGREE = 5
AGREE = 6
STRONGLY AGREE = 7

_____ 1. I have high expectations for myself.
_____ 2. Doing my best never seems to be enough.
_____ 3. I set very high standards for myself.
_____ 4. I often feel disappointment after completing a task because I know I could have done better.
_____ 5. I have a strong need to strive for excellence.
_____ 6. My performance rarely measures up to my standards.
_____ 7. I expect the best from myself.
_____ 8. I am hardly ever satisfied with my performance.

Note: We recommend distributing these 8 SAPS within other items the researcher might use that have a similar response scale.

Rice, K. G., Richardson, C. M., & Tueller, S. (2014). The Short Form of the Revised Almost Perfect Scale. Journal of Personality Assessment, 96, 368-379. doi: 10.1080/00223891.2013.838172 SAPS Scoring Key: Standards = 1, 3, 5, 7 Discrepancy = 2, 4, 6, 8 For any questions regarding the SAPS, please contact Ken Rice at kgr1@gsu.edu

Individual Items for the Pure Procrastination Scale (PPS; Steel, 2010)

I delay making decisions until it's too late
Even after I make a decision I delay acting upon it
I waste a lot of time on trivial matters before getting to the final decisions
In preparation for some deadlines, I often waste time by doing other things
Even jobs that require little else except sitting down and doing them, I find that they seldom get done for days
I often find myself performing tasks that I had intended to do days before
I am continually saying "I'll do it tomorrow"
I generally delay before starting on work I have to do
I find myself running out of time
I don't get things done on time
I am not very good at meeting deadlines
Putting things off till the last minute has cost me money in the past

Individual Items for the Satisfaction with Life Scale

Instructions: Below are five statements that you may agree or disagree with.
Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

____ In most ways my life is close to my ideal.
____ The conditions of my life are excellent.
____ I am satisfied with my life.
____ So far I have gotten the important things I want in life.
____ If I could live my life over, I would change almost nothing

Individual Items for Big Five Inventory-10 (BFI-10; Rammstedt & John, 2007)

Instruction: How well do the following statements describe your personality?

I see myself as someone who . . .

Disagree strongly
Disagree a little
Neither agree nor disagree
Agree a little
Agree strongly

. . . is reserved (1) (2) (3) (4) (5)
. . . is generally trusting (1) (2) (3) (4) (5)
. . . tends to be lazy (1) (2) (3) (4) (5)
. . . is relaxed, handles stress well (1) (2) (3) (4) (5)
. . . has few artistic interests (1) (2) (3) (4) (5)
. . . is outgoing, sociable (1) (2) (3) (4) (5)
. . . tends to find fault with others (1) (2) (3) (4) (5)
. . . does a thorough job (1) (2) (3) (4) (5)
. . . gets nervous easily (1) (2) (3) (4) (5)
. . . has an active imagination (1) (2) (3) (4) (5)

Appendix D: Complete Survey for the Current Study

The Development and Validation of the Indecision-Inaction Phenomenon Scale

Consent to Participate in a Research Study

Colorado State University

TITLE OF STUDY

The Development and Validation of the Indecision-Inaction Phenomenon Scale

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WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH? You are being asked to participate in this study because you are currently enrolled at Colorado State University and we are interested in learning more about how college students make decisions and plan goals.

WHO IS DOING THE STUDY? The study is being conducted by a master's student, Missy Ferland, under the guidance of her advisor, Bryan Dik, Ph.D.

WHAT IS THE PURPOSE OF THIS STUDY? This study will be investigating differences in how people think about decisions, plan goals, and engage in goal-oriented action.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST? You will be asked to complete the study online at a time and place that is convenient for you. Participation will initially take approximately one hour of your time.

WHAT WILL I BE ASKED TO DO? You will be asked to fill out a series of questionnaires about your general well-being, decision-making, cognition, and personality factors. Feel free to skip any questions you do not wish to answer.

