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Adaptive and Maladaptive Coping as Mediators of the Relationship Between Impostor Phenomenon and Help Seeking Intention

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Abstract

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by

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MS, Walden University, 2019

MA, California State University, Long Beach, 2000

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The modern workplace and public media have reported on the influence of the impostor phenomenon (IP) on leadership mental health and workplace effectiveness. The choice of coping strategy may influence leaders' intentions to seek psychological help. Guided by the impostor cycle model, the purpose of this quantitative study was to examine the extent to which adaptive and maladaptive coping mediates the relationship between IP and help-seeking intention in a convenience sample of 162 participants in leadership positions. The Clance Impostor Phenomenon Scale assessed strength of IP, the Brief COPE measure assessed adaptive and maladaptive coping, and the Beliefs About Psychological Services Scale assessed three dimensions of help seeking: intention to seek help, stigma about seeking help, and expertness of the helper. Preliminary analyses revealed that IP positively predicted help seeking for intention and expertness and negatively predicted stigma about help seeking. IP positively predicted maladaptive and adaptive coping, confirming the model's inference that people higher in IP do everything to be successful. Mediation analyses revealed that maladaptive coping negatively mediated the relationship between IP and stigma about help seeking, and adaptive coping positively mediated the relationship between IP and the expertness of the helper. These results may increase awareness of the value of help seeking in professionals experiencing IP, and may be used to develop interventions that mitigate resistance toward mental health help seeking due to stigma. These efforts could better support young leaders who need help balancing the striving for success with the quality of life.

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Dedication

For myself. Coming from the belief of never thinking I was good enough or worthy enough to complete such a challenging and rewarding achievement and earning this title, to appreciating who I am, building my supportive self-belief, and knowing this accomplishment is because I kept taking this journey one step at a time. Thank you, Savannah Peoples, who made those days of struggle and stress bright ones full of hope and laughter. I can't wait to celebrate your doctoral achievement! To Dr. Kimberley Perry, who always supported my desire and knew I was good enough, time to celebrate! And to my daughter, Marina, you can now tell others I am a doctor! I will always cherish this achievement and know this is just the start of my next adventure and my growth ahead.

For those who experience impostor phenomenon and feel you will never be good enough or achieve the life you desire, stop listening to the negative and toxic voices in your mind and appreciate your own qualities, character, and abilities, and build up your supportive self-belief. You are creating a life that is for you and represents all you can do and achieve. Live your life authentically, reach out for support, and never stop growing. But most of all, always believe in yourself.

"Change will not come if we wait for some other person or some other time.
We are the ones we've been waiting for. We are the change that we seek."

Barack Obama

Acknowledgments

I owe more thanks, appreciation, and gratitude to my committee chair, Dr. Susan Marcus, that can possibly fit on this page. From the beginning of our time together, she has been a guiding and supportive force, helping me to navigate this complex process. She has also been a colleague I was able to share my knowledge and burgeoning expertise with when she would defer to me for understanding and discussion of the main content. I looked forward to meeting with her not only for the next revisions but for the new ideas and developments that sometimes she would offer and other times we learned together. Dr. Marcus's compassion, humor, and honesty made this journey not only bearable but also worthwhile and exciting, and she let me know it was okay to experience the frustrations and successes while being my authentic self. I will be forever grateful. I am appreciative of Dr. Cynthia Loubier-Ricca's focus on the details and asking questions that helped to enhance and improve the content and writing and made my work better throughout. And I thank Dr. Gary Burkholder for his insight into the mediation process and steps to make sure I was being as efficient as possible and using the best method for analysis, which was more effective because of your guidance.

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Chapter 1: Introduction to the Study

Individuals in the modern workplace and public media have become more aware of the impostor phenomenon (IP) and its impact on leadership and workplace effectiveness. IP is described as the self-perception of never being good enough, of being seen as a fraud, and believing that achievements and successes are due to luck or chance rather than capabilities, knowledge, or skills (Clance & Imes, 1978). This cognitive process of feeling unworthy of praise and appreciation is followed by a person's increased self-doubt about their abilities, increased anxiety, and depression due to the stress of their mental and behavioral actions in accomplishing the task (Clance, 1985; Clance et al., 1995; Sakulku & Alexander, 2011).

People in leadership positions who experience IP often feel they have misled their organizations (Kark et al., 2021). They also show higher risk aversion and stronger behaviors of perfectionism, which can lead to doubting their choices and impair their abilities to make effective leadership decisions (Jackson, 2018; KH & Menon, 2020; Kuna, 2019; Ladge et al., 2019). Expressions of IP feelings and experiences are often dismissed or suppressed and avoided so as not to bring attention to the leaders for fear of being seen as a fraud (KH & Menon, 2020). Help seeking may be perceived as negative by leaders because it can show weakness and be perceived as a negative in their abilities (Petru & Jarosova, 2019). In leaders' self-perceptions of doubt, shame, and anxiety, they hide their psychological struggles from others, which may reduce their intention to seek help (Hutchins & Rainbolt, 2017; Langford & Clance, 1993; Petru & Jarosova, 2019).

Wang et al. (2019), in a study on perfectionism and psychological distress and IP, found maladaptive coping was used when experiencing anxiety due to those experiencing high levels of IP. Hutchins et al. (2018) also found that maladaptive coping was a mediator in the relationship between IP and emotional exhaustion. Maladaptive coping strategies, such as denial and self-blame, were negatively correlated with help-seeking intention (HSI; Niegocki & Ægisdottir, 2019). Studies have shown a correlation between the coping process and intentions to seek help. However, few studies had focused on coping and the relationship with HSI and no studies had focused on coping as a mediator in the relationship between IP and HSI. Understanding the influence of coping strategies on IP and HSI may help to better communicate the importance to leaders of the benefits of mental health services.

In this chapter, I introduce IP as a construct and the IP cycle as the framework for this study to understand how maladaptive coping creates a challenge for HSI. I provide an overview of the current study, including the background, problem statement, purpose of the study, research questions and hypotheses, theoretical framework, nature of the study, definitions of important terms, assumptions, limitations, and delimitations. I conclude with the significance of the study and potential social change implications.

Background

Seventy percent of people will experience IP at some point in their lives (Barr-Walker et al., 2020; Matthews & Clance 1985). Approximately 51% of people will experience frequent to intense IP thoughts and feelings (Levant et al., 2020a). Those who score high on IP measures indicate feelings of self-doubt, anxiety, stress, depression,

perfectionism, negative self-judgment, and other mental and physical effects (Cisco, 2020; Hutchins & Rainbolt, 2017; Neureiter & Traut-Mattausch, 2017; Zanchetta et al., 2020). People suffering from IP protect themselves mentally, which becomes cognitively and emotionally exhausting (Langford & Clance, 1993; Simmons, 2016).

Early studies indicated women were affected by IP more often than men were; however, later studies showed that IP affects across genders (Martinez & Forrey, 2019). Studies have shown that women indicate they experience more intense impostor thoughts and feelings (Bernard et al., 2018; Cokley et al., 2018; Cowie et al., 2018; Pannhausen et al., 2020; Patzak et al., 2017). Overall, IP affects all genders, with different levels of intensity indicated.

Several studies found a positive relationship between anxiety and IP (Fraenza, 2016; Rohrmann et al., 2016). Depression was also significantly correlated with IP (Chrisman et al., 1995; Ross et al., 2001). Leaders who experience IP have shown to experience higher levels of perfectionism, higher self-doubt, and lower self-efficacy (Downing et al., 2020; Jackson, 2018; Kuna, 2019; Ladge et al., 2019). IP has a negative effect on mental health and behavior in leaders, including unrealistic goal setting, poor decision making, overworking, higher anxiety, shame, and underperformance (Hutchins et al., 2018; Kuna, 2019; Ramsey & Brown, 2018). Women in leadership have indicated high levels of anxiety and fear of being found as a fraud (Morrison & Owler, 2018). Women entrepreneurs indicated their experience with IP resulted in them downplaying their expertise, skills, and abilities for fear of not being at the level expected by others (Ladge et al., 2019).

To reduce anxiety and depression effects associated with IP, an intent to seek out help can yield positive results. A positive attitude toward mental health services was correlated with HSI (Cuyler & Guerrero, 2019; Porcari et al., 2017). However, the desire for mental health services decreased for those experiencing anxiety, who chose to work through their issues on their own rather than seeking help (Langley et al, 2018). Another study suggested that depression influences HSI due to those experiencing depression indicating they were less likely to seek out mental health services (Reavley et al., 2018).

People high in IP do not have self-trust in their thoughts, which leads them to not have trust when seeking help (Bachem et al., 2020). Avoidance to seeking help was found in people who were high in IP (Chakraverty, 2020; Meurer & Costa, 2020). Leaders experiencing IP who were concerned about maintaining perceived worthiness were less willing to seek help (Gardner et al., 2019).

Coping can be seen as adaptive, meaning active strategies to work through problems or maladaptive strategies to ignore problems (Algorani & Gupta, 2022). In IP studies, it was shown that women use more adaptive coping than men (Hutchins & Rainbolt, 2017), but that maladaptive coping through avoidance was seen to mediate the relationship between IP and emotional exhaustion (Hutchins et al., 2018). Maladaptive coping was shown to be used with those experiencing anxiety brought on by IP (Wang et al., 2019). When studying coping with IP feelings, Barr-Walker et al. (2020) found that maladaptive strategies were employed in handling the negative feelings.

Coping through social support while using an adaptive strategy was negatively correlated with IP due to the negative self-image perceived when compared to those in

the support group (Gardner et al., 2019). The use of maladaptive strategies was seen to lower HSI (Šakotić-Kurbalija et al., 2016). People engaging in maladaptive strategies such as denial, disengagement, and self-blame correlated with a negative relationship to HSI (Niegocki & Ægisdottir, 2019).

In conclusion, the choice of coping has been shown to be an influence on the intent to seek help. Those experiencing IP may use maladaptive strategies, which also have been shown to influence the intent to seek help. There have been a few studies on the relationship between coping and HSI, and some researchers have studied the relationship between IP and HSI (Bachem et al., 2020; Meurer & Costa, 2020). However, there have been no studies to date examining how coping mediates the relationship between IP and HSI.

Problem Statement

Leaders in organizations earn graduate degrees and postgraduate degrees to enhance their leadership skills and knowledge, yet the perceived demand to present themselves as strong, knowledgeable, and effective can be accompanied by feelings of doubt and feeling like a fraud or impostor (KH & Menon, 2020; Kuna, 2019). IP has been shown to affect young leaders in many domains, yet these issues are often not revealed until much later in life. IP increases anxiety and stress and decreases job satisfaction and self-efficacy (Downing et al., 2020; Hutchins et al., 2018). The literature suggested that it can be helpful for leaders to recognize and understand their impostor mindset early on, learn to cope with such fears, and seek help when needed (Kuna, 2019; Rohrmann et al., 2016; White et al., 2018). The gap in the literature indicated a need for understanding

how young leaders manage the experience of IP through their coping, which may influence their intention to seek help.

Purpose of the Study

The purpose of this quantitative correlational study was to examine how coping mediated the relationship between IP and HSI. The independent variables were IP and coping style, and HSI was the dependent variable.

Research Questions and Hypotheses

RQ1: To what extent does maladaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o1: Maladaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a1: Maladaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

RQ2: To what extent does adaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o2: Adaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a2: Adaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

Theoretical Framework

Clance (1985) proposed the impostor cycle, which models the general process of those experiencing IP regarding the completion of an academic or professional task. Those experiencing high levels of IP will follow the process in hopes of being perceived as worthy while believing they are never good enough. The impostor cycle describes the cognitive and emotional process along with the negative effects associated with the IP experience.

The cycle begins at the achievement-related task stage, which can relate to any academic or professional setting. The cycle then moves to the next phase of anxiety, self-doubt, and worry, which indicates the stress and uncertainty of being able to accomplish the specified task. Once at this phase, there is a choice of one of two avoidance coping strategies: overprepare or procrastinate on completing the task. Either choice will bring the completion of the task and relief in the accomplishment. However, if the accomplishment is completed due to overpreparation, the accomplishment is seen as due to extreme effort, work, and additional skills employed to bring about success. It is not perceived as due to a natural or normal ability and knowledge. If the accomplishment is completed following a period of procrastination, the accomplishment is perceived as due to luck and chance, not skill or ability. The cycle perpetuates with the next task, and the individual is never able to break away from the stress, anxiety, and self-doubt that increase with each cycle. IP will continue to occur until the cognitive process becomes more internalized in relation to skills, abilities, and belief in oneself. People experiencing more extremes of IP, according to this model, are likely to choose maladaptive coping

strategies, and therefore may not seek help in breaking this cycle. The current study was conducted to examine how coping mediates the relationship between IP and HSI.

Nature of the Study

A correlational survey research design was used for this study. This study examined the mediating effect of coping on the relationship between IP and HSI. This design allowed for quantitatively analyzing links between variables, as well as levels or directions of the links on or between variables (see Trochim, 2021).

The independent variables of interest were IP measured with the Clance Impostor Phenomenon Scale (CIPS). The items of the CIPS are rated on a 6-point Likert scale from *not true at all* to *very true*, with a higher score indicating a higher level of IP being experienced. Coping style was measured with the Brief COPE, which is rated on a 4-point Likert scale from *I haven't been doing this at all* to *I've been doing this a lot*, with high scores on one set of questions indicating either adaptive or maladaptive coping preference.

The dependent variable of interest was HSI, which was measured with the Beliefs About Psychological Services (BAPS) measure. The items on the BAPS are rated on a 6-point Likert scale from *strongly disagree* to *strongly agree*, with a higher score indicating a higher level of intention to seek mental health psychological services. Prior research suggested that demographic covariates of age, gender, industry, tenure, and management position influence the strength of IP, so these were tested as part of the research model.

A convenience sample of participants was recruited through the Amazon Mechanical Turk (MTurk) platform. MTurk is a crowdsourcing platform for data

collection via surveys. The sample desired were those who at the time of the study were in leadership positions and were selected through the qualification of management in the MTurk settings. Data were collected through the MTurk platform, which only I had access. I downloaded the Comma Separated Values file containing the data to my personal computer, which was password protected.

The data were screened for missing data and aberrant values, and appropriate missing values were estimated (see Hair et al., 2006). Descriptive statistics were calculated for all continuous and interval variables (e.g., means, standard deviation, standard error of means, skewness, and kurtosis). Frequencies and percentages were calculated for categorical data. Hypothesis testing was conducted with the PROCESS model macro add-on to IBM's SPSS Statistics (Version 28) software (see Hayes, 2022). In the PROCESS model, HSI was set as the outcome variable, IP was set as the independent variable, and coping was set as the mediator variable. The variables of age, gender, race/ethnicity, education, industry, leadership position, and position tenure were evaluated as the covariates. All variables were evaluated to make sure they met the assumptions for the models.

Definitions

The following terms are defined for clarification in this study. Although they may have other definitions, they are defined here according to how they were used in the study.

Adaptive coping: Active strategies in working out problems to reduce negative emotions (Algorani & Gupta, 2022).

Coping: Appraising the harm or benefit of a stressor and applying strategies for psychological benefit (Lazarus & Folkman, 1984).

Help-seeking intention (HSI): Purposeful effort to obtain support or assistance to reduce current distress (White et al., 2018).

Impostor phenomenon (IP): Internal feelings of being unworthy, fear of being seen as a fraud, believing achievements and success are due to luck or chance, and the need for approval from external sources (Clance & Imes, 1978).

Maladaptive coping: Passive strategies such as avoidance and disengagement to problems that are a detriment to psychological mental health (Algorani & Gupta, 2022).

Assumptions

An assumption related to this study was that I recruited participants in leadership positions. However, because random sampling was conducted through MTurk with qualifications of management, there was no way to confirm that participants were in leadership positions. Even though I asked demographic questions regarding leadership positions and tenure, I did not have the ability to confirm the information presented, so I needed to assume what they indicated was true and accurate.

Scope and Delimitations

I examined whether coping strategies mediated the relationship between IP and HSI. I was not looking at the coping strategies independently, but rather the two-factor constructs of adaptive and maladaptive coping. This could present opportunities for future studies to investigate more specific coping strategies and mediation effects.

The research questions addressed those in leadership positions, and the participants' selection was limited to those who chose to participate in volunteer panels such as Amazon's MTurk. Future studies may want to address leaders in different countries to examine whether preferred coping strategies vary across countries, regions, or cultures. I conducted a convenience sample of participants, and given the methodology needed for convenience sampling, generalizability was limited. Although I sought participants in leadership positions, using MTurk could have limited the variety of leadership positions of participants as well as possible geographic locations.

Limitations

There were several potential limitations to the study. Participants may have altered their responses to give the perception they were someone different or responded how they perceived it was desired. Participants may have been familiar with the instruments and responded with testing bias, where they attempted to answer in a socially desirable manner, or they may have experienced testing fatigue while attempting to complete the demographic questions and three surveys, where they reached an exhaustion level and no longer were fully reading the questions to give accurate responses (see Trochim, 2021).

The Likert-type measurements used in this study could have been a limitation as well due to participants interpreting the statements and questions differently in relation to their responses. Their interpretations could have impacted the consistency of the results collected. However, each measure I chose demonstrated psychometric properties, such as

internal consistency and predictive and discriminative validity, and could be compared to published literature to demonstrate the construct validity of each measure.

Significance

Previous studies on leaders who experienced IP showed its effects to be anxiety, low self-efficacy, overworking, perfectionism, shame, and depression (Hutchins et al., 2018; Jackson, 2018; Kuna, 2019; Ramsey & Brown, 2018). Due to these effects and influences, most leaders felt shame for experiencing IP or were concerned with maintaining their image as a leader and resisted help or diminished their desire to seek help (Gardner et al., 2019; Petru & Jarosova, 2019). Many of the effects of IP tie into maladaptive coping strategies, which have been shown to correlate to low HSI (Hutchins & Rainbolt, 2017; Šakotić-Kurbalija et al., 2016).

This study may help to show the influence of coping strategies on the relationship between IP and HSI. The findings may clarify the choices of coping strategies when dealing with the effects of IP. The results may be shared with coaches and therapists to help young professionals in leadership improve their coping strategies to reduce IP thoughts and effects and increase their intentions to seek help.

Summary

In this chapter, I introduced how IP impacts leader choices and cognitive stressors, which may impact their coping strategies. Theories highlighted the IP cycle, which illustrates the process leaders experiencing high levels of IP will go through, which results in anxiety and possible depression once the task is accomplished due to continued feelings and thoughts of being unworthy and believing themselves to be a fraud in their

skills and leadership position. Understanding how coping strategies mediate the relationship between IP and HSI may reveal the cognitive process of experiencing IP. In Chapter 2, I discuss the literature on IP and the theoretical foundation of the IP cycle. I discuss the psychometric properties of the IP measure and provide details and background findings on the relationships between IP and HSI, coping and IP, and coping and HSI.

Chapter 2: Literature Review

Leaders in organizations are hired in their positions due to their skills, knowledge, and abilities where they can bring development and inspire growth in their organizations. They often earn graduate degrees and postgraduate degrees to enhance their leadership skills and knowledge, yet the perceived demand to present themselves as strong, knowledgeable, and effective can be accompanied by feelings of self-doubt and insecurity, as well as feeling like a fraud or impostor within their organization (KH & Menon, 2020; Kuna, 2019). IP has been shown to affect young leaders in many domains, yet these issues are often not revealed until much later in life.

IP increases behaviors of overworking and perfectionism along with experiencing anxiety and stress, while decreasing job satisfaction and self-efficacy (Downing et al., 2020; Hutchins et al., 2018). The literature suggested that recognizing and understanding their impostor mindset early on can be helpful for leaders in learning to cope with their fears and anxiety and seek help for their mental health when needed (Kuna, 2019; Rohrmann et al., 2016; White et al., 2018). The purpose of the current study was to examine whether coping mediates the relationship between IP and HSI.

The workplace environment and positions of leadership have begun to recognize the negative impact IP is having on productivity and development. IP is a belief that achievements are due to luck or chance and the cognitive perspective of being a fake or fraud in not only what they do but also in who they are as a person (Clance & Imes, 1978). Approximately 70% of the population will experience IP at some point in their lives and career (Matthews & Clance, 1985; Rosenthal et al., 2021). When experiencing

IP for a short period or as a lifelong phenomenon, many will encounter self-doubt, self-judgment, anxiety, and depression as effects of this phenomenon (Hutchins & Rainbolt, 2017; Neureiter & Traut-Mattausch, 2017).

Many who score high in IP follow the impostor cycle model established by Clance (1985). The theoretical model proposes that those at the beginning of a task when experiencing IP will encounter initial anxiety or self-doubt. To compensate for those feelings and thoughts, they will seek maladaptive coping by way of overpreparation or procrastination. Once the task is completed, those high in IP will gain no satisfaction from their accomplishment because they will feel their success was not due to their skill and abilities but to luck or chance. This thought will lead to anxiety or depression due to perceptions of not being good enough for the job, which they take into the next task to be completed and the cycle repeats.

To measure this phenomenon and the experiences that constitute this impostor cycle, there have been several scales developed over the years. The CIPS has been shown to be the most reliable and stable in gaining a clear identification of the intensity of IP being experienced over other measures (Holmes et al., 1993; Mak et al., 2019). Through various psychometric studies of not only the measures but the principles of IP, Rohrmann et al. (2016) found that IP is an independent construct.

Key variables such as gender have been examined in relation to IP. Early studies indicated IP is experienced more by women than men; however, over the years of further research the phenomenon has been found to be experienced by all genders, yet women seem to experience IP more intensely (Bravata et al., 2020; Clance & Imes, 1978;

Martinez & Forrey, 2019). Anxiety and depression have been significantly correlated with IP across all genders (Bernard et al., 2020; Ross et al., 2001). However, most of the studies on IP and its effects have focused on the academic setting, with only recent studies addressing the influence on leadership (Kuna, 2019; Simon & Choi, 2018).

In studying mental health issues related to IP, Chen et al. (2016) found that a positive attitude toward seeking help for mental health issues such as anxiety can help in reducing the effect. However, studies have shown that IP may create a distorted perception of self, which can reduce the intention to seek help (Chakraverty, 2020). Further studies on coping strategies have also found that adaptive coping can aid in seeking help, yet maladaptive coping as employed with IP was correlated to a negative relationship with HSI (Barr-Walker et al., 2020; Šakotić-Kurbalija et al., 2016).

Leaders are perceived as being mentally strong, knowledgeable, and effective, yet many experience feelings of self-doubt and being a fraud in who they are in their organization. The effects of IP on leaders create anxiety and stress, which can lead to ineffective decisions and decreased self-efficacy (Kuna, 2019). As the impostor cycle proposes, the maladaptive coping choices when experiencing IP continue the cycle. There was a need to better understand how these leaders manage their IP experiences and how their coping strategy influences their intentions to seek help.

The literature review chapter begins with a discussion of the literature search strategy, including the databases searched and the different keywords and phrases searched to locate relevant articles on the key topics and variables. The chapter also includes a description of the IP (see Clance & Imes, 1978) and a review of relevant

studies looking at the identifiable characteristics (see Hutchins & Rainbolt, 2017), effects (see Cisco, 2020), and influence it has on developing skills and professional growth (see Zanchetta et al., 2020).

I introduce the theoretical framework of the impostor cycle model (see Clance, 1985) followed by a discussion of the origins and psychometrics of the CIPS (see Chrisman et al., 1995), along with a comparison to other IP measures such as the Harvey Imposter Phenomenon Scale (HIPS; see Holmes et al., 1993), the Perceived Fraudulence Scale, and the Leary Impostor Scale (see Mak et al, 2019). I follow the IP measures discussion with a literature review of individual differences associated with IP focusing on gender (see Cokley et al., 2018), occupation, anxiety, and depression (see Fraenza, 2016; Pannhausen et al., 2020; Ross et al., 2001), and leadership (Ladge et al., 2019). This leads to a discussion of HSI (see Reavley et al., 2018) and its relation to IP (see Gardner et al., 2019) with a discussion of coping (see Rabenue et al., 2016) and relevant studies of the relationship between coping and IP (see Wang et al., 2019) and coping and HSI (see Niegocki & Ægisdottir, 2019). The review concludes with the identification of the gap in the literature and how the current study addressed the gap in alignment with the theoretical framework.

Literature Search Strategy

The initial search for the literature review started with the Walden University Library databases through a general search through the Thoreau databases. Searches began to become more refined within APA PsychInfo, Emerald Insight, and ProQuest Central databases. The searches through the databases were initiated to locate articles

related to IP, coping, and well-being, in their relation to HSI and behaviors to seek coping processes.

The initial search parameters for research articles were set between 2016 and 2021 to focus on the most current studies. There were many studies independently correlating IP with coping, well-being, and HSI over recent decades; however, searching within 2016 and 2021 was maintained unless there was a specific important or foundational study completed outside the main parameters. The foundational study on IP was conducted in the late 1970s and foundational findings regarding coping were initially conducted in 1984.

Searching the subject IP with variations of *impostor syndrome*, *impostor phenomenon*, *imposter syndrome*, and *imposter phenomenon* in the Walden library yielded 2005 peer-reviewed scholarly research articles published between 2016 and 2021. Searches were conducted with the variations and combinations with other words such as *imposterism*, *coping*, *cope*, *well-being*, *affect*, *help-seeking*, *self-stigma*, *perfectionism*, and *leadership*.

Searching on the *Clance Imposter Phenomenon Scale* search yielded 257 results. Variations such as *Clance Imposter* or *Clance Impostor Scale*, *Clance Phenomenon Scale*, and *imposter* and *impostor scale* were also searched as well. *Help-seeking intention* searches yielded 2147 results. When combined with the search term of *leadership*, the results were reduced to nine. To expand the search, I combined *help-seeking* with *psychological distress*, *stress*, *coping*, *coaching*, *anxiety*, *depression*, *perfection*, and *mental health*.

Research into theoretical models was a challenging process to determine which model was to be considered the best fit for the study. Several theoretical models were considered in the early stages with research on the models having been conducted through database search with a focus on help seeking. Through research on articles regarding the topics of the study, various theories were identified, and further research through the Thoreau database on these theories related to help seeking was conducted. Eventually, I determined that applying a theoretical model from the help-seeking perspective was not the best fit, and attention was turned toward IP. The impostor cycle model was identified as being a well-documented model and a good fit for this study. Several articles were located regarding this model through the Walden Library, as well as foundational writings regarding the cycle published in 1985.

The databases utilized through the Walden Library search were APA PsychInfo, Business Source Complete, Education Source, Emerald Insight, Information Science and Technology Abstract, ScienceDirect, DOAJ, ABI/Inform Global, ABI/Form, ProQuest Central, Sage Journals, and Google Scholar. Additional databases were accessed through membership in American Psychological Association and ResearchGate. The key terms and phrases searched were *imposter phenomenon*, *impostor phenomenon*, *imposter syndrome*, *impostor syndrome*, *imposter cycle*, *imposter phenomenon cycle*, *coaching*, *interventions*, *strategies*, *coping*, *well-being*, *help-seeking*, *help-seeking intent*, *intention*, *perfection*, *anxiety*, *leadership*, *leaders*, *young leaders*, *psychological distress*, *stress*, *self-stigma*, and *theory of planned behavior*. Additional articles were identified through reading the literature, previous articles, and previous studies. Identifying the different

variables the other studies used, as well as referring to their reference section, aided in finding additional articles and studies to acquire relevant and supportive information and findings from the continued search.

IP

IP is described as the self-perception of never being good enough, of being seen as a fraud, and believing that achievements and successes are due to luck or chance rather than capabilities, knowledge, or skills. Clance and Imes (1978) first studied IP in highly successful women in the academic and professional realms who reported that they did not experience success as a consequence of their skills and expertise. The women described how they were not able to experience their own success, and this had a detrimental impact on their development, growth, and professional success.

Those experiencing IP feel they fooled others regarding their own intelligence and skills and are in constant fear of being found as a fake. Fraudulent feelings and thoughts are internalized, and they can lead to shame and feelings of humiliation (Bernard et al., 2018; Cisco, 2020; Clance & Imes, 1978; Hoang, 2013; Hutchins & Rainbolt, 2017; Jaremka, et al., 2020). People suffering from IP feel they are required to be on the mental defense of their inaccurate beliefs, and the constant thoughts of defending and protecting themselves mentally make the IP experience cognitively and emotionally exhausting (Langford & Clance, 1993; Simmons, 2016). Although IP is not recognized as a psychological disorder to be formally diagnosed and treated, the phenomenon and its negative impact on mental health have become increasingly discussed in academic venues and in the public media (Chrousos et al., 2020; Opong & Douglis, 2021).

Researchers who explored the IP construct found participants who experienced higher levels of IP underestimated their abilities, remembered their failures over their successes, and viewed their abilities as inconsistent, fallible, and apprehensive compared to others (Edwards, 2019; Hoang, 2013; Jaremka et al., 2020; Urwin, 2018). These findings suggested that IP may restrict the ability to fully develop skills and pursue professional potential and new career opportunities. Those who experience higher levels of IP will often hide their psychological struggles and will push themselves to excel and overwork while maintaining persistent feelings of self-fraudulence and lack of self-trust (Gadsby, 2021; Simmons, 2016). The results of the research also demonstrated negative effects on mental health and related behaviors. Participants who scored high on measures of IP identified with chronic feelings of self-doubt and inadequacy, emotional exhaustion, lack of confidence or competency, anxiety, stress, depression, perfectionism, overpreparation, avoidance, and negative self-judgment (Cisco, 2020; Hutchins & Rainbolt, 2017; Neureiter & Traut-Mattausch, 2016; Zanchetta et al., 2020).

Approximately 70% of people will experience IP at some point in their lives and careers, with some studies suggesting higher (about 85%) for high achievers (Matthews & Clance, 1985; Rosenthal et al., 2021). Fassl et al. (2020) conducted a study of 278 university students and identified that 8.6% indicated few IP feelings and 51.1% indicated frequent or intense IP feelings. In their study of gender roles and IP, Patzak et al. (2017) found that 40% of students indicated frequent to intense IP experiences and 86% moderate IP experiences. A first study by Levant et al. (2020b) on IP in medical students found that 51% of participants scored 62 or higher for IP, meaning they had

frequent to intense IP thoughts and feelings. Levant et al. (2020b) found in a second study that 41% of medical students reported moderate IP feelings, 38% reported frequent IP feelings, and 13% reported intense IP feelings. These studies showed a higher frequency of self-reported IP.

Langford and Clance (1993) found that women experiencing IP often reported higher levels of risk aversion, whereas males experiencing IP reported higher levels of a need for change and a low need for order. Cokley et al. (2018) found that women indicated higher impostor feelings than men. However, there have also been studies showing little to no difference by gender on self-reported IP. Bernard et al. (2017) found that women indicated higher levels of IP; however, results were not significant. In a follow-up study, Bernard et al. (2017) found that gender did not influence the association between IP and long-term mental health. There was no evidence of moderation by gender in studies of IP and perfectionism or IP and burnout (Cowie et al., 2018; Levant et al., 2020b).

Overall, IP creates the belief of being a fraud in achieving accomplishments and successes. The IP experience is cognitively and emotionally exhausting due to the need for perfection and constant anxiety, which reduce performance and development. Although initial studies focused on women, follow-up studies showed all genders' mental health have been negatively affected due to IP.

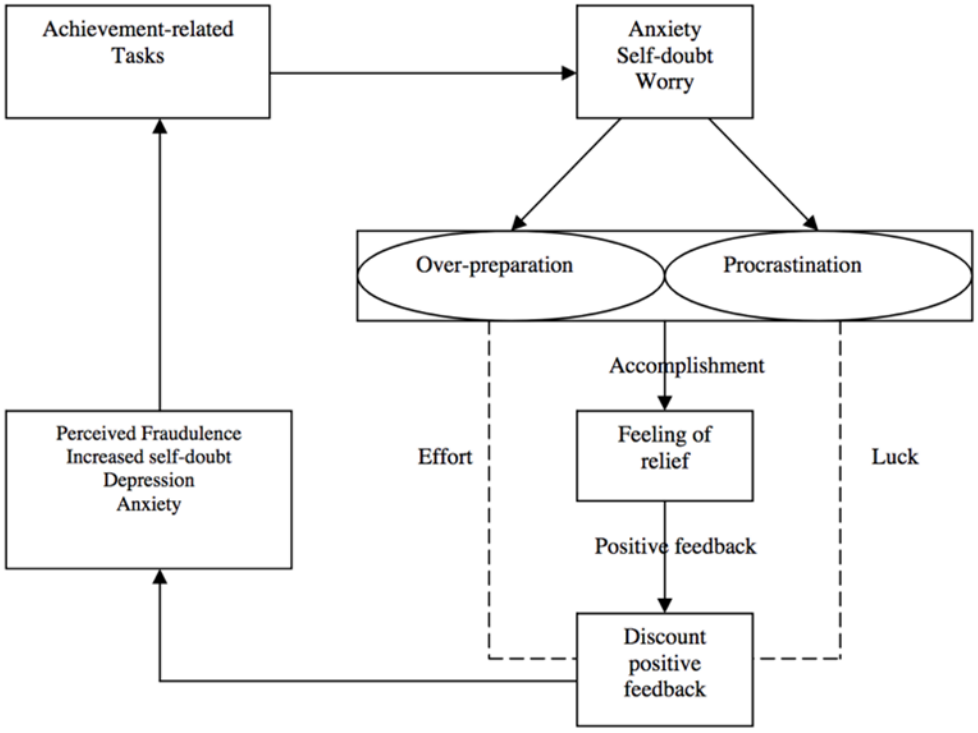
Theoretical Foundation

Impostor Cycle Model

Clance (1985) proposed the impostor cycle, which models the general process of those experiencing IP regarding completion of an academic or professional task (see Figure 1). The impostor cycle demonstrates the cognitive and emotional process, along with the negative effects associated with the IP experience.

Figure 1

Impostor Cycle Model



Note. Model diagram developed by Sakulku and Alexander (2011) based on the impostor cycle by Clance (1985). Reprinted with permission (see Appendix D).

The imposter cycle begins at the achievement-related task stage, which can relate to any academic or professional setting. It then moves to the anxiety, self-doubt, and worry phase, indicating the stress and uncertainty in accomplishing the task at hand. This is followed by choosing one of two maladaptive coping strategies of avoidance on completing the task: either over-prepare or procrastinating. Either one will eventually bring about the completion of the task and a feeling of relief. However, when the task was completed due to over-preparation, it was seen to be due to extreme effort, work, and additional skills employed to bring about success. It was not perceived to be due to a natural or normal ability and knowledge. If the accomplishment was completed following a period of procrastination, then it was seen as due to luck and chance that the task fell together within the allowed time and in accordance with what was required, but not due to skill or ability.

Either way, the high IP persons may receive positive feedback for the completion or achievement. However, the praise and positive feedback will be immediately discounted. The high IP person will perceive the accomplishment to be due to the unnatural extreme amount of work that had been put forth and that they are not worthy of praise because completion of the task was due to luck or chance.

These persons will feel unworthy of praise and appreciation during this cognitive process, which is followed by the self-perception of being a fraud, increased self-doubt about their abilities, increased anxiety, and depression due to the stress of their mental and behavioral actions in accomplishing the task. There is no self-appreciation nor self-acceptance of being skilled enough, knowledgeable enough, or good enough to have

completed the task on their own. The feeling of being an impostor around others that are perceived to have completed the same task with less effort and no delays weighs heavily on the mind.

The cycle will start over for the next task and IP will continue to increase in intensity with each task because their thoughts and behavior only serve to perpetuate the impostor cycle. Continued rotations through the cycle will increase the IP thoughts and effects. The process through the cycle results in emotional exhaustion, thoughts of never being good enough, fear of being found a fraud, lack of self-appreciation for achievements, anxiety, and depression (Clance, 1985; Clance et al., 1995; Sakulku & Alexander, 2011).

A few studies applied this model in their understanding of IP effects. Sakulku and Alexander (2011) reviewed definitions and characteristics of IP and through their study of Clance (1985) developed the IP cycle figure. The figure illustrates the need for those experiencing high levels of IP to want to be the best, be superhuman in their need for perfection, and experience a fear of failure. Those same people experiencing high levels of IP will also deny their own competence and discount praise from others while experiencing fear of success. The findings of their review indicated those traits perpetuate and reinforce the IP cycle.

A theoretical study on IP and intellectual falseness in Poland found understanding the needs for perfection and fear of failure as elements of the IP cycle. These elements can help those experiencing higher levels of IP comprehend the purpose and benefits of therapy to help reduce those IP effects (Filarowska & Schier, 2018). A study on self-

compassion on IP and gender showed how people experiencing higher levels of IP will over-identify with the negative elements of their abilities and character, which keeps them circling through the IP cycle (Patzak et al., 2017). Patzak et al. (2017) found that women experienced IP more intensely than men and in doing so diminished their own capabilities and devalued their knowledge, which traps them in the IP cycle. A recent study on IP and perfectionism in Pakistani working women found higher levels of IP in women in occupations of doctors and nurses that correlated with perfectionism aligned to the elements of the IP cycle (Muneer et al., 2021).

In sum, there is research to support the proposition that the cycle increases IP effects of self-devaluing and dismissing of individuals' own abilities. Coping through maladaptive strategies perpetuates the negative thoughts and feelings of IP. The impostor cycle model demonstrates the process people high in IP levels experience. This study examined how IP varies with respect to coping and help-seeking, and further examined how relevant demographics influenced the intensity of IP and the desire to seek out help.