ARE THERE REASONS WHY I SHOULD NOT TAKE PART IN THIS STUDY? Participation requires that you are at least 18 years of age and that you are currently enrolled in college courses. In addition, participation in this study requires that you are struggling to make a

decision or move forward with a project in your life. If these requirements do not describe your current status, then you should not take part in this study.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS? There are no known risks or discomforts associated with this study.

ARE THERE ANY BENEFITS FROM TAKING PART IN THIS STUDY? There are no direct benefits from your participation in this study, although it will help us to better understand how to provide services that help college students like yourself strive for and attain goals.

DO I HAVE TO TAKE PART IN THE STUDY? Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

WHO WILL SEE THE INFORMATION THAT I GIVE? In this study, your name and CSU ID number will only be used for the purpose of providing you with the course credit that you earn by completing the study; your identifying information (your name and CSU ID number) will be collected and stored separately from your survey results. When we write about the study to share it with other researchers, we will write about the combined information we have gathered but will keep your name and CSU ID number private and protected. We may publish the results of this study. You will not be identified in any of these written materials.

WILL I RECEIVE ANY COMPENSATION FOR TAKING PART IN THIS STUDY? If you are taking this survey to fulfill your PSY 100 or PSY 250 requirement, you will receive 1 experimental credit for your participation. If you are taking this survey from an upper division class, you may receive extra credit at your instructor's discretion (ask your instructor for clarification on how many extra credit points you may be eligible for).

WHAT IF I HAVE QUESTIONS? Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, Missy Ferland (at Melissa.Ferland@colostate.edu) or Dr. Bryan Dik (at Bryan.Dik@colostate.edu). If you have any questions about your rights as a volunteer in this research, contact CSU IRB at CSU_IRB@colostate.edu; 970-491-1553. You are free to print out a copy of this consent form to take with you for your records.

Objective of the Research: This study is concerned with understanding how people think about and plan decisions or projects that they wish to pursue. This study aims to understand these processes and to be able to successfully categorize, define, and measure them. The relevant section of your PSY 100 textbook if you would like to learn more about this area of research is Module 26 (Thinking).

General Information: Your participation is greatly appreciated and will help psychologists better understand how people think about and plan decisions or projects. It will also help psychologists better understand the interaction decision-making, goal planning, goal striving, goal-oriented action, well-being, and personality. Lastly, this study will help validate measures of these

processes. If you would like to receive a report of this research when it is completed or a summary of the findings, please contact Missy Ferland at Melissa.Ferland@colostate.edu or Bryan Dik, Ph.D. at Bryan.Dik@colostate.edu. To learn more about these topics, the relevant section of your PSY 100 textbook if you would like to learn more about this area of research is Module 26 (Thinking).

Safety: If your participation in this study has contributed to any emotional distress or significant discomfort, you may contact the CSU Counseling Center at 970-491-7121. In case of emergency or crisis, on-call counselors are also available 24/7 and can be reached at 970-491-7111. For a nationwide crisis hotline, please call 1-800-273-8255 or the suicide hotline at 988. Additional community resources include Touchstone Health Partners, who can be reached at 970-494-4300 and the Psychological Services Center on the CSU campus, who can be reached at 970-491-5212. Finally, please contact the research investigators directly for assistance and additional debriefing if you experience any distress as a result of this study. If you have any questions about your rights as a volunteer in this research, contact CSU IRB at CSU_IRB@colostate.edu; 970-491-1553

Confidentiality: All information collected in today's study will be confidential and there will be no identifying information connected to your responses. This research will be focused on examining general patterns when the data are aggregated together. Your CSU ID will be collected at the end of the study to provide you course credit but will be collected and stored separately of your survey results. Please do not disclose research procedures and hypotheses to anyone who might participate in this study between now and the end of data collection, as this could affect the results of the study. Thank you for your participation! Please make sure you have an hour to complete these surveys since you will not be able to stop and come back to the surveys at a later time. If you have read and understood the above information and consent to participating in the study, please click the next button below to indicate your consent by selecting

"I Consent"

- I consent (1)

Are you at least 18 years or older?

- Yes (1)
- No (2)

Are you a student at Colorado State University?

- Yes (1)

People sometimes struggle to make decisions or follow through with projects. Are you currently thinking about a decision or project?