Measurement of IP

Several scales have been developed to measure IP. The HIPS and the CIPS are the most current and widely used scales. The HIPS was first developed in 1981 to assess IP; the CIPS was developed in 1985 in response to the negative language in the items as well as what was thought to be confusing results from HIPS that did not clearly differentiate between impostors and non-impostors (French et al., 2008). The Perceived Fraudulence Scale was developed in 1991 and examines impostorism and characteristics of their social image and their self-worth (Mak et al., 2019). The Leary Impostor Scale was developed

in 2000, and it examines impostorism as a person's sense of being an impostor (Mak et al., 2019). The HIPS, CIPS, and the Perceived Fraudulence Scale view IP as a multi-dimensional construct. The Leary Impostor Scale focuses on IP as a unidimensional construct.

Clance Impostor Phenomenon Scale

The CIPS (Clance, 1985) is a 20-item scale that has demonstrated an internal consistency of $\alpha = .92$ from the initial validation study (Chrisman et al., 1995). Subsequent studies found values for Cronbach alpha that ranged from .85 to .96 (Mak et al., 2019; McElwee & Yurak, 2010). Factor analysis resulted in the identification of four factors; however, it was determined that one factor comprised only one item, which was not significant enough to be an independent factor (Chrisman et al., 1995). Three factors were identified as Fake, Discount, and Luck. Fake explained 38.5% of the variance, Discount 9.2% of the variance, and Luck 7.2% of the variance.

Brauer and Wolf (2016) examined the German version of the CIPS and also found the three-factor model was reliable with Fake explaining 34.2% of the variance, Discount 5.3% of the variance, and Fake 4.5% of the variance. A Cronbach alpha of .89 was found for the overall measure, and the factors had acceptable reliabilities (Fake, .84; Discount, .73; and Luck, .69). While this was good, further studies would show other factor models would work better for this measure.

French et al. (2008) found that a two-factor model was a better fit. Fake and Discount were collapsed into one factor due to high correlation among the factors ($r = .97$). Cronbach's alpha for the overall measure was found to be .92. A two-factor

comparative fit index of .796 was found, although the three-factor model showed a comparative fit index of .795. This demonstrates that a two-factor model is not sufficient. Due to there not being a clear factor model to be employed, it was determined the measure was better useful as a total score over separate factor scores (French et al., 2008).

Two further studies found that the measure works better as a single factor. Jöstl et al. (2012) found the overall Cronbach's alpha for the CIPS measure to be .88 with a comparative fit index in the structural model of .92. A second study on the CIPS, found a goodness of fit of .99, with a correlation of .97 between the Fake/Discount factor and Luck factor, suggesting a single-factor model. Cronbach's alpha was .85 (Simon & Choi, 2018). The CIPS is more commonly used due to having good reliability and internal consistency. Due to the IP construct as a psychological experience having limited conceptual clarity regarding its dimensionality, it is still a difficult construct to assess (French et al., 2008; Mak et al., 2019).

Discriminant validity was demonstrated when tested against depression. The initial results showed more convergent validity when CIPS was compared with the Depressive Experiences Questionnaire. Comparing CIPS with Depressive Experiences Questionnaire showed a correlation of $r = .62$ and Beck Depression Inventory at $r = .44$, the Zung Self-Rating Depression Scale at $r = .51$ and the Affect Balance Scale at $r = .42$ (Chrisman et al., 1995).

While their study indicated the CIPS was related to several constructs of depression, it was substantially differentiated from the domain as a whole, because the

Depressive Experiences Questionnaire evaluates the phenomenology of depression, the Beck Depression Inventory and Zung Self-Rating Depression Scale evaluate symptoms related to clinical depression, and the Affect Balance Scale assesses current affective state of the participant's depression. CIPS shows the relation to depression but focuses more on self-criticism due to impostor phenomenon thoughts, which demonstrates more discriminant validity (Chrisman et al., 1995).

On the domain of anxiety, CIPS was correlated with the Brief Fear of Negative Evaluation Scale $r = .54$, and the Social Recognition Scale $r = .27$, however, these two scales are more highly correlated with each other ($r = .68$) than the CIPS. And the Brief Fear of Negative Evaluation Scale measures positive social attention along with the fear of negative evaluations, while the Social Recognition Scale measures the concern one has for their reputation. The CIPS shows to be more aligned with seeking to be recognized positively over the desire to avoid any negative attention, which demonstrates more discriminant validity with anxiety measures (Chrisman et al., 1995).

A later study on the validation of IP using the CIPS found that IP can be identified as a construct of its own as it can be distinguished from the constructs of depression, anxiety, perfectionism, and others. A total of 190 participants in leadership positions from various industries completed a series of questionnaires on IP, the Big Five personality traits, anxiety, and depression among other topics. Correlational analysis along with calculating confirmatory factor analysis (CFA) on several models combining IP with the other variables was conducted. While IP is associated with these other constructs due to its content, based upon internal consistency $\alpha = .92$, CFA of a single

factor, and comparative fit index (.95) findings, IP is a construct of its own demonstrating discriminant validity in relation to constructs such as depression, anxiety, perfectionism, and others. (Rohrmann et al., 2016).

Other IP Measures

The HIPS was the original measure. It is a 14-item scale that demonstrated a low Cronbach's alpha = .34, with three subscales ranging from .65 to .81 (Edwards et al., 1987). Holmes et al. (1993) in their study of the HIPS obtained an alpha of .91 for the overall scale from 62 undergraduate students and clinically referred participants and indicated more overlap in scores between those high in imposterism and those low in imposterism which creates confounding results. Hellman and Caselman (2004) re-examined the psychometrics of the HIPS on a sample of 136 adolescents, and found that the underlying factor structure was not sufficiently stable at .70, and strongly suggested cautious use of the scale. The original study (1981) had 146 undergraduate and graduate students, with subsequent studies using 285 university faculty in 1983 (Mak et al., 2019), 104 postgraduates (Edwards et al., 1987), and only one study in a leadership setting with 104 mid-level marketing managers (Fried-Buchalter, 1992). HIPS was shown to have lower internal consistency and questionable stability (Mak et al., 2019).

The Perceived Fraudulence Scale, often used as a scale to measure IP, is a 51-item scale and demonstrated an internal consistency of .94 with two subscales of inauthenticity of .95 and self-deprecation of .85 (Mak et al., 2019). When calculated to be compressed to be equal to the 20-item CIPS, internal reliability dropped to .57 (Mak et al., 2019). The results of the one study were based on 150 undergraduate students.

The Leary Impostor Scale is a 7-item scale with an internal consistency of .87 based on one study from the author in 2000 (Mak et al., 2019). Because this is a unidimensional scale, and has no subscales. The results of the one study were based on 400 undergraduate students. Due to the limited use and examination of this study, there is questionable validity regarding the use of this scale on impostor phenomenon.

Due to the stability and reliability of the scale analysis, CIPS overall reflects the best results. Yet, the scale for the impostor phenomenon construct is limited due to a lack of clarity over dimensionality and definition (Mak et al., 2019). The various participant groups and variability in validity creates difficulty in the clarity of results (Mak et al., 2019). However, the study by Holmes et al. (1993) found when using the HIPS, there were no distinguishable differences between group IP scores of low, mild, moderate, and high, whereas the CIPS differentiated between the groups clearly.

Application of this Model to the Present Study

The impostor cycle model demonstrates the process people high in IP levels go through. The cycle perpetuates with the next task, never being able to break away from the stress, anxiety, and self-doubt, which only increases with each cycle (Clance, 1985). IP will continue to occur until the cognitive process becomes more internalized in relation to skills, abilities, and belief in oneself. People experiencing IP in this cycle may choose maladaptive coping strategies and therefore may not seek out help in breaking this cycle. This study used components of the cycle (measurement of IP and coping) to examine their relationship to HSI, and how identified demographic variables affected the relationship between IP, coping, and HSI.

Literature Review Related to Key Variables and/or Concepts

IP has been examined in a variety of venues and variables. For example, in college students, IP has been found to be related to perfectionism and college honor programs (Lee et al., 2021). IP has also been shown to have an indirect relationship with avoidant attachment in college students (Jensen & Deemer, 2020). In music education teachers, IP was shown to be at the frequent or intense level for 70% of teachers (Sims & Cassidy, 2019), and found to be at 76% of the same levels for surgical students (Bhama et al., 2021). While in working adults, a fixed mindset has been found to indicate a more intense IP experience (Noskeau et al., 2021). Popular science and media outlets like the APA Monitor and Harvard Business Review have reported on IP as common experience of high-achieving individuals; however, more formal investigations have identified conflicting results in individual differences and across settings (Palmer, 2021; Tulshyan & Burey, 2021).

Individual Differences

Gender

Examination of gender differences produced conflicting results across studies. Jöstl et al. (2012) found women reported higher IP scores on the CIPS compared to men. An earlier study that examined the validity of IP through a group identified as experiencing IP and a group identified as not experiencing IP also found women's scores (M = 59.44) higher than men's (M = 55.64) on the CIPS (Cozzarelli & Major, 1990). Chae et al. (1995) through their evaluation of the CIPS found no significant gender differences.

Many early studies focused on IP effects only in women, but later studies examined IP effects across genders (Martinez & Forrey, 2019). Some studies found women report higher scores than men on the CIPS or indicate they experience impostor thoughts with more intensity (Bernard et al., 2018; Cokley et al., 2018; Cowie et al., 2018; Levant et al., 2020a; Pannhausen et al., 2020; Patzak et al., 2017). Rohrmann et al. (2016) found there were no gender differences in their study on validating IP among managers. Many of the studies looked at gender in relation to overall scores but did not control for any other variable such as age or occupation. An analysis of 62 studies on IP from 1985 to 2018 found there were thirty-three studies that compared gender in relation to IP, with sixteen studies indicating they found women reporting statistically significant higher rates of IP, while seventeen studies found no difference in rates of IP between the genders (Bravata et al., 2020). Rohrmann et al. (2016) suggested that variations in gender difference results could be due to the source of the sample (e.g., undergraduates vs graduates; role in the organization), or the ability of the research design to capture changes over time. Lörz and Mühleck (2019) found that gender differences are more apparent at the beginning of academic careers, but tend to fade over time.

Anxiety and Depression

Research has indicated a significant, positive relationship between anxiety and IP in a study of 220 graduate students who were examined about the role of social influence on anxiety and IP (Fraenza, 2016). Rohrmann et al. (2016) found positive correlations between anxiety and IP. Rosenthal et al. (2021) found anxiety was highly correlated with high levels of IP in medical students. A study looking at the self-concept of being an

impostor found high levels of IP were correlated with high levels of anxiety in 183 participants in managerial and supervisory positions (Leonhardt et al., 2017). High levels of IP in 266 undergrad students in a study on IP and well-being were found to be associated with high levels of social anxiety (Bernard et al., 2020). Badway et al. (2018) found in a study of undergraduate communication majors that men with high IP experienced higher anxiety than women when receiving negative feedback. These findings are consistent with previous findings of correlations between anxiety and IP. While there are no recent studies examining the correlation between depression and IP, earlier research demonstrated that IP was significantly correlated with depression in undergraduate students (Chrisman, 1995; Ross et al., 2001).

There have been other findings related to IP and other variables. Results on IP using the CIPS and motivation found that women in academics with high levels of IP indicated they experienced lower autonomy and competence (Vaughn et al., 2020). A study of 274 university and academic faculty found those with high levels of IP measured with the CIPS were driven by the perception of having a high level of expectation to live by other people's standards (Pannhausen et al., 2020). A recent study found IP and perceived stress were highly correlated in women examining IP in 127 medical students (Levant et al., 2020a). Wang et al. (2019) found that IP fully mediated the relationship between perfectionism and anxiety in undergraduate students, and was negatively associated with depression mood.

Occupational Setting

A thorough review of the literature looking at the variation of IP on occupation revealed that the studies overall did not focus on occupation as a determining factor, rather these studies used occupational setting as the context for where IP would be most likely to be found. Psychometric studies on IP measures focused highly on academic settings (Brauer & Wolf, 2016; Chrisman et al., 1995; Cozzarelli & Major, 1990; French et al., 2008; Holmes et al., 1993) with a few in managerial or leadership positions (Leonhardt et al., 2017; Rohrmann et al., 2016). Searches of contemporary published literature have not produced studies that compared IP across occupational settings.

Leadership

Many who experience IP in leadership positions will often not feel worthy of their jobs, will feel they have misled their organizations, or may feel that the organization has overestimated their abilities (Kark et al., 2021). Those leaders are predicted to have higher risk aversion and stronger perfectionism (Jackson, 2018; Kuna, 2019; Ladge et al., 2019). The feelings such as self-doubt influenced by IP negatively affect the leaders as well as organizations by reducing their self-efficacy (Downing et al., 2020).

Mental health and behavioral actions that affect leadership are setting unrealistic goals, poor decision making, overworking, low work life balance, lower self-efficacy, high anxiety, ashamed of their own emotional distress, and underperforming tasks (Hutchins et al., 2018; Kuna, 2019; Ramsey & Brown, 2018). Other findings indicated leaders experiencing IP will doubt their own choices, and it will impair their ability to make effective decisions and be reluctant to expand beyond their set job position for fear

of being perceived as a fraud (KH & Menon, 2020). These IP experiences limited leaders' growth by restricting their desires to seek advancement within and outside their organizations (Downing et al., 2020).

High-achieving women, experiencing IP, indicated high levels of anxiety and distress in fear of being found a fraud (Morrison & Owler, 2018). Women indicated when having a family and career, they would often feel like a failure due to both jobs not being done to perfection (Clance et al., 1995). As entrepreneurs, women experiencing IP will often downplay their expertise, skill, and ability for fear of being judged and not being to the level they perceive others will expect them to be, which will reduce their desire to be leaders of their own business. (Ladge et al., 2019). Many of the studies on leadership have been aligned with qualitative interviews for their findings.

In sum, IP has been studied across a variety of venues and occupations, suggesting that women, persons with anxiety or depression, and those early in their careers may be susceptible to IP. It is also noted that the results are not consistent, and these variations may be a function of sampling source or variations in the intensity levels of IP. More importantly, because IP is significantly correlated with anxiety and depression, leaders' decision making abilities are negatively affected, along with their mental health. Mental health services may be of help in reducing the effects of IP on leaders.

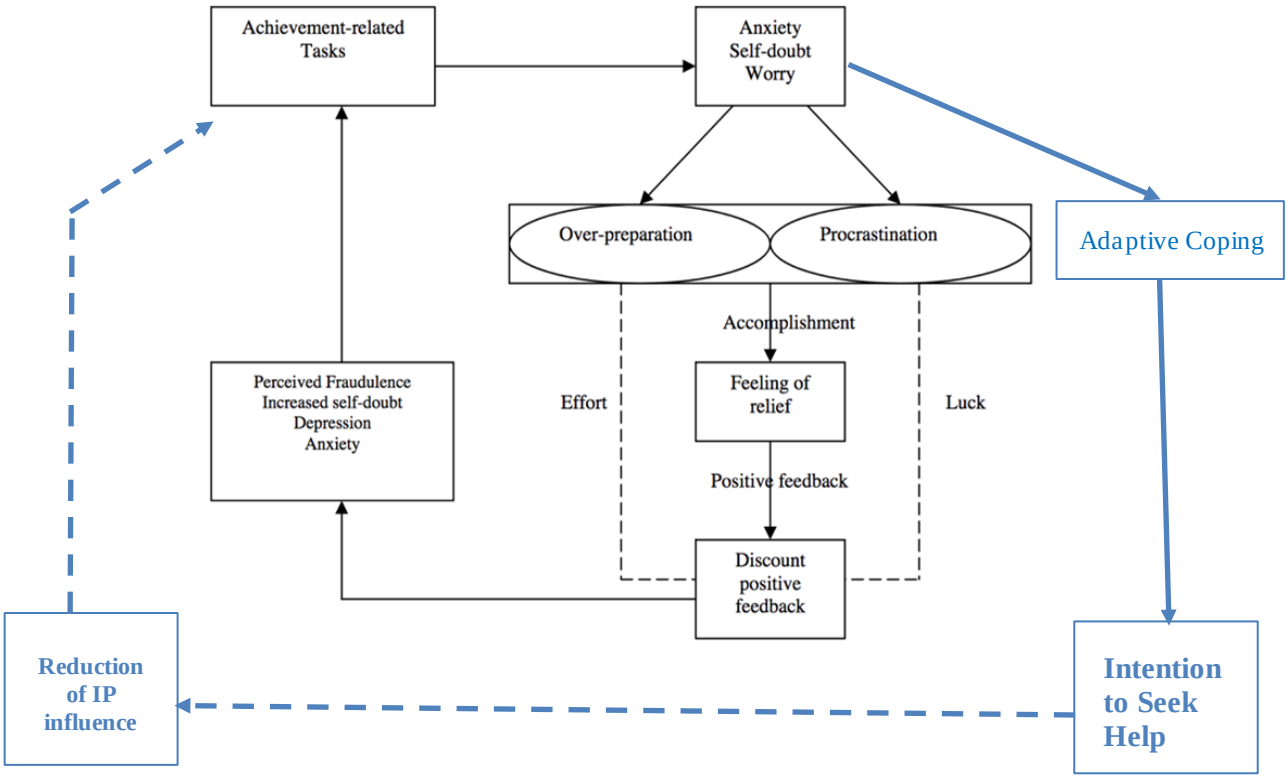
IP and Mental Health Help Seeking

As described above, IP has been studied extensively in academia, somewhat in the business sector, and few studies in the leadership discipline. It has been measured and

while many well-studied and related variables (e.g., anxiety, depression, perfectionism) are correlated with IP, it has been deemed as an independent construct to be studied as its own. IP has been shown to affect cognitive processing, decision making, and self-doubt. IP may be a source of emotional difficulties such as anxiety and depression that may be supported and reduced with help seeking of mental health services. While mental health help seeking has been extensively researched (as described below), there is limited research on help seeking by individuals reporting IP characteristics. This study examined this relationship, as shown in Figure 2.

Figure 2

Impostor Cycle Model With Adaptive Coping Process



The impostor cycle, as previously shown (Figure 1), follows the IP process through ever-increasing anxiety and depression. An alternative would be for those experiencing IP to choose help seeking behaviors and approach coping interventions. While not tested in this research, it is suggested that the significance of this model would be to decrease IP through a help seeking approach, allowing for improved mental health. A few recent studies have examined help seeking as a possible coping mechanism.

HSI

To begin to reduce the anxiety and depression associated with IP, there needs to be an intent to seek out help to change that current IP mindset. One factor that contributes to the use of mental health services (MHS) is an intention to seek out those services. HSI can be defined as the purposeful effort to obtain support or assistance that reduces the current distress (White et al., 2018).

Studies have shown a positive attitude toward MHS can help in the intent to seek out such services. A study of 325 veterans and active-duty members found HSI was positively correlated with a positive attitude toward MHS ($r = 0.34$). There was also a positive correlation between HSI and current MHS usage or connections ($r = 0.18$) (Porcari et al., 2017). Further, results indicated positive attitudes toward psychotherapy and recognition of mental health problems resulted in 25.5% of the variance in predicting HSI (Porcari et al., 2017). A later study also examined the mental health HSI of military members found a positive correlation between mental health attitudes and HSI in 107 military member participants (Cuyler & Guerrero, 2019). A study of 212 undergrad students on the relationship between perceived university campus culture and mental

health HSI found that personal attitudes toward MHS positively correlated with mental health HSI (Chen et al., 2016). Results also found that personal attitudes mediated the relationship between perceived campus attitudes toward MHS and mental health HSI (Chen et al., 2016).

While MHS attitudes showed a positive correlation with HSI, other studies found that anxiety and depression were found to lower HSI. A study on how the Health Belief Model predicts HSI for anxiety examined 243 first-year psychology students and other volunteers and found that most participants would prefer to work through their own anxiety issues than seek help (Langley et al., 2018). A recent study on help-seeking attitudes and intentions for general anxiety disorder examined 1767 adolescents aged 12-18 from 30 different schools. Of the students who self-reported anxiety, 26.1% indicated they would be likely or highly likely to not seek help from anyone (Calear et al., 2021).

One study on how psychological resources mediate the relationship between depression and HSI found that depression predicted HSI and was still significant even when gender was controlled. A negative correlation between depression and HSI was found in the study of 8121 college students with 66% female participants. These findings suggest cognitive processes may create a distorted mindset of the self and of MHS because of depression (Kenny et al., 2016). A later study (Aldalaykeh et al., 2019), looked at the predictors of MHS and help seeking behavior found 57.5% of the 134 university students indicated while they had positive attitudes toward MHS, they also had low HSI as they indicated they also experienced mild to moderate depression. Aldalaykeh et al. (2019) found depression levels showed significant effects on intention.

Additional support on the effects on intention comes from a study of 801 members of the Australian police force on depression literacy and HSI (Reavley et al., 2018). Findings indicated those experiencing mental health problems, such as depression and PTSD, were less likely to seek MHS, suggesting that depression influences HSI (Reavley et al., 2018). Further mental health influences were shown in the Ward-Ciesielski et al. (2019) study on the relationship between psychological symptoms and HSI of 531 undergraduate students, which found that suicidal thoughts were highly correlated with lower HSI.

IP and Intention to Seek Help

Expression of IP feelings and experiences are often suppressed and avoided as to not bring attention to themselves for fear of being seen as a fraud. The perception of help seeking may be seen as a negative in the executive as it can show weakness in themselves. This negative perception of themselves and in the intention to seek help can will reduce executive's intention to seek help (Petru & Jarosova, 2019).

Bachem et al. (2020) on a study of IP and attachment avoidance found that from the 140 participants in their study on imposterism and attachment avoidance, individuals that do not have self-trust in their thoughts and beliefs correlates to not trusting others when seeking help. Meurer & Costa (2020) found from 1816 post-graduate participants in academia and business that high levels of IP were positively associated with avoidance in interactions with others for help and support. Due to IP influence, post-doctoral students hesitated and resisted asking for help in a study on IP and STEM trainees (Chakraverty, 2020).

Gardner et al. (2019) study on perceptions of imposterism and support found through interviews of 20 professionals, the participants indicated they were willing to seek help through others they perceived as demonstrating care for that individual, yet if they feared disapproval or were concerned about maintaining their image of being worthy for the other's approval, they would be less willing to seek help. A study of 719 university students and faculty found a positive relationship between support seeking coping and tolerance to help seeking and MHS experts, which indicated a positive relationship between support seeking and HSI (Niegocki & Ægisdottir, 2019).

While gender has been well studied in HSI, Cage et al. (2020) found that gender was a significant predictor, i.e., men were more likely to have intentions to seek help over women. However, a study by Ratnayake and Hyde (2019) found there were no significant gender differences in their intention to seek help. Mental health care related to all genders on factors such as IP have been shown to be an influence on help-seeking intention, and few recent studies have looked at the influence of impostor phenomenon on help-seeking.

Mental health HSI studies have focused on military and academia participation and much like the IP studies have had few studies with leadership participants. The results of the HSI studies suggest that attitudes toward help seeking of MHS can be high. However, being influenced by anxiety and depression may create a distorted mindset, which findings show lower HSI. Studies on IP have found that IP correlates to avoidance in seeking help and has been shown to correlate to anxiety and depression. While IP has been studied well and studied in correlation with anxiety and depression, these

occupational stressors play a role in leadership effectiveness, which may suggest that IP mediates HSI for MHS. More research is needed on the IP influence on HSI.

Coping as a Mediator of IP and Intention to Seek Help

Coping

Stressors such as IP are managed through actions known as coping. Lazarus and Folkman (1984) in their founding theory of coping indicated people will appraise the harm or benefit of a stressor and apply methods for their psychological benefit. Coping is about how people will react and deal with their stressors (Rabenue et al., 2016). Two types of coping are adaptive and maladaptive. Adaptive coping refers to coping that is active in working out the problem to reduce negative emotions and develop strategies to overcome the issues. Whereas maladaptive coping refers to a passive coping style such as avoidance, procrastination, and disengagement, which are considered ineffective and a detriment to psychological mental health. (Algorani & Gupta, 2022).

A study on perfectionism and coping found perfectionism was negatively correlated to coping and self-distraction or procrastination was used as a maladaptive coping style in participants with high levels of perfectionism in 149 university undergraduates (Stoeber & Jansen, 2011). Other studies have shown anxiety and depression are correlated to maladaptive coping (Algorani & Gupta, 2022; Thompson et al., 2010). In a study of 229 girls and women on maladaptive coping and depressive symptoms, it was found that those who scored high on depressive symptoms, also scored high on maladaptive coping measures (Thompson et al., 2010).

In a study on coping with toxic leadership, 42 employees in non-academic industries indicated when they could not control or make choices in their situation, they resorted to maladaptive coping such as avoidance, over-working, self-blame, and feelings of shame (Webster et al., 2016). Those coping measures relate to coping of those experiencing IP. While a later study of 423 undergraduate students in Ireland examined the mediation effects of empowerment on mental health and wellbeing, and found empowerment, which is the ability to make choices relevant to their situation, mediated the effects of coping on improved mental health (Grealish et al., 2017).

A study of 216 participants from various industries and academic settings on different coping strategies compared young and old adults and found those who scored higher on the depression scale correlated with using more avoidant coping ($r = .23$, $p = .001$). They also found that younger participants used more avoidant coping strategies ($\beta = 0.56$, $p < .001$) (Nieto et al., 2020). These studies indicate coping is influenced by the method initiated, depending upon the psychological stressor.

Coping and IP

Where IP has been well studied over the past decades, coping with IP has only recently begun to gain more attention among researchers (KH & Menon, 2020). In their qualitative study of 27 university faculty on coping and IP, it was found that women seem to engage in more active or adaptive coping than men (Hutchins & Rainbolt, 2017). They also found women using active coping, such as resources, advice, and support from peers and colleagues, and recognizing success, and men using therapy and other social supportive coping aids in reduced IP influences (Hutchins & Rainbolt, 2017). Their

follow-up study on IP, coping and job satisfaction found avoidant coping mediated the relationship between IP and emotional exhaustion in 310 university faculty with no real gender difference (Hutchins et al., 2018).

Where maladaptive coping is concerned, Wang et al. (2019) study of 169 undergraduate students from a Russian university on perfectionism and psychological distress in students experiencing IP, found maladaptive coping was used when experiencing anxiety due to their IP. In a recent study on coping with IP feelings, of the 460 librarians, 26% were found to use maladaptive coping with avoidance (M = 38.59), and fake it till you make it (M = 34.1) correlated to the highest mean IP scores (Barr-Walker et al., 2020). It was also found that 74% indicated that coping through support from colleagues and external strategies associated with lowering IP scores was effective for them in reducing IP (Barr-Walker et al., 2020). However, an earlier study by Gardner et al. (2019) on the role of social support on coping with IP found that coping through using social support was negatively correlated with IP. The perception is due to the negative self-image those experiencing IP have of themselves compared to their perception of those in their support group (Gardner et al., 2019). The research to date has indicated that the level of IP may influence coping type.

Coping and Intention to Seek Help

HSI and the relationship to coping have been a growing area of research. A study on the relationship between coping strategies and HSI from professional psychological practitioners found variables such as denial, seeking support, and self-blame influence predicted HSI (Šakotić-Kurbalija et al., 2016). The authors found a negative correlation

between denial and non-engagement with HSI through their study of 2206 women of various socioeconomic status from a variety of levels of school employment throughout regions of Serbia. They also found a positive correlation between self-blame and HSI. While these findings might seem opposite to the IP mindset, the authors suggest self-blame was being perceived as more of a reflective and introspective action in recognizing a problem that brings about motivation to seek help (Šakotić-Kurbalija et al., 2016). Where those experiencing high levels of IP will often express high levels of self-doubt, shame, and anxiety, which in turn will have them hide their psychological struggles (Hutchins & Rainbolt, 2017; Langford & Clance, 1993).

A later study examining the relationship between coping and psychological HSI in 719 undergraduate and graduate students, found those engaging in avoidant coping, being in denial, disengagement, and self-blame, correlated with a negative relationship with HSI (Niegocki & Ægisdottir, 2019). They also found that support-seeking coping was positively correlated with HSI (Niegocki & Ægisdottir, 2019). While those who experienced IP resisted asking for help (Chakraverty, 2020). Niegocki and Ægisdottir (2019) found those who were willing to openly talk about their problems and seek out guidance, perceived professional psychological help as a positive.

Overall, the results indicate a correlation between coping process and intentions to seek help. Findings revealed that women tend to engage in adaptive coping where men tend to engage in maladaptive coping, which seems to affect the desire for seeking help, yet IP by having an influence on the self-perception may also play a part in HSI. There have been a limited number of studies to date on coping and the relationship with HSI

and no studies known to this point on coping as a mediator in the relationship of IP and HSI as this study examined.

Summary

In this chapter, I reviewed the past literature on IP, the connections to HSI, and challenges related to coping as well as the theoretical foundation of the impostor cycle model. I established that IP has a significant negative effect on leaders due to the restrictive thinking, anxiety, and distorted self-belief it can create. This can lead to less effective leadership of employees and the organization. Seeking help for IP can be beneficial in reducing the effects, however, due to anxiety and/or distorted self-perceptions, many will avoid help to not bring attention to themselves (Chakraverty, 2020; Meurer & Costa, 2020). If maladaptive coping is used to avoid acknowledgment of IP, there may be a reduction of intention to seek help (Barr-Walker et al., 2020; Šakotić-Kurbalija et al., 2016). As to be described in Chapter 3, this was explored in Research Question 1. On the other hand, persons experiencing IP may also have access to more adaptive coping strategies (Barr-Walker et al., 2020; Hutchins & Rainbolt, 2017). This was examined in Research Question 2.

The previous literature also offered inconsistent findings regarding how IP varies according to certain demographics. It's been suggested that IP decreases with age; and increases with academic achievement and leadership position. Conflicting results have been reported regarding how men and women differ in IP and what that means in terms of coping and help seeking. Therefore, these demographic variables were examined for their potential influence on IP and HSI.

This study examined the extent on if coping mediated the relationship between IP and HSI. Using validated IP, coping, and help seeking measures may result in a better understanding of the effects of IP on mental health help-seeking, and how coping style amplifies that relationship. The findings can then bring more clarity to choices of coping styles and assist coaches and therapists in their work on guiding leaders to mitigate IP tendencies and increase their own self-belief and effectiveness.

Chapter 3 will discuss in detail the methodology of the research design. This includes a discussion of why this study design was chosen, justification for the design, description of the population and sample, recruitment, data collection, and an explanation of the measures. It will then be followed by the procedures for the data analysis, threats to internal and external validity, and the ethical considerations for the safety and protection of the participants.

Chapter 3: Research Method

The purpose of this quantitative correlational study was to examine whether coping mediates the relationship between IP and HSI. This chapter presents the methodology used in this study on the potential influence of coping as a mediator of the relationship between IP and HSI and my justification for the choice of the methodological approach. The methodology for examining the correlational relationship between IP and HSI is also described. I explain the rationale and research design of the study, population and sample, instrumentation, materials, procedures for data collection and analysis, and steps taken to ethically protect the participants.

Research Design and Rationale

Study Variables

The study variables included three constructs and seven demographic variables (age, gender, race/ethnicity, education, industry, leadership position, position tenure). The constructs included IP, coping, and HSI. IP was measured using the CIPS. Coping was measured with the Brief COPE scale, and HSI was measured with the BAPS measure.

Design Rationale

I used a correlational survey research design. The independent variables of interest were IP and coping style. HSI was the dependent variable. I used a mediation approach to examine how coping styles mediate the relationship between IP and HSI. The correlational survey research design aligned well with the research questions in that it allowed for collecting data quickly by using scaled questions applied to real-world situations (see Trochim, 2021).

This design allows for quantitatively analyzing links between variables, as well as levels or directions of the links on or between variables. This research design also allows examination of any advantages or disadvantages one variable may have compared to another (Baron & Kenny, 1986). There were no specific time restraints on collecting data beyond the required time allowed for completion of the study. Completion of the surveys took approximately 20 minutes for 66 Likert-scale questions addressing three measures plus demographic variables.

One primary drawback to this method is the lack of control of the participants' setting, resulting in unknown measurement variability and the risk of incomplete data (Trochim, 2021). The measures were all accessible with permission from publishers, which indicated there should be no constraints on resources (see Appendices B, C, D). Much of the previous research on IP and HSI had involved the correlational survey research design to better understand the associations between the variables, and I followed prior studies' methodologies.

Research Question and Hypotheses

RQ1: To what extent does maladaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o1: Maladaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a1: Maladaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

RQ2: To what extent does adaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o2: Adaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a2: Adaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

Methodology

Population

The target population included adults (18 years or older) who were leaders in various industries. A leader for this study was defined as any person in a management position. Beyond the leadership criterion, the population was inclusive of all genders and open to all industries.

Sampling and Sampling Procedures

A convenience sample of participants from the MTurk platform who met the criteria for inclusion were invited to opt in. Inclusion criteria included being in a management position and being at least 18 years of age. MTurk is a platform for creating and managing a standing sample of survey participants, and I submitted a request to invite participants who met the inclusion criteria. A sample size of 104 was established for this study based on an a priori G-Power analysis (see Faul et al., 2007) assuming a medium effect size (.15), $\alpha = .05$, $ß = .85$, nine predictors (seven entered), or Hair et al.'s (2006) rule of thumb of 20 cases per variable ($N = 180$).

Procedures for Recruitment, Participation, and Data Collection

Recruitment

Convenience sampling took place on the online platform data collector MTurk. MTurk is a crowdsourcing platform to outsource data collection of surveys through participation from a virtual community. Participants sought were those who had experienced IP, but they were not singled out and I did not recruit only that sample. The main sample was leaders of all genders.

Using MTurk, I set initial qualifications to select participants in management positions. To request the Job Function: Management qualification, there was a $0.40 fee, as MTurk's pricing is 40% of the participant fee. Each participant received $2.50 for completing the survey. Total fees to MTurk and participants was approximately $750.

Participation and Data Collection

An account on MTurk was created to initiate the process of constructing the demographic and measure questions survey. The Walden informed consent form to participate in the study, a description of the study along with the risks and benefits, and my contact information were on the first page along with selection options of "no, I do not agree to participate" and "yes, I agree to participate." Questions for the demographic and all three measures were input into the HTML template on the MTurk platform.

A Human Intelligence Task was created once all survey questions were input for participants to complete. Once the questions had all been input and the Human Intelligence Task was created, the survey was then published and available to potential participants. Participants connected to the approved qualification of management position

clicked the initial link to read the consent, description, and risks and benefits of the study and then accepted the Human Intelligence Task. Participants then were given a specific access link and an individual random participant study identification they input into the MTurk system. When the identification number was input and enter was pressed, participants were taken to the instructions of the survey to complete the questions.

After participants completed the demographic questions and the following three measures, a final page of appreciation for their participation and honesty in assisting with this study as well as contact information if they had any questions (and if they wanted a summary of the study's results) was presented. Participants received payment once the survey was completed. MTurk collects data through their platform and is in their Batch section. Viewing the data through their site was done through Manage Batches, and through this section I was able to download the data into a Comma Separated Values file compatible with Microsoft Excel to view and access the data for data analysis.

Measures

Instrumentation and Operationalization of Constructs

Data from three measures were collected and analyzed to examine the mediation effects of coping on IP and HSI and the influence of IP on HSI. In addition to the three measures, seven demographic variables (age, gender, race/ethnicity, education, industry, leadership position, position tenure) were also collected. These questions occurred in the survey before the three measures. Demographic variables were used to summarize the characteristics of the sample (see Table 1). Based on the literature reviewed in Chapter 2,

the six demographic questions (excluding ethnicity) were examined to determine their relationship to the dependent variable.

Table 1

Type and Measurement of Variables

Type	Name	Scale of measurement	Source
Demographic	Age	Continuous	NA
	Gender (M/F/other)	Nominal	Census (2020)
	Race/ethnicity (Census)	Nominal	Census (2020)
	Education (HS or less; HS, some college, undergrad, graduate)	Nominal	Census (2020)
	Industry		
	Leadership position	Nominal	Census (2020)
	Tenure (years in current position)	Nominal Continuous	Lumen (2022) NA
IV	Clance Impostor Phenomenon Scale (CIPS)	Interval (summary score)	Clance (1985)
	Brief Coping Orientation to Problems Experienced (COPE)	Interval (2 factor summary score)	Carver & Carver (1997)
DV	Beliefs About Psychological Services (BAPS)	Interval (3 factor summary score)	Ægisdottir & Gerstein (2009)

CIPS

To measure the level of impostor phenomenon thoughts, the CIPS was administered to the participants. The CIPS was developed in 1985 by Clance from research on IP. Through many applications in various studies, the measure has shown an internal consistency between .85 and .96 (Mak et al., 2019). Three factors and their Cronbach's alphas were initially identified to be Fake = .89, Discount = .76, and Luck =

.74. However, over time with additional studies, a higher correlation between the three factors was found, and it was determined that a one-factor model was the best fit with a confirmatory factor analysis (CFA) of .85 (French et al., 2008; Simon & Choi, 2018).

Participants answered a 20-item survey with each item rated on a 5-point scale from *not true at all* to *very true* (see Appendix E). Sample items included *I tend to remember the incidents in which I have not done my best more than those times I have done my best, If I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I've done,* and *I often compare my ability to those around me and think they may be more intelligent than I am*.

The measure item scores were then added for a final score. A final score between 20 and 40 indicated the participant had few IP thoughts. Scores between 41 and 60 indicated a moderate IP experience. Scores between 61 and 80 indicated frequent IP thoughts and experiences, with scores of 81 and above indicating a high IP level suggesting an intense impostor experience.