- Yes (1)
  No (2)

What is your gender identity? (check all that apply):

- Man (1)
- Woman (2)
- Non-binary (3)
- Gender fluid (4)
- Gender nonconforming (5)
- Gender questioning (6)
- Genderqueer (7)
- Androgynous (8)
- Transgender woman (9)
- Transgender man (10)
- Transgender person (11)
- Cisgender (14)
- Other (please specify) (15)
- I prefer not to answer (16)

Please specify your gender identity

What is your sex assigned at birth?

- Male (1)
- Female (2)
- Intersex (3)
- I prefer not to answer (4)

What is your age?

What year of college are you in?

- First-year (1)
- Second-year (2)
- Third-year (3)
- Fourth-year (4)
- Fifth-year (5)
- Other (please specify) (6)

Have you declared your major?

- Yes (1)
- No (2)

What is your major?

What is your cumulative GPA?

What was the annual household income in the home where you grew up?

- $19,999 or less (1)
- $20,000-34,999 (2)
- $35,000-49,999 (3)
- $50,000-64,999 (4)
- $65,000-79,999 (5)
- $80,000-99,999 (6)
- $100,000 or above (7)
- I prefer not to answer (8)

Please indicate your race/ethnicity (check all that apply):

- Black or African American (1)
- American Indian or Alaska Native (2)
- Asian (3)
- Native Hawaiian or Other Pacific Islander (4)
- White or Caucasian (5)
- Hispanic or Latino (6)
- Middle Eastern or North African (7)
- Not Hispanic or Latino (8)
- Other (specify) _____ (9)
- I prefer not to answer (10)

Please specify your race/ethnicity

In addition to being a student, do you also work for pay?

- No, I do not work for pay in addition to being a student (1)
- Yes, I work for pay in addition to being a student (2)

On average, how many hours are you paid to work a week, including time at an office, in the field, or working at home?

Broadly speaking, "analysis paralysis" refers to a feeling of being stuck while comparing choices or paths forward, where people experience a feeling of being unable to make a decision, follow through with a decision, or move forward with a personal or work-related project. In this study, this experience is referred to as "indecision-inaction phenomenon". The following questions assess the degree to which you see indecision-inaction phenomenon as relevant to your own life. Think of a current situation in your life in which you are faced with making a decision or moving forward with a project. It could be a decision you are currently having difficulty making or following through with, a project in which you feel stuck in the planning stages, or a choice that you are finding to be challenging in some way. In simple terms, write down the situation you are thinking of in the box below:

How important is this decision or project to you?

- 1= Not at all important (1)
- 2= Low importance (2)
- 3= Slightly important (3)
- 4= Moderately important (4)
- 5= Very important (5)

How urgent is this decision or project?

- 1 = Not at all urgent (1)
- 2 = Low urgency (2)
- 3 = Slightly urgent (3)
- 4 = Moderately urgent (4)
- 5 = Very urgent (5)

Is there a deadline for this decision or project?

- No deadline (1)
- Yes, there is a deadline (2)

When is the deadline for this decision or project?

For the following questions, please reflect on the situation you wrote in the box previously and assess the degree to which the following statements are true of your experience, using the

following scale. Please respond honestly, not according to what is socially desirable or what you feel you "ought" to think. Please indicate the extent to which each of the following statements currently describe you. Strongly Disagree = 1 Moderately Disagree = 2 Mildly Disagree = 3 Mildly Agree = 4 Moderately Agree = 5 Strongly Agree = 6

Response Warm Up

	1= Strongly Disagree (1)	2= Moderately Disagree (2)	3= Mildly Disagree (3)	4= Mildly Agree (4)	5= Moderately Agree (5)	6= Strongly Agree (6)
Please select "Strongly Disagree" (1)	○	○	○	○	○	○
Please select "Strongly Agree" (2)	○	○	○	○	○	○

When it comes to the decision or project I am considering…	Strongly Disagree 1	Moderately Disagree 2	Mildly Disagree 3	Mildly Agree 4	Moderately Agree 5	Strongly Agree 6

... I am stuck comparing options

... I find myself continually evaluating alternatives

... comparing options makes me hesitate to decide

... I have trouble simplifying the choice-making process

... I have trouble narrowing things down into fewer options

... I think in circles about the options involved in each choice

... I waste time comparing options

... the more I think about the choices, the harder it is for me to make a choice

... I dwell on the many elements to consider for each option

... when one option begins to be appealing, I second-guess myself

... when one option starts to become appealing, thinking about the advantages of other options holds me back

... I overcomplicate the choices

... I make the comparison of options more complex than it needs to be

... I keep thinking over the choices long past when I should have

... I sabotage myself by second-guessing each option

... I go back-and-forth while comparing each option

... I struggle to make a decision among the choices available

... when confronted with too many options, I second-guess my decisions.

... having an excess of choices makes choosing even harder for me

... I experience decision fatigue due to the overwhelming number of choices available.

... I add more complexities to my choices than necessary.

... I keep comparing options long past when I should have

When it comes to the decision or project I am considering…	Strongly Disagree 1	Moderately Disagree 2	Mildly Disagree 3	Mildly Agree 4	Moderately Agree 5	Strongly Agree 6

... I overthink about how things will play out in the long run

... I overthink about problems I could run into in the future

... I obsess over the positives and negatives for each possible choice or path forward

... I dwell on the pros and cons of any choice I consider

… I think too much about the "what ifs" for each choice

… I obsess over making the best decision

… in trying to make the best decision I overanalyze how it would impact me

... I overthink about a series of events that could unfold with each choice

... I am bothered by the thought of potentially doing things wrong and regretting it

... I speculate too much about how each choice might impact my future

... I don't want to regret making the wrong decision

... I overanalyze the outcomes of potential choices

... when I think about choosing one option, the other options begin to seem more appealing

... when I consider choosing one option, I think about all the reasons why I shouldn't choose that option

... I second-guess myself when thinking about which option is going to have the best results

... I feel that no matter what choice I make, I will regret not choosing the other options

... I endlessly compare benefits and drawbacks for possible choices or paths forward

... I dwell in thoughts about how anything I do is going to impact the outcome

... I am okay with selecting a less-than-optimal choice or path forward

... I overthink about what could go wrong in the future

... I spend too much time picturing how my choices will impact me in the future

... I overthink about the outcomes for each potential choice

When it comes to the decision or project I am considering…	Strongly Disagree 1	Moderately Disagree 2	Mildly Disagree 3	Mildly Agree 4	Moderately Agree 5	Strongly Agree 6

... I am stuck in the analysis phase

... I feel stuck overthinking

... my overthinking is what holds me back from following through

... my overthinking is what holds me back

... I overthink without following through

... I think in circles without following through

... I overthink things to the point of not acting

... I feel caught up in the planning phase

... I am perpetually thinking but never following through

... I am thinking about it a lot but never following through

... I am perpetually thinking but never executing

... my tendency to overthink has been more harmful than helpful

... my hesitation to act is due to overthinking

... despite engaging in thinking about how to approach it, I feel unable to move forward

... I overcomplicate my thought process to the point of not acting

... I spend too much time thinking and not enough time doing

... I rethink my options repeatedly without following through

... my lack of progress contrasts with the amount of energy I have spent thinking about it

... my tendency to overthink has created roadblocks for my progress

... I struggle to move forward or decide

... I am getting in my own way by overcomplicating things

... I feel overwhelmed by my own thought process

Which of the following is not like the others? (this item is checking to see if you are paying attention)

- A banana (1)
- A strawberry (2)
- An apple (3)
- A telephone (4)

Instructions: Using the 1 - 5 scale below, select the option that best describes your level of agreement with that item. Please be open and honest in your responding.