Brief COPE

To measure the coping styles the participants employ in times of stress, the Brief COPE was administered to the participants (see Appendix F). The Brief COPE is a shorter version of the original COPE measure, which is composed of 60 items in 15 scales. The original measure was considered time-consuming to complete by participants. The Brief COPE was then developed from the original and comprised 28 items divided into 14 coping response scales (Carver & Carver, 1997). This shorter version of the original measure was designed to be used as a whole or have items selected that best fit

the study's intended use (Carver & Carver, 1997). The 14 scales are acceptance, active coping, behavioral disengagement, denial, emotional support, humor, instrumental support, planning, positive reframing, religion, self-blame, self-distraction, substance use, and venting.

Over the years, there have been many evaluations of the measure to determine the best categorical factors for use in a study. The measure has been evaluated and applied with variations from one factor to having 14 scales as primary factors. The 14 scales as they are demonstrated a CFA of .95. Two-factor design demonstrated a CFA of .84 with adaptive coping factor averaging a Cronbach's alpha of .84 and maladaptive coping factor averaging a Cronbach's alpha of .77 (Eisenberg et al., 2012; Hanfstingl et al., 2021; Mahmoud et al., 2012; Paukert et al., 2009). The 14 scales can be placed into two factors such as approach and avoidance coping or adaptive and maladaptive coping (Bean et al., 2009; Eisenberg et al., 2012; Mahmoud et al., 2012; Paukert et al., 2009). The two factors have been shown to be not correlated (Bean et al., 2009; Eisenberg, 2012).

The adaptive coping factor comprised acceptance, active coping, emotional support, instrumental support, planning, and positive reframing. Sample items included *I've been thinking hard about what steps to take*, *I've been looking for something good in what is happening*, and *I've been trying to get advice or help from other people about what to do*. The maladaptive coping factor comprised behavioral disengagement, denial, self-distraction, substance use, self-blame, and venting. Sample items included *I've been saying to myself* "*this isn't real*," *I've been using alcohol or other drugs to make myself feel better,* and *I've been blaming myself for things that happened*.

Studies found that religion and humor overlapped both factors and the Brief COPE does not distinguish between adaptive and maladaptive coping styles for either (Eisenberg et al., 2012; Hanfstingl et al., 2021). Not being able to distinguish the difference may have affected the study and created confusion on mental health outcomes. One study excluded both items in the data analysis (Eisenberg et al., 2012).

The questions were scored on a 4-item Likert scale from *I haven't been doing this at all* to *I've been doing this a lot*. Each factor was represented as a total score ranging from 12 to 48. The higher the score the more likely the participant was to use that coping style and seek out strategies to positively cope and overcome the stressor or to use strategies that create a negative and avoidant mindset toward the stressor.

BAPS

The Beliefs About Psychological Services (BAPS) was created to assess the level of intention of help seeking. The BAPS was developed to measure the attitudes and intentions of seeking out help from psychological services (Ægisdottir & Gerstein, 2009). Previous measures such as the Attitudes Toward Seeking Professional Psychological Services have been widely used regarding attitudes and intention regarding help seeking (Ægisdottir & Gerstein, 2009). However, because the original version was created over 50 years ago and the shorter version over 25 years ago, much of the wording of those items is considered outdated and does not address the attitudes nor perceptions on various mental health professionals with today's perception of the terminology (Ægisdottir & Gerstein, 2009). The BAPS was developed to address these concerns and focus on psychological services. The BAPS is considered more current than other measures

examining attitudes towards psychological help, uses vocabulary of current every day reading levels, and is comprehensive in capturing attitudes and intentions of participants on help seeking from a psychologist (Ægisdottir & Gerstein, 2009).

The BAPS was originally analyzed to show an overall Cronbach alpha of .88. Cronbach alpha for the three measures were satisfactory: Intent = .82, Stigma Tolerance = .78, and Expertness = .72 (Ægisdottir & Gerstein, 2009). Additional studies have provided support for good internal consistency reliability of the three scales: For the overall scale, .81 to .89; for overall, .87 to .89 for Intent, .78 to .80 for Stigma Tolerance, and .72 to .78 for Expertness (Alraji, 2021; Drob et al., 2016; Niegocki & Ægisdottir, 2019; Spengler & Ægisdottir, 2015).

The BAPS contain 18 items which were rated on a 6-item Likert scale ranging from *strongly disagree* to *strongly agree* (See Appendix G). The subscales are Intent which referred to the behavioral intent to seek out help, Stigma Tolerance, referring to the perception of negative beliefs about seeking psychological help, and Expertness which refers to the characteristics of psychologists and their services (Ægisdottir & Gerstein, 2009; Makarova et al., 2013).

Sample items included, *I would be willing to confide my intimate concerns to a psychologist, going to a psychologist means I'm a weak person*, and *psychologists provide valuable advice because of their knowledge about human behavior*. The measure items were summed within each subscale and then divided by the total number of items in that scale to yield an average (mean) score (See Table 2). There were seven items negatively worded that need to be reversed scored before analysis. Higher scores on each

subscale reflected a more positive view and perception of psychologists and their mental health services.

Table 2

Reliability Estimates of Measures

Measure	Number of items	Reliability	Item scale range	Total score range
BAPS	18	.88	1–6	6–36
CIPS	20	.88	1–5	20–100
Brief COPE	28	.84	1–4	24–96
Subscale: Adaptive	14	.84	1–4	12–48
Subscale: Maladaptive	14	.77	1–4	12–48

Data Analysis

To conduct the mediation analysis, I used the PROCESS model software through IBM's SPSS version 28 software. The PROCESS model is useful for mediation analysis and with covariates (see Hayes, 2022). The data was first downloaded as a comma separated values file and then exported into an Excel spreadsheet file from the data received from MTurk. The data was saved locally on my computer, which was password-protected and only accessible by myself. This dataset was only shared with the research committee.

Screening of the data occurred to ensure participants completed all the questions in the demographics and three measures. Before conducting the analyses for hypothesis testing, the data was cleaned to make sure all variables are usable. This meant calculating

the total scores or reverse-calculating scores to then determine the total score of a measure or of the factors within the measure. Screening of the responses was conducted to ensure participants have fully completed the measures and demographic information. Surveys with more than 20% missing data were eliminated (see Dong & Peng, 2013). Missing data points below 20% in surveys were replaced using the SPSS MISSING module. Frequency distributions and bivariate relationships were examined for normality. Initial exploration of how IP varies according to the selected demographics was conducted and reported as part of the sample description.

The research question and hypotheses are as follows:

RQ1: To what extent does maladaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o1: Maladaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a1: Maladaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

RQ2: To what extent does adaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

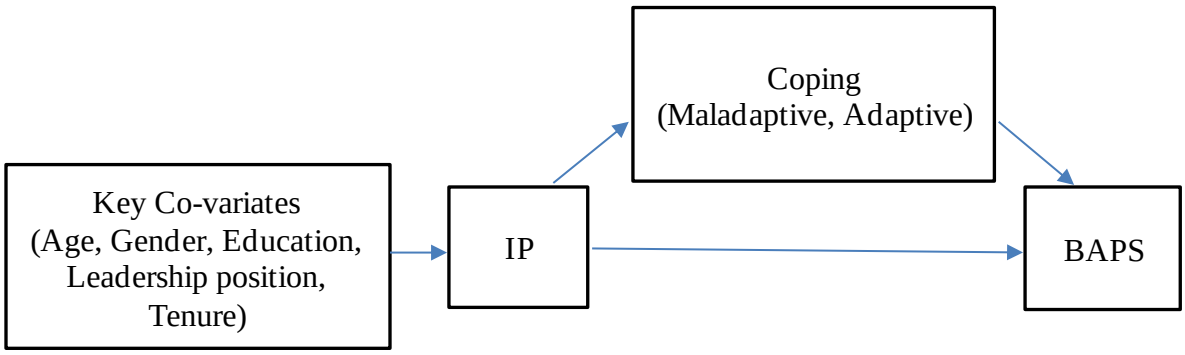
H_o2: Adaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a2: Adaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

The descriptive statistics that were reported for all research and additional data for continuous and interval variables were presented (i.e., means, standard deviations, standard error of mean, skewness, and kurtosis). Nominal variables, frequencies and percentages were calculated and presented. Internal consistency was calculated using Cronbach's alpha for the three measures, which then were compared to previous studies' findings. Preliminary examinations of correlations and scatterplots among variables was conducted to reveal potential risks for multicollinearity and non-linear relationships. Mediation analysis is based on multiple regression and allows for a more complex examination of interrelations between the predictors of coping, impostor phenomenon, and help-seeking intention. Figure 3 presents the model to be tested.

Figure 3

Testing Model for This Study



The first step was to determine which of the key covariates were to be included in the hypothesis testing model using bivariate analyses. While they were not the focus of the study, analysis of their effect may be useful to the overall understanding of the

findings. The data was evaluated for meeting regression assumptions. Categorical IVs with three or more categories were dummy coded. Normal distribution of the IVs was assessed visually. Multicollinearity among the IVs were determined through correlational analyses within the mediation analysis to determine if the IVs were independent of each other. Then, using the PROCESS model, the hypotheses were tested for each research question.

Hayes PROCESS model (see Hayes, 2022) produces a 3-step output that reveals the increasingly complex relationships among the variables. In step 1, the IV is examined for its ability to predict the mediating variable. In Step 2, the IV, mediating variable and covariate are entered into a simultaneous regression analysis. In step 3, the PROCESS model computes the direct and indirect mediating effects.

To conduct the mediation analysis in PROCESS, HSI was set as the outcome variable (DV), IP as the IV, and each of the coping measures as a mediator variable. Confidence level was set to 95% with bootstrapping set as well. In PROCESS options, effect size was checked to help inform the judgment of the analysis. The DV, HSI, was examined through residual scatterplots for normality. If there were violations of assumptions, they were resolved by removing or modifying any IVs that were significantly not normal. A description of the results and findings will be reported through use of tables and detailed narrative. Findings from previous studies will be compared to the results and findings from this study in Chapters 4 and 5.

Threats to Validity

Measurement Validity

Participants may have altered responses to present themselves differently or how they feel they should be seen. Participants may have been familiar with the instruments and responded with testing bias and attempted to answer in a socially desirable manner, or experienced testing fatigue while attempting to complete all the questionnaires and reached an exhaustion level where they no longer were fully reading and analyzing the questions. These issues, plus the lack of control over the setting were potential threats to the reliability of the collected data (see Trochim, 2021).

Construct validity was enhanced because the measures chosen demonstrated psychometric properties (internal consistency, predictive and discriminative validity). Cronbach's alpha was calculated for these measures and was compared to the published literature, as described above. Choosing established measures with psychometric properties improved the validity of my results due to the stability of the measures.

Internal Validity

Having no control group may have created a threat to internal validity due to not being able to show differences between groups and presented potentially confounding results. Lack of assignment of individuals to conditions that could be manipulated by the researcher was an internal validity threat. The potential for other unmeasured variables having influenced the outcome over the actual results could be a problem; however, reflecting on past studies in relation to the variables helped in reducing this threat (see Trochim, 2021).

Sufficient sample size could have reduced the risk of Type II error, and use of covariates could have reduced the risk of Type I error. Given that I was not supervising data collection, the risk of bias and inconsistencies in administration are unknown. Screening and cleaning the data for outliers and incomplete responses helped in analyzing completed measures to obtain results with the most accurate responses.

External Validity

A convenience sample of participants was recruited and given the methodology needed for convenience sampling, generalizability was limited. Participants in leadership were recruited using MTurk which could have limited the variety of leadership positions obtained. Once the data was analyzed, descriptives were assessed to the extent of the possible transferability of the findings to prior literature.

Ethical Procedures

All participants acknowledged reading and then agreeing to the informed consent information, which stated their participation in the study would be voluntary, and they may have withdrawn at any time they wished without any adverse action or repercussions and with no risk to themselves as a participant. Participants on the MTurk platform, were paid a fee for every 15 minutes actively completing the survey. All participants were assured of anonymity because there were no personally identifying information being requested that could have been used to single out and identify one participant over another outside of for information regarding this study. All data will be kept in my possession on a password-protected computer storage device for five years after completion of this study. At the conclusion of the five years, the data will be destroyed.

Walden University requires IRB approval for dissertation studies. The approval number, provided by the IRB for this study was 09-16-22-0973593. The risk to participants was minimal. Potential mental stress due to reflecting on their own impostor phenomenon thoughts and experiences may have occur during the survey. The participants' anonymity provided some measure of protection, because they were completing the survey on their own and not within proximity of other participants. Participants were also able to withdraw from the study at any time without any adverse reaction and no risk to them, which also helped in reducing risk and adding protection.

Summary

This chapter describes the methods for conducting a quantitative study on the mediating effect of coping on the relationship between impostor phenomenon and help-seeking intent. The rationale of the study design is provided along with the three measurements, the population of participants and sampling techniques as well as the data collection procedures. Methods of data analysis are also discussed, including the criteria for reporting the findings. Finally, ethical procedures are shared, ensuring the protection of the participants of this study.

Chapter 4: Results

The purpose of this study was to examine whether adaptive and maladaptive coping mediates the relationship between IP and HSI. In this chapter, I present the results of the data collection and regression analysis to test the hypotheses. The independent variables for this study were IP measured through the CIPS consisting of 20 items, and coping style measured through the Brief COPE consisting of 28 items. The dependent variable was HSI measured through the 18-item BAPS.

The research questions and hypotheses were the following:

RQ1: To what extent does maladaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o1: Maladaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a1: Maladaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

RQ2: To what extent does adaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o2: Adaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a2: Adaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

In this chapter, I provide a review of the data collection process followed by the demographic characteristics of the sample, results containing the descriptive statistics, and the regression analysis and summary of findings related to the research questions. Descriptive statistics for the three variables are provided. The regression analysis through the PROCESS method was used for the hypotheses, and a summary of the findings concludes this chapter.

Data Collection

Data Collection Process

I conducted this research using the MTurk, which is a platform for creating and managing a standing sample of survey participants mainly throughout the United States but can be also include people in other parts of the world. Inclusion criteria included being in a management position and being at least 18 years of age. Prospective participants were sent an invite through the platform, which I had no control of. The platform then sent invites to all who satisfied the inclusion parameters.

A sample size of 104 was established for this study based on an a priori G-Power analysis (see Faul et al., 2007) assuming a medium effect size (.15), $\alpha = .05$, $ß = .85$, nine predictors (seven entered), or Hair et al.'s (2006) rule of thumb of 20 cases per variable ($N = 180$). I placed the limit at 200 participants with a 14-day limit. Within a little over 3 and a half hours of posting the survey, the participant limit was reached, and the final participant count was 201.

Three cases were identified in which the BAPS survey was not completed. Those cases were deleted from the sample. All calculations and analyses were completed with

the remaining 198 participants. There were no discrepancies in data collection between what was indicated in Chapter 3 and actual data gathering process.

Baseline Demographic Characteristics

Demographic characteristics for this sample included gender, age, race, education level, leadership position, tenure in a leadership position, and industry (see Table 3).

Table 3

*Baseline Demographic Characteristics, Nominal Variables (*N = *198)*

Variable name	Category	Frequency	Percentage
Gender	Female	121	61.1%
	Male	77	38.9%
Race/ethnicity	White	179	90.4%
	Black or African American	8	4.0%
	Asian or Asian American	10	5.1%
	Another race/ethnicity	1	0.5%
Leadership position	First-line management	100	50.5%
	Middle management	86	43.4%
	Senior management	12	6.1%
Education level	High school/GED	7	3.5%
	Some college	5	2.5%
	Bachelor's	95	48.0%
	Vocational/trade	2	1.0%
	Master's	87	43.9%
	PhD	2	1.0%
Industry	Advertising/marketing	6	3.0%
	Agriculture	2	1.0%
	Computer/tech	39	19.7%
	Construction	2	1.0%
	Education	7	3.5%
	Entertainment	1	0.5%
	Finance/economics	14	7.1%
	Health care	12	6.1%
	Hospitality	3	1.5%
	Manufacturing	98	49.5%
	Real estate	1	0.5%
	Retail	8	4.0%
	Telecommunication	2	1.0%
	Transportation	1	0.5%
	Other	2	1.0%

About two thirds of the 198 participants were women and 90% of the participants identified as White. Regarding management position, approximately 94% were of first-line (50.5%) and middle management (43.4%) levels, and most participants held either a bachelor's (48%) or master's (44%) degree. The top industries were manufacturing (49.5%) and computer/tech (19.7%), and a total of 15 different industries were identified by participants.

The two variables shown in Table 4 represent age and years in current leadership position. Regarding age, results were positively skewed toward mostly younger leaders with 53% of participants being 27 years of age or younger; the mode was 25. With regard to the years in current leadership position, 81% were in a leadership position for 5 years or less. The results showed a mode of 5 indicating a positively skewed distribution that was leptokurtic. I used a convenience sample; therefore, the results are limited in their generalizability to the target population.

Table 4

*Baseline Demographic Characteristics, Continuous Variables (*N = *198)*

Statistic	Age	Time in current leadership position (years)
Valid	198	167
Missing	0	31
Mean	32.06	4.89
Median	27.00	4.00
Mode	25	5
SD	9.684	3.701
Skewness	1.415	2.955
SE skew	.173	.188
Kurtosis	1.398	10.978
SE kurtosis	.344	.374
Minimum	21	1
Maximum	68	25

Results

Creating Composites

I ran the internal consistency analysis for the CIPS, and it was high ($\alpha = .94$) and comparable with what was reported in the literature. Twenty items of the CIPS were added together (see Mak et al., 2019), yielding a Cronbach's alpha of .94, which was excellent and comparable with what was reported in the literature. The Brief COPE was separated into two subscales of adaptive and maladaptive coping as had been done in previous studies (see Eisenberg et al., 2012; Hanfstingl et al., 2021; Mahmoud et al., 2012; Paukert et al., 2009). Cronbach's alpha was .87 for adaptive, which was comparable with previous literature, and $\alpha = .87$ for maladaptive, which was slightly higher than previous literature analysis. As for the BAPS, the data were recoded to create

the three subscales of Intent, Stigma, and Expertness; six of the seven items in the Stigma scale were reverse coded (see Ægisdottir & Gerstein, 2009). Each scale was then added independently and divided by the number of items for each scale to calculate the final scale scores. Cronbach's alphas were .81 for Intent, .83 for Stigma, and .78 for Expertness, all of which were comparable to previous literature (see Drob et al., 2016; Niegocki & Ægisdottir, 2019; Spengler & Ægisdottir, 2015).

Testing Assumptions

Years in current leadership position was further scrutinized. Five cases were outliers (i.e., reported number of years was more than 4 standard deviations from the mean). These cases were removed. I then analyzed the missing data for this variable, and the results of the missing completely at random analysis revealed nonrandom missing data. Further scrutiny revealed that these 36 cases had incorrectly filled out the leadership item as well as had nonrandom skip patterns in their responses. These 36 cases were deleted, leaving $N = 162$. A post hoc G-Power analysis was run and confirmed sufficient power for the subsequent analyses (effect size = .15, $\alpha = .05$. $ß > .80$, with seven predictors).

As shown in Table 5, two thirds of the 162 participants were women, and 92% of the participants identified as White. Regarding management position, 94% were of first-line (53.1%) and middle management (40.7%) levels, and most participants held either a bachelor's (46%) or master's (45%) degree. The top industries were manufacturing (50%) and computer/tech (17.9%), and a total of 14 different industries were identified

by participants. Even with the change in the number of cases, the demographic percentages remained relatively consistent.

Table 5

*Baseline Demographic Characteristics, Nominal Variables (*N *= 162)*

Variable Name	Categories	Freq.	%
Gender	Female	97	59.9
	Male	65	40.1
Race/Ethnicity	White	149	92.0
	Black or African American	5	3.1
	Asian or Asian American	7	4.3
	Another Race/Ethnicity	1	0.6
Leadership Position	First-line Mgmt	86	53.1
	Middle Mgmt	66	40.7
	Senior Mgmt	10	6.2
Edu Level Completed	High School/GED	7	4.3
	Some College	4	2.5
	Bachelors	75	46.3
	Vocational / Trade	2	1.2
	Masters	73	45.1
	PhD	1	0.6
Industry	Advertising/Marketing	4	2.5
	Agriculture	2	1.2
	Computer/Tech	29	17.9
	Construction	2	1.2
	Education	7	3.5
	Finance/Econ	11	6.8
	Healthcare	11	6.8
	Hospitality	3	1.9
	Manufacturing	81	50.0
	Real Estate	1	0.5
	Retail	7	4.3
	Telecommunication	2	1.2
	Transportation	1	0.6
	Other	2	1.2

The two variables shown in Table 6 represent age and years in current leadership position with recalculated results based on 162 cases. Regarding age, results were positively skewed toward mostly younger leaders with 52% of participants being 27 years of age or younger and the mode being 25. Regarding the years in current leadership position, 82% were in a leadership position for 5 years or less. The results still showed a mode of 5 indicating the distribution was still positively skewed and leptokurtic, but considerably less nonnormal than the results with the outlier data included. As with the demographic statistics, the two variables remained consistent regarding their overall percentages in comparison to the original baseline results.

Table 6

*Baseline Demographic Characteristics, Continuous Variables (*N = *162)*

Statistic	Age	Time in current leadership position (years)
Valid	162	162
Missing	0	0
Mean	32.17	4.38
Median	27.00	4.00
Mode	25	5
SD	9.769	2.298
Skewness	1.475	1.250
SE Skew	.191	.191
Kurtosis	1.695	1.521
SE Kurtosis	.379	.379
Minimum	21	1
Maximum	68	12

As shown in Table 7, the three subscales of the BAPS (Intent to Seek Help, Stigma Tolerance about Help-Seeking, and Expertness of the Helper) were significantly

correlated with each other (r = -.624, .714, and -.371, respectively, $p < .001$), which was consistent with previous psychometric results (see Ægisdottir & Gerstein, 2009; Alrajhi, 2021; Drob et al., 2016). These criterion variables were not significantly correlated with any of the demographics (ranging from r = -.126 to .144), the exception being the significant correlation between Expertness of the Helper and age (r = .219, $p < .001$). The criterion variables were highly correlated with the study predictor variables (IP, adaptive coping, and maladaptive coping). Intent to Seek Help was positively correlated with all three predictors (ranging from r = .396 to .634, $p < .001$). Stigma Tolerance about Help-Seeking was negatively correlated with all three predictors (r = -.341 to -.787, $p < .01$), and Expertise of the Helper was positively correlated with all three predictors (r = .358 to .425, $p < .01$). However, the relationships among the three predictors (r ranging from .442 to .824, $p < .001$) suggested potential risk of multicollinearity, and this was explored in testing the assumptions.

Table 7

*Correlation Matrix (*N = *162)*

	1	2	3	4	5	6	7	8	9	10
1. Intent to SH	--									
2. Stigma	-.624**	--								
3. Expertness	.714**	-.371**	--							
4. Age	.113	.144	.219**	--						
5. Tenure	-.070	.090	-.044	.373**	--					
6. Gender	.047	.044	.038	.268**	.045	--				
7. Leadership	-.119	-.057	-.126	-.065	.150	-.010	--			
8. Education	-.029	-.105	.020	-.159*	.080	-.367**	.046	--		
9. IP scale	.634**	-.787**	.369**	-.011	-.037	.066	.044	-.071	--	
10. A-Coping	.396**	-.341**	.425**	-.034	.004	-.083	.061	-.005	.422**	--
11. M-Coping	.565**	-.784**	.358**	-.139	-.089	-.048	.115	.001	.824**	.485**

* p < .01, ** p < .001

Simultaneous multiple linear regression was conducted to examine the assumptions of the analysis plan. These preliminary analyses were conducted to assess the independence of residuals, outliers, assumptions of multicollinearity, normality, linearity, and homoscedasticity. VIF < 10 and tolerance > .25 for each of the three criterion variables, indicating there is no concern of multicollinearity. Independence of residuals were assessed through the Durbin-Watson test with DV of BAPS Intent, BAPS Stigma, and BAPS Expert individually assessed with IP as one IV and Brief COPE (BC) Adaptive and BC Maladaptive independently as the 2nd IV expressing values between the acceptable 1.5 – 2.5 range. Assumptions of linearity, normality and homoscedasticity were met. Normal probability plots and scatter plots were created, and all demonstrated equally distant and evenly spread data in plots. There is a slight bow in Expertness,

indicating potential underfit for RQ1. Results can be seen in Table 8. (Scatterplots and p-p plots are provided in Appendix H – M.)

Table 8

Research Questions Assumptions

	RQ1			RQ2		
	Intent	Stigma	Expertise	Intent	Stigma	Expertise
Multicollinearity	VIF = 1.06 to 3.29 Tol = .305 to .947	VIF = 1.06 to 3.29 Tol = .305 to .947	VIF = 1.06 to 3.29 Tol = .305 to .947	VIF = 1.001 to 1.218 Tol = .821 to .999	VIF = 1.001 to 1.218 Tol = .821 to .999	VIF = 1.001 to 1.218 Tol = .821 to .999
Durbin-Watson	1.479	2.02	1.743	1.432	2.07	1.746
Multivariate normality (p-p plot)	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable
Linearity (scatterplot)	No pattern	No pattern	Slight bow, potential "underfit"	No pattern	No pattern	No pattern

As described in Chapter 3, the results for each research question are presented in accordance with the analysis output of the PROCESS model. Hayes PROCESS model (see Hayes, 2022) produces a 3-step output that reveals the increasingly complex relationships among the variables. In Step 1, the IV is examined for its ability to predict the mediating variable. In Step 2, the IV, mediating variable and covariate are entered into a simultaneous regression analysis. In Step 3, the PROCESS model computes the direct and indirect mediating effects.

RQ1: To what extent does maladaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)? The first question examined the possible mediating effect of maladaptive coping on help seeking. The HSI was composed of three subscales: intent to seek help, tolerance to stigma, expertness of therapist. Each analysis and results are described below.

Intent to Seek Help

The first subscale on the first question examined the possible mediating effect of maladaptive coping on HSI. The results of the analysis proceeded in three steps. In Step 1, IP and Age were entered as predictors of Maladaptive Coping. As shown in Table 9, $R^2 = .695$, $p < .0001$, with IP and Age as significant. IP had the strongest relationship to Intent ($ß = .822$, $p < .0001$), and Age and a significant negative relationship $ß = -.130$, $p = .003$.

Table 9

Predictors of Maladaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		1.921	5.589	.000	6.943	14.532
IP	.822	.023	18.781	.000	.383	.473
Age	-.130	.034	-2.971	.003	-.166	-.033

In Step 2, the mediation analysis was conducted with Intent to Seek Help as the criterion, and BCMaladaptive as the mediator of IP and Intent. The results of this analysis showed $R^2 = .427$, $p < .00001$. As shown in Table 10, with the added mediator, the direct effect of IP on Intent was reduced ($ß = .478$, $p < .00001$) and the effect of BCMaladaptive

on Intent was ß = .191, $p < .00001$, and Age was ß = .146, $p = .02$. The covariate effect of age showed a positive effect, i.e., that the increased age of the respondents increased the likelihood of seeking help.

Table 10

Predictors on Intent With Maladaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		1.480	5.679	.000	5.481	11.326
IP	.478	.029	4.424	.000	.070	.184
BCMalad	.191	.056	1.755	.081	.012	.208
Age	.146	.024	2.354	.020	.009	.105

In Step 3, total, direct, and indirect effects were examined using the PROCESS model. The entire model was statistically significant (total effect = .169, 95% C.I. [.137, .201]). The direct effect of IP on Intent was found to be statistically significant (direct effect = .127, 95% C.I. [.070, .184]). However, the indirect effects were not significant (indirect effect = .042, 95% C.I. [-.001, .093]) This indicates that maladaptive coping did not have a mediating effect on the relationship between IP and Intent for HSI. IP did have a direct effect on Intent (see Table 11).

Table 11

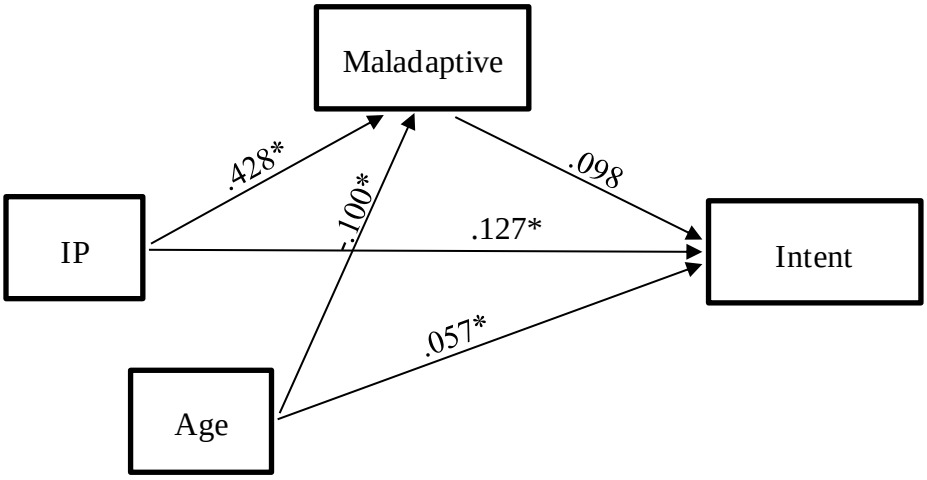
Effects on Intent With Maladaptive Coping

	Effect	*SE*	*LL*	*UL*	*p*
Total	.169	.016	.137	.201	.0000
Direct	.127	.029	.070	.184	.0000
Indirect	.042		-.001	.093	

The final model for the mediation is presented in Figure 4.

Figure 4

Mediation Model for Maladaptive Coping on Intent



* Statistically significant

Tolerance to Stigma

The second subscale on the first question examined the possible mediating effect of maladaptive coping on tolerance to stigma in relation, meaning there is a greater tolerance for the stigma to seeking help, and therefore they are less affected by the stigma. The results of the analysis proceeded in three steps. In Step 1, IP and Age were entered as predictors of Stigma. As shown in Table 12, $R^2 = .695$, $p < .0001$, with IP and Age as significant. IP had the strongest relationship to Stigma ($ß = .822$, $p < .0001$), and Age and a significant negative relationship $ß = -.130$, $p = .003$. In other words, as the expression of IP increases, the expression of maladaptive coping increases.

Table 12

Predictors of Maladaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		1.921	5.589	.000	6.943	14.532
IP	.822	.023	18.781	.000	.383	.473
Age	-.130	.034	-2.971	.003	-.166	-.033

In Step 2, the mediation analysis was conducted with Stigma as the criterion, and BCMaladaptive as the mediator of IP and Stigma. The results of this analysis showed R^2 = .684, p < .00001. As seen in Table 13, with the added mediator, the direct effect of IP on Stigma was significant and negative ($ß$ = -.466, p < .00001) and the effect of BCMaladaptive on Stigma was $ß$ = -.388, and Age was $ß$ = .084, p = .07. The covariate effect of age showed a positive effect, i.e., that the increased age of the respondents increased the likelihood of greater tolerance to stigma.

Table 13

Predictors on Stigma With Maladaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		2.038	23.822	.000	44.511	52.560
IP	-.466	.040	-5.813	.000	-.308	-.152
BCMalad	-.388	.077	-4.794	.000	-521	-.217
Age	.084	.033	1.833	.069	-.005	.127

In Step 3, total, direct, and indirect effects were examined using the PROCESS model. The total effect of the model was significant (total effect = -.388, 95% C.I. [-.434, -.341]). The direct effect of IP on Stigma was found to be statistically significant (direct

effect = -.230, 95% C.I. [-.308, -.152]). The indirect effect of IP on Stigma through maladaptive coping was found to be statistically negatively significant (indirect effect = -.158, 95% C.I. [-.236, -.069]). This indicated maladaptive coping did mediate the relationship between IP and Stigma for HSI. IP also had a direct effect on Stigma (See Table 14).

Table 14

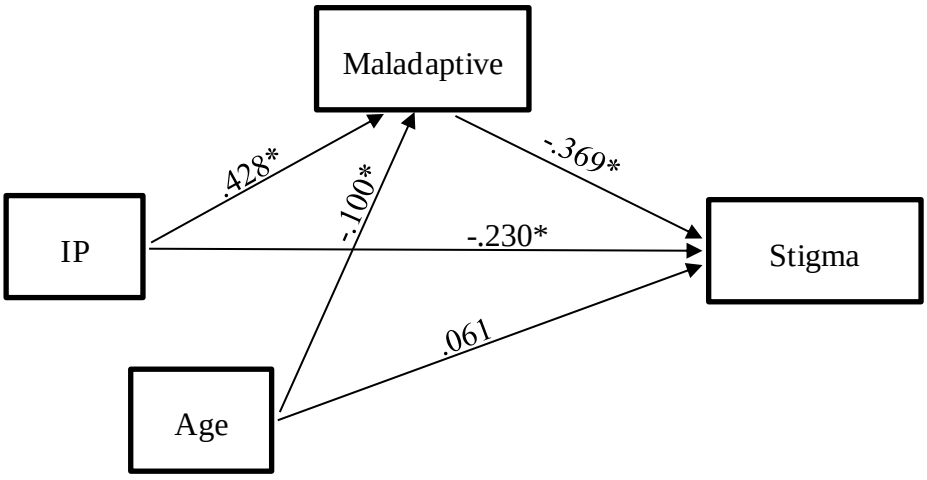
Effects on Stigma With Maladaptive Coping

	Effect	*SE*	*LL*	*UL*	*p*
Total	-.388	.024	-.434	-.341	.0000
Direct	-.230	.040	-.308	-.152	.0000
Indirect	-.158		-.236	-.069	

The final model for the mediation is presented in Figure 5.

Figure 5

Mediation Model for Maladaptive Coping on Stigma



*Statistically significant

Expertness

The third subscale for the first question examined the possible mediating effect of maladaptive coping on expertness of the characteristics of counselors and psychologists in relation to help seeking. The results of the analysis proceeded in three steps. In Step 1, IP and Age were entered as predictors of Expertness. As shown in Table 15, $R^2 = .695$, $p < .0001$, with IP and Age as significant. IP had the strongest relationship to HSI ($ß = .822$, $p < .0001$), and Age and a significant negative relationship $ß = -.130$, $p = .003$.

Table 15

Predictors of Maladaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		1.921	5.589	.000	6.943	14.532
IP	.822	.023	18.781	.000	.383	.473
Age	-.130	.034	-2.971	.003	-.166	-.033

In Step 2, the mediation analysis was conducted with Expertness as the criterion, and BCMaladaptive as the mediator of IP and BAPExpert. The results of this analysis showed $R^2 = .209$, $p < .00001$. As shown in Table 16, with the added mediator, the direct effect of IP on HSI was reduced ($ß = .145$, $p = .254$) and the effect of BCMaladaptive on Expertness was $ß = .275$, $p = .034$, and Age was $ß = .260$, $p < .001$. The covariate effects of age showed a positive effect, i.e., that the increased age of the respondents increased the likelihood of perceiving expertness of the characteristics of counselors and psychologists (see Table 16).

Table 16

Predictors on Expertness With Maladaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		1.115	6.686	.000	5.251	9.653
IP	.145	.022	1.145	.254	-.018	.068
BCMalad	.275	.042	2.143	.034	.007	.173
Age	.259	.018	3.564	.001	.029	.101

In Step 3, direct, indirect, and total effects were examined using the PROCESS model. The outcome variable for the analysis was BAPExpert. The total effect of the model was significant (total effect = .063, 95% C.I. [.039, .087]). The direct effect was not significant (direct effect = .025, 95% C.I. [-.018, .068]). The indirect effect of the model was found to be positively statistically significant [indirect effect = .039, 95% C.I. [.001, .083]). This indicated maladaptive coping had a mediating effect on the relationship between IP and Expertness for HSI. IP did not have a direct effect on Expertness (see Table 17).

Table 17

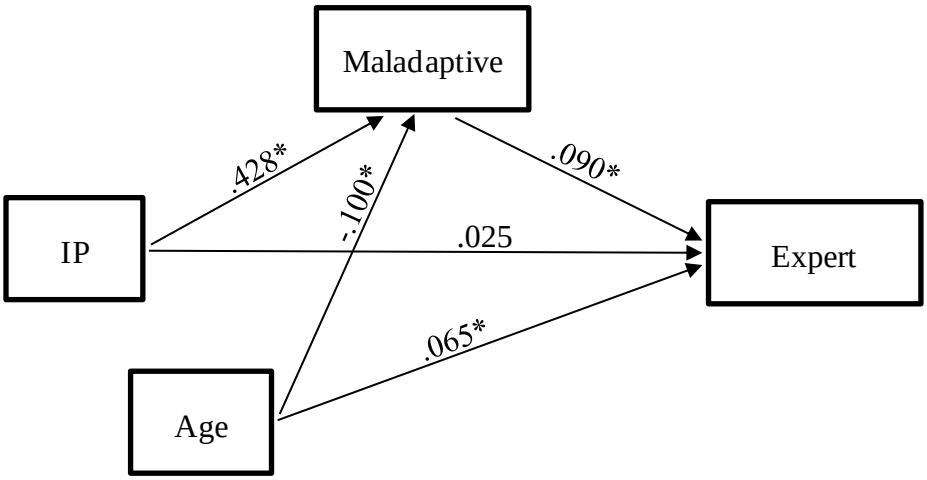
Effects on Expertness With Maladaptive Coping

	Effect	*SE*	*LL*	*UL*	*p*
Total	.063	.012	.039	.087	.0000
Direct	.025	.022	-.018	.068	.254
Indirect	.039		.001	.083	

The final model for the mediation is presented in Figure 6.

Figure 6

Mediation Model for Maladaptive Coping on Expertness



*Statistically significant

The second research question examined the possible mediating effect of adaptive coping on help seeking. The HSI was composed of three subscales: intent to seek help, tolerance to stigma, expertness. Each analysis and results are described below.