1 = strongly disagree
2 =somewhat disagree
3 =neither agree nor disagree
4 =somewhat agree
5 = strongly agree

1. 1 try to put off making decisions.
2. I always know exactly what I want.
3. I find it easy to make decisions.
4. I have a hard time planning my free time.
5. I like to be in a position to make decisions.
6. Once I make a decision, 1 feel fairly confident that it is a good one.
7. When ordering from a menu, I usually find it difficult to decide what to get.
8. I usually make decisions quickly.
9. Once I make a decision, I stop worrying about it.
10. I become anxious when making a decision.
11. I often worry about making the wrong choice.
12. After I have chosen or decided something, I often believe I've made the wrong choice or decision.
13. I do not get assignments done on time because I cannot decide what to do first.
14. I have trouble completing assignments because I can't prioritize: what is most important.
15. It seems that deciding on the most trivial thing takes me a long time.

The following items are designed to measure certain attitudes people have toward themselves, their performance, and toward others. It is important that your answers be true and accurate for you. In the space next to the statement, please enter a number from "1" (strongly disagree) to "7" (strongly agree) to describe your degree of agreement with each item.

STRONGLY DISAGREE = 1
DISAGREE = 2
SLIGHTLY DISAGREE = 3
NEUTRAL = 4
SLIGHTLY AGREE = 5
AGREE = 6
STRONGLY AGREE = 7

_____ 1. I have high expectations for myself.
_____ 2. Doing my best never seems to be enough.
_____ 3. I set very high standards for myself.
_____ 4. I often feel disappointment after completing a task because I know I could have done better.
_____ 5. I have a strong need to strive for excellence.
_____ 6. My performance rarely measures up to my standards.
_____ 7. I expect the best from myself.

_____ 8. I am hardly ever satisfied with my performance.

Note: We recommend distributing these 8 SAPS within other items the researcher might use that have a similar response scale.

Instructions: Using the 1 - 5 scale below, select the option that describes how true that item is for you. Please be open and honest in your responding.

1= Very seldom or not true of me
2= Seldom or infrequently true of me
3= Sometimes true of me
4= Often true of me
5= Very often, or true of me

I delay making decisions until it's too late
Even after I make a decision I delay acting upon it
I waste a lot of time on trivial matters before getting to the final decisions
In preparation for some deadlines, I often waste time by doing other things
Even jobs that require little else except sitting down and doing them, I find that they seldom get done for days
I often find myself performing tasks that I had intended to do days before
I am continually saying "I'll do it tomorrow"
I generally delay before starting on work I have to do
I find myself running out of time
I don't get things done on time
I am not very good at meeting deadlines
Putting things off till the last minute has cost me money in the past

Instructions: Below are five statements that you may agree or disagree with.
Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.
• 7 - Strongly agree
• 6 - Agree
• 5 - Slightly agree
• 4 - Neither agree nor disagree
• 3 - Slightly disagree
• 2 - Disagree
• 1 - Strongly disagree

____ In most ways my life is close to my ideal.
____ The conditions of my life are excellent.
____ I am satisfied with my life.
____ So far I have gotten the important things I want in life.
____ If I could live my life over, I would change almost nothing

Attention_2 This 9uestion is checking your attention, please se1ect Neutral (forgive the typos)

- 1= STRONGLY DISAGREE (1)
- 2= DISAGREE (4)
- 3= SLIGHTLY DISAGREE (5)
- 4= NEUTRAL (6)
- 5= SLIGHTLY AGREE (7)
- 6= AGREE (8)
- 7= STRONGLY AGREE (9)

Instruction: How well do the following statements describe your personality?

I see myself as someone who . . .

1= Disagree strongly
2= Disagree a little
3= Neither agree nor disagree
4= Agree a little
5= Agree strongly

. . . is reserved (1) (2) (3) (4) (5)
. . . is generally trusting (1) (2) (3) (4) (5)
. . . tends to be lazy (1) (2) (3) (4) (5)
. . . is relaxed, handles stress well (1) (2) (3) (4) (5)
. . . has few artistic interests (1) (2) (3) (4) (5)
. . . is outgoing, sociable (1) (2) (3) (4) (5)
. . . tends to find fault with others (1) (2) (3) (4) (5)
. . . does a thorough job (1) (2) (3) (4) (5)
. . . gets nervous easily (1) (2) (3) (4) (5)
. . . has an active imagination (1) (2) (3) (4) (5)