Intent to Seek Help

The first subscale of the second question examined the possible mediating effect of adaptive coping on help seeking intention. The results of the analysis proceeded in three steps. In Step 1, IP and Age were entered as predictors of Intent. As shown in Table 18, $R^2 = .179$, $p < .0001$, with IP and Age as significant. IP had the strongest relationship to Intent ($ß = .422$, $p < .0001$), and Age and a significant negative relationship $ß = -.030$, $p = .681$.

Table 18

Predictors of Adaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		2.782	9.916	.000	22.089	33.077
IP	.422	.033	5.868	.000	.128	.259
Age	-.030	.049	-.413	.681	-.116	.076

In Step 2, the mediation analysis was conducted with HSI as the criterion, and BCAdaptive as the mediator of IP and Intent. The results of this analysis showed R^2 = .428, p < .00001. As shown in Table 19, with the added mediator, the direct effect of IP on Intent was increased ($ß$ = .567, p < .00001) and the effect of BCAdaptive on Intent was $ß$ =.161, p = .016, and Age was $ß$ =.126, p = .037. The covariate of age showed a positive effect, i.e., that the increased age of the respondents increased the likelihood of seeking help.

Table 19

Predictors on Intent With Adaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		1.706	4.031	.000	3.507	10.245
IP	.567	.018	8.618	.000	.116	.186
BCAdapt	.161	.038	2.447	.016	.018	.169
Age	.126	.023	2.102	.037	.003	.096

In Step 3, total, direct, and indirect effects were examined using the PROCESS model. The entire model was statistically significant (total effect = .169, 95% C.I. [.137, .201]). The direct effect of IP on Intent was found to be positively statistically significant

(direct effect = .151, 95% C.I. [.116, .186]). However, the indirect effects were not significant (indirect effect = -.018, 95% C.I. [-.036, .044]). This indicated adaptive coping did not mediate the relationship between IP and Intent for HSI. However, IP did have a direct effect on Intent (see Table 20).

Table 20

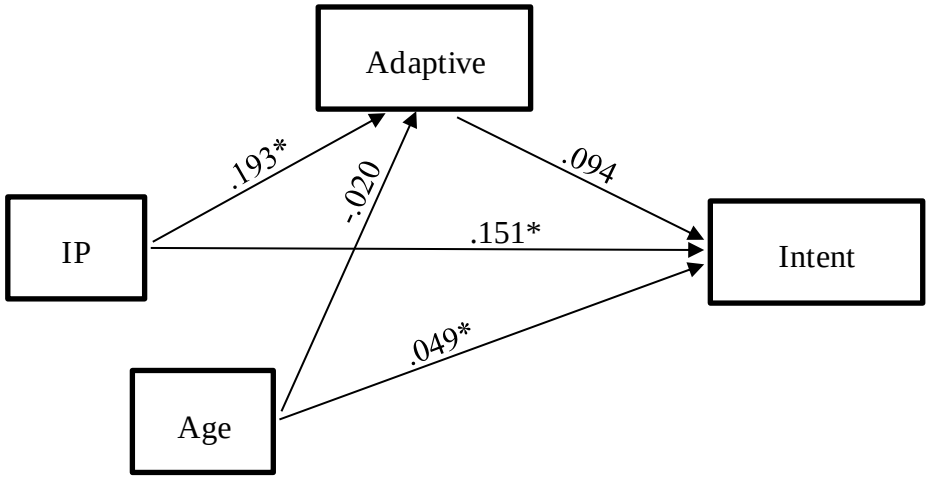
Effects on Intent With Adaptive Coping

	Effect	*SE*	*LL*	*UL*	*p*
Total	.169	.016	.137	.201	.0000
Direct	.151	.018	.116	.186	.0000
Indirect	.018		-.004	.044	

The final model for the mediation is presented in Figure 7.

Figure 7

Mediation Model for Adaptive Coping on Intent



*Statistically significant

Tolerance to Stigma

The second subscale of the second question examined the possible mediating effect of adaptive coping on tolerance to Stigma in relation to help seeking. The results of the analysis proceeded in three steps. In Step 1, IP and Age were entered as predictors of Stigma. As shown in Table 21, $R^2 = .179$, $p < .0001$, with IP and Age as significant. IP had the strongest relationship to Stigma ($ß = .422$, $p < .0001$), and Age and a non-significant negative relationship $ß = -.030$, $p = .681$.

Table 21

Predictors of Adaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		2.782	9.916	.000	22.089	33.077
IP	.422	.033	5.868	.000	.128	.259
Age	-.030	.049	-.413	.681	-.116	.076

In Step 2, the mediation analysis was conducted with Stigma as the criterion, and BCAdaptive as the mediator of IP and Stigma. The results of this analysis showed $R^2 = .638$, $p < .00001$. As shown in Table 22, with the added mediator, the direct effect of IP on Stigma was increased ($ß = -.783$ $p < .00001$) and the effect of BCAdaptive on Stigma was $ß = -.006$, $p = .906$, and Age was $ß = .135$, $p = .006$. The covariate of age showed a positive effect, i.e., that the increased age of the respondents increased the tolerance to stigma.

Table 22

Predictors on Stigma With Adaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		2.536	17.650	.000	39.753	49.771
IP	-.783	.026	-14.834	.000	-.438	-.335
BCAdapt	-.006	.057	-.118	.906	-.119	.106
Age	.135	.035	2.809	.006	.029	.167

In Step 3, total, direct, and indirect effects were examined using the PROCESS model. The total effect of the model was significant (total effect = -.388, 95% C.I. -.434, -.341]). The direct effect of IP on Stigma was found to be negatively statistically significant (direct effect = -.387, 95% C.I. [-.438, -.335]). The indirect effect of IP on Stigma through adaptive coping was found to be not significant (indirect effect = -.001, 95% C.I. [-.026, .031]). This indicated adaptive coping did not mediate the relationship between IP and Stigma for HSI. However, IP did have a direct effect on Stigma. (See Table 23).

Table 23

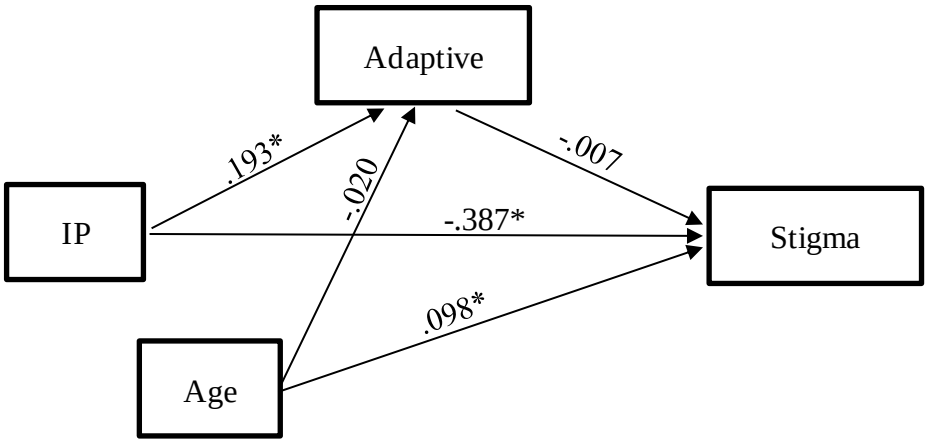
Effects on Stigma With Adaptive Coping

	Effect	*SE*	*LL*	*UL*	*p*
Total	-.388	.024	-.434	-.341	.0000
Direct	-.387	.026	-.438	-.335	.0000
Indirect	-.001		-.026	.031	

The final model for the mediation is presented in Figure 8.

Figure 8

Mediation Model for Adaptive Coping on Stigma



*Statistically significant

Expertness

The third subscale of the second question examined the possible mediating effect of adaptive coping on expertness of the characteristics of counselors and psychologists in relation to help seeking. The results of the analysis proceeded in three steps. In Step 1, IP and Age were entered as predictors of Expertness. As shown in Table 24, $R^2 = .179$, $p < .0001$, with IP and Age as significant. IP had the strongest relationship to HSI ($ß = .422$, $p < .0001$), and Age and a significant negative relationship $ß = -.030$, $p = .681$.

Table 24

Predictors of Adaptive Coping

	Standard Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		2.782	9.916	.000	22.089	33.077
IP	.422	.033	5.868	.000	.128	.259
Age	-.030	.049	-.413	.691	-.116	.076

In Step 2, the mediation analysis was conducted with Expertness as the criterion, and BCAdaptive as the mediator of IP and BAPExpert. The results of this analysis showed $R^2 = .279$, $p < .00001$. As shown in Table 25 with the added mediator, the direct effect of IP on Expert was reduced ($ß = .229$, $p < .01$) and the effect of BCAdaptive on Expert was $ß = .337$, $p < .0001$ and Age was $ß = .233$, $p = .001$. The covariate effects of age showed a positive effect, i.e., that the increased age of the respondents increased the likelihood of perceiving expertness of the characteristics of counselors and psychologists.

Table 25

Predictors on Expertness With Adaptive Coping

	Stand Coeff	*SE*	*t*	*p*	*LLCI*	*ULCI*
constant		1.238	4.014	.000	2.523	7.412
IP	.229	.013	3.038	.003	.104	.064
BCAdapt	.337	.028	4.513	.000	.070	.180
Age	.233	.017	3.452	.001	.025	.092

In Step 3, direct, indirect, and total effects were examined using the PROCESS model. The outcome variable for the analysis was BAPExpert. The total effect of the model was significant (total effect = .063, 95% C.I. [.039, .087]). The direct effect was

positively statistically significant (direct effect = .039, 95% C.I. [.014, .064]). The indirect effect of the model was found to be positively statistically significant (indirect effect = .024, 95% C.I. [.008, .046]). This indicated adaptive coping did mediate the relationship between IP and Expertness for HSI. IP also had a direct effect on Expertness. (See Table 26).

Table 26

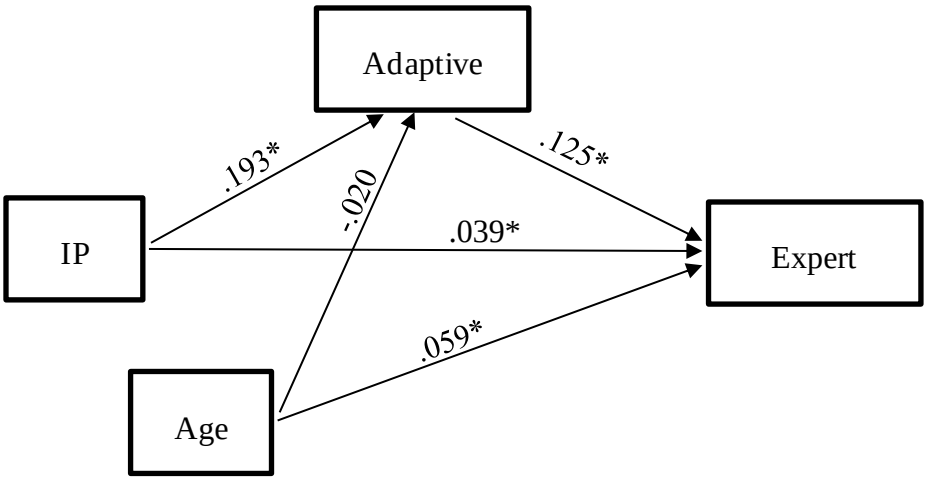
Effects on Expertness With Adaptive Coping

	Effect	*SE*	*LL*	*UL*	*p*
Total	.063	.012	.039	.087	.0000
Direct	.039	.013	.014	.064	.0025
Indirect	.024		.008	.046	

The final model for the mediation is presented in Figure 9.

Figure 9

Mediation Model for Adaptive Coping on Expertness



*Statistically significant

Summary

The purpose of this study was to examine whether maladaptive and adaptive coping mediates the relationship between IP and HSI. HSI was assessed using the three scales of the BAPS: intent to seek help, tolerance for the stigma associated with help seeking, and the expertness of the provider. Higher scores reflect a more positive view of psychologists and their services. That is, the higher the scores the greater the beliefs in the merits of psychological services due to psychologists' expertness, the greater the tolerance for stigma, and the greater the willingness to seek help if in need. Two sets of research questions were tested, the first using maladaptive coping as the mediator, and the second using adaptive coping as the mediator. A summary table of the results is presented in Table 27.

Table 27

Summary Table of Findings for RQ1 and RQ2

	RQ1: Maladaptive as Mediator	RQ2: Adaptive as Mediator
BAPIntent		
Step 1	Maladaptive as the Criterion	Adaptive as the Criterion
R^2	.695****	.179****
ß - IP	.822****	.422****
ß - Age	-.130**	-.030
Step 2	Intent as the Criterion	Intent as the Criterion
R^2	.427****	.438****
ß - IP	.478****	.567****
ß - Mediator	.191	.161*
ß - Age	.146*	.126*
Step 3	Direct & Indirect Effects	Direct & Indirect Effects
Direct Effect	.127****	.015****
Indirect Effect	.042	.018
BAPStigma		
Step 1	Maladaptive as the Criterion	Adaptive as the Criterion
R^2	.695****	.179****

ß - IP	.822****	.422****
ß - Age	-.130**	-.030
Step 2	Stigma as the Criterion	Stigma as the Criterion
R^2	.684****	.638****
ß - IP	-.466****	-.783****
ß - Mediator	-.388****	-.006
ß - Age	.084	.135**
Step 3	Direct & Indirect Effects	Direct & Indirect Effects
Direct Effect	-.230****	-.387****
Indirect Effect	-.158^	-.001
BAPExpert		
Step 1	Maladaptive as the Criterion	Adaptive as the Criterion
R^2	.695****	.179****
ß - IP	.822****	.422****
ß - Age	-.130**	-.030
Step 2	Expert as the Criterion	Expert as the Criterion
R^2	.208****	.279****
ß - IP	.145	.230**
ß - Mediator	.274*	.337****
ß - Age	.259***	.233***
Step 3	Direct & Indirect Effects	Direct & Indirect Effects
Direct Effect	.025	.039**
Indirect Effect	.039^	.024^

Note. * < .05, ** < .01, *** < .001, **** < .0001, ^CI to reject H_o

In the first research question, the variable maladaptive coping was examined for its mediational effect on the three subscales of help seeking. Prior to adding the criterion variable, IP had a strong positive predictive relationship of maladaptive (Step 1, R^2 = .695). The intensity of the IP experience strongly influenced maladaptive coping, even when adjusted for the covariate age. However, when predicting the three criterion subscales, maladaptive coping varied in its mediational effect (Steps 2 and 3). With intent to seek help and expertness of the provider, maladaptive coping had little mediational effect; for the stigma associated with seeking help, maladaptive coping had both direct and indirect mediational relationships. This suggests that while persons high in IP may

want to seek help and value the expertness of the helper, the stigma associated with help seeking may be an obstacle.

With the second research question, adaptive coping was examined for its mediational effect on the three subscales of help seeking. Prior to adding the criterion variable, IP's prediction of adaptive coping was not as strong as when it was the predictor of maladaptive coping (Step 1, R^2 = .695 vs .179). In Step 2, across all 3 measures of help seeking, IP was a significant predictor. This was most apparent for tolerance for stigma (R^2 = .638), and least predictive for the expertise of the therapist (R^2 = .279). In other words, persons high in IP had a lower tolerance for stigma, and a stronger intent to seek help from an expert. Of most interest was the finding that the mediating role of adaptive coping was most apparent in the prediction, direct and indirect effects on the expertise of the therapist, even with the effects of age (the covariate) removed. Thus, the tolerance of stigma could be managed by seeking help from therapists who are perceived as experts. In the next Chapter, I discuss how these findings are consistent and inconsistent with the literature and suggest directions for future research and application.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to examine whether adaptive and maladaptive coping mediates the relationship between IP and HSI. Persons high in IP are characterized as at risk for maladaptive as well as adaptive coping because they attribute their academic or occupational success to luck or deception and may put themselves at risk for mental health problems such as anxiety and depression (Clance & Imes, 1978; Gadsby, 2021; Kark et al., 2021). The three subscales of the BAPS were used as criterion variables measuring intent to seek help, tolerance for the stigma associated with help seeking, and the expertness of the provider. The intent was to understand how coping strategies mediate the relationship between IP and HSI and potentially reveal the how people in leadership positions with high IP could benefit from seeking mental health services. The research questions and hypotheses were as follows:

RQ1: To what extent does maladaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o1: Maladaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a1: Maladaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

RQ2: To what extent does adaptive coping mediate the relationship between IP and HSI, controlling for key covariates (age, gender, education, leadership position, tenure)?

H_o2: Adaptive coping does not mediate the relationship between IP and HSI, controlling for key covariates.

H_a2: Adaptive coping mediates the relationship between IP and HSI, controlling for key covariates.

Interpretations of the Findings

Relationship Between IP and Maladaptive Coping

IP had a positive, significant relationship with maladaptive coping (i.e., as IP increases, so does maladaptive coping). These results align with previous studies that found that people with IP characteristics such as perfectionism, procrastination, anxiety, and depression will often use maladaptive coping styles to manage their impostor thoughts (see Algorani & Gupta, 2022; Stoeber & Jansen, 2011; Thompson et al., 2010; Wang et al., 2019). I found strong effect of IP on maladaptive coping in all three help-seeking subscale examinations. This affirms how maladaptive techniques are used to cope with IP thoughts and feelings of not feeling good enough or needing to hide self-perceived limitations in skills and abilities.

Relationship Between IP and Adaptive Coping

IP was found to be a strong predictor of adaptive coping. However, in comparison to maladaptive coping, adaptive coping had a weaker effect. This was also demonstrated in Hutchins and Rainbolt's (2017) research where they found women used active coping to reduce IP effects. Barr-Walker et al. (2020) found that social support, being an adaptive coping method, was negatively correlated to IP (i.e., as adaptive coping increased, IP scores decreased). Adaptive coping and IP were positively correlated in the

current study as well, indicating how those experiencing IP will also employ adaptive coping skills to help themselves process the negative effects associated with IP. The conceptual model of applying adaptive coping framework to the IP cycle in helping to break out of the restrictive mindset and thoughts was affirmed through correlation as well as the weaker positive effect IP had on adaptive coping. The overall results demonstrate how IP and maladaptive coping are aligned and how they affirm the IP cycle experiences. Even though a weaker effect was found, the theoretical framework of adaptive coping helping to reduce the effects of IP was also affirmed.

Theoretical Framework: Coping and the IP Cycle

People with high levels of IP are hypothesized to follow the IP cycle. The IP cycle shows those experiencing high levels of IP and experiencing stress and anxiety will use maladaptive coping either by procrastination or overworking while eventually completing the task (see Clance, 2985; Sakulku & Alexander, 2011). However, this cycle does not reduce any anxiety or help in developing a better process of completing future tasks or employing more adaptive coping techniques (see Patzak et al., 2017). Webster et al. (2016) found that those who perceived they could not control their situation employed maladaptive coping through overworking, avoidance, and self-blame. A more recent study found that those exhibiting maladaptive perfectionism had increased IP feelings, which increased their risk for suicide, showing how this cycle perpetuates itself due to the continued negative self-perception (Brennan-Wydra et al., 2021). Current study findings affirmed that those high in IP scores used maladaptive coping to manage their negative thoughts and emotions.

Previous research on how people experiencing high levels of IP will also experience high levels of shame (a negative self-perception) and will hide their psychological struggles supports the current findings (see Hutchins & Rainbolt, 2017; Langford & Clance, 1993). High IP can influence the need to use maladaptive coping for fear of being seen as not good enough due to the need for psychological help, feeling there is something wrong with them for not being able to manage their tasks effectively, and being seen as not being as good as others. People high in IP will experience a self-stigma that will create a negative perception regarding reaching out for help. This negative perception (fear of not being good enough) will only maintain the compensatory action to overwork or procrastinate. The compensatory actions increase anxiety and stress. This cycle continues the use of maladaptive coping patterns into the next task.

The current study also tested an addition to the model. Employing adaptive coping will help to bypass the maladaptive behaviors, such as procrastination and overworking, to guide the person experiencing high levels of IP toward help seeking interventions over more anxiety and stress. By taking this course of action, the negative effects of IP can be reduced, and steps to break down the negative self-perception and mindset will begin. Findings showed how those experiencing high IP and engaging in adaptive coping demonstrated intent and a positive perception of expertness even though they were experiencing stigma.

Previous studies showed how adaptive coping can help in reducing IP scores through social support and was seen as having a positive relationship with help seeking (see Barr-Walker et al., 2020; Gardner et al., 2019). These findings along with the results

from the current study show how the use of adaptive coping can help those experiencing high levels of IP to shift their course on the IP cycle. By shifting to the adaptive strategy, they will be able to reduce their negative self-perspective and take steps to reach out for help and continue the process of reducing their self-stigma while increasing their self-belief. Kuna (2019) found that executives experiencing emotional support from their executive coaches were able to continue the relationship with their coaches and work toward reducing their deeper issues of self-stigma due to their impostor thoughts and beliefs. Employing more adaptive coping techniques can aid in developing a more open mind to psychological help and the steps to break down the impostor mindset.

Coping as the Mediator of IP and HSI

The study hypotheses addressed the mediating role of coping (maladaptive and adaptive) between IP and HSI. The results indicated three interesting findings. First, both coping scales demonstrated strong predictive relationships with the help-seeking measure subscales. The largest R^2 was found in predicting the tolerance for stigma, and that both maladaptive and adaptive copers had a low tolerance for the stigma associated with help seeking. Age was found to be the biggest predictor here. As people get older, age may matter in their tolerance of stigma. Results are consistent with previous studies indicating people experiencing high IP have an aversion to seeking help, or their tolerance to stigma is low, whether it is from their perception of others or their self-perception (see Hutchins et al., 2018; Jaremka et al, 2020; Langford & Clance, 1993). The strong negative effect that IP has on self-perception (i.e., self-stigma) may cause people to hide their psychological struggles and reduces their intent to seek help (Niegocki & Ægisdottir,

2019; Petru & Jarosova, 2019). However, the current study results suggest that although this relationship is strong, its indirect effect is significant only for maladaptive copers.

Aldalaykeh et al. (2019) found those experiencing depression who had positive attitudes toward mental health services also had low intention to seek out and connect with psychological help due to stigma. Bachem et al. (2020) also found those high in IP had low self-trust correlating to having low trust in others, which aligned with the stigma toward seeking help. This distortion of the perception of mental health and support was also seen in other studies (Kenny et al., 2016; Reavley et al., 2018). Ibrahim et al. (2019) found that higher self-stigma was associated with lower help seeking attitudes. Stigma can play a part in how people may perceive receiving mental health services. People experiencing high levels of IP may feel they are not deserving of such help or are fearful of how others will perceive them for reaching out for help, and in turn will not put forth action in seeking help.

Second, both kinds of coping had significant indirect effects on the perceived expertise of the therapist, and IP became less important as a direct effect. However, the amount of variance explained for this model (R^2) was much less than the other two models. Age was found to be a significant predictor of both copers here. However, it is not clearly known if as people get older, age may matter in perception of expertness. Valuing the expertise of psychotherapists in previous studies was shown to have a positive effect on help seeking. Gardner et al. (2019) found that those high in IP would be willing to seek help if they perceived the person as caring, which aligns with the results of the current study where IP positively correlated with and influenced help seeking

through the perception of expertness. However, maladaptive coping was found to lower people's trust in others' abilities to help depending on the level of IP being experienced (Bachem et al., 2020). Adaptive coping may influence the relationship between those experiencing IP and how they perceive the quality of psychological help (Niegocki & Ægisdottir, 2019). Niegocki and Ægisdottir (2019) also found those willing to talk about their problems and take the steps to seek out guidance perceived professional psychological help as positive. The use of adaptive coping can translate into how a counselor or therapist can be perceived for their expertness in having the knowledge to administer help and how they can be of support in reducing overall effects of IP experienced. The current study's results support previous findings in that those experiencing IP may perceive the value of expert help, and although maladaptive coping may reduce that perception, the level of IP may play a role in the perception of expertness.

Finally, there was no significant mediating effect from either coping method on the relationship between IP and HSI. Adaptive coping had a direct positive and significant effect on intent (R^2 = .43) and accounted for much of the variance in that model. With maladaptive coping, there was a nonsignificant direct effect, where IP and age accounted for most of the variance in the model. In prior studies, IP was associated with avoidance in help seeking of psychological support to overcome negative cognitive processes (Chakraverty, 2020; Meurer & Costa, 2020). Correlation and mediation analyses in the current study indicated that as IP increases so does the desire to seek help.

HSI was defined as the purposeful effort to obtain support or assistance that reduces the current distress (White et al., 2018). The subscales of intent in the BAPS corresponds to the intention construct of the theory of planned behavior, which refers to the willingness and planned effort to initiate behavior, but not the behavior itself (see Ægisdottir & Gerstein, 2009; Ajzen, 1985). Executives using maladaptive coping in previous studies had a reduced intention to seek help or resisted asking for help, which demonstrates a behavior (Chakraverty, 2020; Petru & Jarosova, 2019). Even though their initial desire and willingness is the intent to seek help, regardless of coping method, their self-perception or concern of how they will be negatively perceived may prevent them from acting to gain psychological help due to their stigma.

Previous research revealed that seeking help could be influenced by attitude toward psychotherapy, perception of help, and self-perceptions (Chen et al., 2016; Cuyler & Guerrero, 2019; Petru & Jarosova, 2019). This study's findings on the influence of IP on help seeking confirms and contradicts previous research findings, reflecting the complexities of how IP can possibly distort the cognitive process in being able to act on seeking help. A person high in IP may have an intention to seek help and see the psychotherapist as an expert, but due to their stigma or perceived stigma from the help-seeking experience they may not act on their intention, thereby not engaging in actual psychological help.

Other Variables Tested in the Model

Results of the current study showed that gender was not significantly related to IP and his, and this was consistent with Ratnayake and Hyde (2019) who found no

significant gender differences in their study on intention to seek help. The current findings are also consistent with Hutchins et al.'s (2018) study on the relationship between IP and emotional exhaustion showing no significant gender differences in the mediation effects of avoidant coping. Other studies found gender differences, yet there was no consistent finding overall (Bravata et al., 2020; Cokley et al., 2018).

Research has shown that as people increase in age, they are more likely to have intent to seek help (Mackenzie et al., 2019; Shumet et al., 2019). Older people with higher IP may become more resistant to the stigma of help seeking, which can aid in their seeking psychological help. Although people score high in IP levels, as they get older they may perceive the expertness of counselors and psychologists to be of value when seeking help (see Ibrahim et al., 2019).

Limitations of the Study

Limitations for this study were seen in several areas. The self-selected sample was limited to young leaders experiencing IP, and most of the responses came from manufacturing and computer/tech industries. Additional testing in other industries and with different ages would be needed to understand these relationships in industries where young leaders are recruited and expectations are high. Gathering responses from participants was done through a convenience sample using the MTurk online platform. Although this made it easy to connect with participants who were identified as leaders, this sampling method limited generalizability because of the inability to create a random sample.

Regarding internal validity, the sampling process meant that meeting participants face-to-face never occurred, and no identifying demographic information was collected. Any of the participants may have altered their responses to give the perception they were someone different, or may have responded according to how they perceived the study was intended. Participants may have been familiar with the instruments and responded with testing bias or social desirability, or they may have experienced testing fatigue while attempting to complete the demographic questions and three surveys. Three participants did not complete one full measure, and over 30 participants did not complete one of the demographic questions correctly and had to be removed because it affected the analysis. Although there was still a sufficient number of participants, the full scope of who the participants were, and their accuracy and trustworthiness in answering questions, was unknown.

Each measure chosen for this study demonstrated sufficient psychometric properties, such as internal consistency, predictive and discriminative validity, and can be compared to published literature to demonstrate the construct validity of each measure. However, the Likert-type measurements could have been a limitation due to participants interpreting any of the statements and questions differently in connection to experiences related to their responses. Their interpretations could impact the consistency of the results collected; though all analysis showed all responses fell within acceptable parameters for assumptions.

A final limitation may be the issue of missing variables. Over 35 participants' responses were taken out due to missing variables that could not be approximated or

replaced as was expected. Three participants did not complete one full survey of the three measures, and over 30 participants failed to correctly answer some demographic information resulting in data not being averaged or approximated and ultimately unusable. While there were sufficient participants for this study, the loss of approximately 20% of responses may have influenced the overall findings. Future studies can seek to collect data from a larger group of participants to help offset any missing data challenges.

Recommendations

While this study was able to add to the current knowledge of IP and help seeking, it was still limited based on the parameters in which the study took place and within the focus of participants. To help further the understanding of IP and its influence on help seeking there are several recommendations that can expand the base of knowledge and future use to a broader scope.

Following up with a qualitative study could be helpful after the scoring to better understand participants perspectives regarding coping and help seeking. Where coping didn't show a mediating effect between IP and intent, asking questions to gain clarity on responses may be of value, particularly since stigma seems to play a role in connecting intent and expertness.

Another recommendation is to examine whether age is a factor over time, where IP experiences and their effects reduce over the years. This present study examined leaders, 52% of whom were between the age range of 21 to 27 years (n = 162), and the

most frequent age was 25 (35%). It would help to expand the understanding of how IP "ages" over time with help seeking in a longitudinal study.

Finally, examining the complex relationship of help seeking, stigma, and IP is a worthy area of future research. Results of previous studies have suggested that mental health literacy can reduce the barrier of stigma about seeking help (see Shahwan et al., 2020; Aguirre Velasco et al., 2020). Future research could examine how an intervention around mental health literacy could reduce the experience of stigma in persons high in IP who would benefit from mental health services.

Implications

IP was significant across the study in its effects on help seeking. This finding helps to emphasize the effect of IP has on people's behavior. These results represent how people high in IP experiences will reduce their actions to seek out help, which means they risk greater suffering. The results suggest several avenues for positive social change. First, these results can be shared to create more awareness about the value of help seeking as empowering (versus a sign of weakness or failure), which could be beneficial to these young leaders. This could include specific programs to illuminate how help seeking as an adaptive coping mechanism can influence professional and personal growth, to live a life without fear of failure and the need to seek approval from external sources. Some studies have recognized a need for more adaptive approach to coping, and discussed methods to help develop interventions in helping employees manage and reduce IP (Chang et al., 2022; Fassel et al., 2020; Jensen & Deemer, 2020; Kuna, 2019; Noskeau et al., 2021).

A second implication for positive social change is the results of this study can be shared with mental health coaches and therapists to better understand that people high in IP may have a unique kind of resistance toward mental health help (e.g., stigma and the perceived expertise of the helper). Coaches and therapists can develop more effective interventions that bring awareness of why it is important and beneficial to seek help from an expert. Also, by understanding that people high in IP have more resistance to seeking help, coaches and therapists can work to better support leaders and other people high in IP with strategies and techniques that speak to the resistance and reasons for the use of maladaptive coping rather than the standard steps to help manage IP patterns.

As the participants of this study were young leaders, taking steps to bring more awareness of the pitfalls of maladaptive coping into leadership roles can be valuable in supporting and guiding them. Results from this study and future studies can help leaders understand their own coping strategies and how their habitual maladaptive coping methods can be exacerbated by IP characteristics. This knowledge can be used as a third implication of positive social change to shift internal thoughts and beliefs associated with maladaptive behaviors toward more positive and supportive cognitive processes to help them be more effective as leaders.

In organizations, it is hoped that the findings of this study can be brought into human resources so that human resources personnel and consultants can be better prepared to identify and support leaders and developing leaders who may be susceptible to the IP experience. Proactive strategies to identify the individual and organizational

consequences of IP effects early on, plus supportive resources to develop and maintain adaptive coping strategies can better serve employees, leaders, and organizational goals.

Conclusion

IP is a detrimental cognitive process that creates self-stigma and exacerbates the stigma about seeking help for mental health issues. The "loop" that results from IP cognitive processes is debilitating. People high in IP seek external sources to experience approval and appreciation for who they are and what they accomplish. They also manifest self-stigma by internalizing the imagined negative judgements from others (Brauer & Wolf, 2016; Clance & Imes, 1978; Hutchins & Rainbolt, 2017). Striving for approval plus negative self-beliefs promote maladaptive coping, and restricts the ability to reach out for help.

Insights regarding how people high in IP regard the expertise of a helper are important. The perceived expertise of the therapist may help override the stigma associated with seeking help. Coaches and therapists who want to work with professionals who are over-striving in their professions, building expertise is essential. However, expertise alone cannot be the singular factor. The expert must also be open to listening, be compassionate and be willing to be in the moment with those high in IP. When those experiencing IP know they will be heard, and supported, the possibility of changing cognitions about oneself and others may take place.

Developing interventions to better understand how to help manage the perception of stigma due to impostor thoughts will in the long run help to expand the possibilities and opportunities for coaches and therapists to be of support and help. The focus needs to

shift from developing interventions to help in reducing IP to developing steps to help manage the self-stigma by actualizing choices for positive coping and asking for help that satisfies the desire to succeed and grow professionally. This will allow leaders to appreciate and embrace their capabilities, skills and knowledge and be truly effective in their roles, while growing and developing personally and professionally.

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Appendix A: Letter of Permission for CIPS

From: andra gailis <pudda67@hotmail.com>
Sent: Saturday, January 29, 2022 10:46 PM
To: Victor Mosconi <victor.mosconi@waldenu.edu>
Subject: Re: Request for use of CIPS in upcoming imposter phenomenon study

Dear Victor,

Thank you for your replies. Everything seems fine with your methods given the MTurk system is closed to others on the open internet (only open to those who register). You have permission to use and make copies of the scale, *Clance Impostor Phenomenon Scale (CIPS)*, and I have attached it along with the scoring.

Please read the permission form, included with the scale, and reply with your consent. Consent also includes sending us a full copy of your dissertation for our records only and we will add the citation to the IP Reference List.

Given that you are using the CIPS, please use the terminology/title "Impostor Phenomenon" rather than Imposter Syndrome.

I have further included an IP Reference List (not all inclusive) for your use and/or to make available for participants if they want to know more about the IP and you could refer them to Dr. Clance's website: <http://www.paulineroseclance.com>

Thank you for your interest in the Impostor Phenomenon and we wish you well with your work!

Sincerely,

Andra

Andra Gailis, M.S., NCC
Professional Counselor
725 Wood Valley Trace
Roswell, GA 30076
(770) 594-7616
pudda67@hotmail.com

Appendix B: Letter of Permission for BAPS

Aegisdottir, Stefania <stefaegis@bsu.edu>

Thu 1/20/2022 9:25 AM

To:

- Victor Mosconi

18 item BAPS Scale and instructions March 2013.doc
56 KB

ATT00001.htm
4 KB

2 attachments (60 KB) Download all

Hello Victor,

Feel free to use the BAPS in your study. If you need to adapt it some that is fine too. I am interested in knowing how the scale works for your sample, psychometrically through. So any information about that is appreciated.

I have attached the scale and instructions. Good luck with your dissertation.

Stef

Reply

Forward

Appendix C: Letter of Permission for Brief COPE

23-. 456 78

The items below are an abbreviated version of the COPE Inventory. We have used it in research with breast cancer patients, with a community sample recovering from Hurricane Andrew, and with other samples as well. The citation for the article reporting the development of the Brief COPE, which includes information about factor structure and internal reliability from the hurricane sample is below. The Brief COPE has also been translated into several other languages, which have been published separately by other researchers (see below).

We created the shorter item set partly because earlier patient samples became impatient at responding to the full instrument (both because of the length and redundancy of the full instrument and because of the overall time burden of the assessment protocol). In choosing which items to retain for this version (which has only 2 items per scale), we were guided by strong loadings from previous factor analyses, and by item clarity and meaningfulness to the patients in a previous study. In creating the reduced item set, we also "tuned" some of the scales somewhat (largely because some of the original scales had dual focuses) and omitted scales that had not appeared to be important among breast cancer patients. In this way the positive reinterpretation and growth scale became positive reframing (no growth); focus on and venting of emotions became venting (focusing was too tied to the experiencing of the emotion, and we decided it was venting we were really interested in); mental disengagement became self-distraction (with a slight expansion of mentioned means of self-distraction). We also added one scale that was not part of the original inventory--a 2-item measure of self-blame--because this response has been important in some earlier work.

You are welcome to use all scales of the Brief COPE, or to choose selected scales for use. Feel free as well to adapt the language for whatever time scale you are interested in.

Citation: Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4, 92-100. [abstract (http://www.psy.miami.edu/faculty/ccarver/abstracts/AbBrCOPE.html)]

Following is the BRIEF COPE as we are now administering it, with the instructional orientation for a presurgery interview (the first time the COPE is given in this particular study). Please feel free to adapt the instructions as needed for your application.

Scales are computed as follows (with no reversals of coding):

Self-distraction, items 1 and 19
Active coping, items 2 and 7
Denial, items 3 and 8
Substance use, items 4 and 11
Use of emotional support, items 5 and 15
Use of instrumental support, items 10 and 23
Behavioral disengagement, items 6 and 16
Venting, items 9 and 21
Positive reframing, items 12 and 17
Planning, items 14 and 25
Humor, items 18 and 28
Acceptance, items 20 and 24
Religion, items 22 and 27
Self-blame, items 13 and 26

Appendix D: Letter of Permission of IP Cycle Model

Jaruwan Sakulku <jaruwan.sau@mahidol.edu>
Tue 2/22/2022 5:23 AM
To:

- Victor Mosconi

Dear Victor

Don Knox from Bangkok Counselling Services forwarded your email to me.

You can use the IP cycle figure in your thesis with a proper reference.

All the best with your research.

Jaruwan
Reply
Forward

Appendix E: Clance Impostor Phenomenon Scale

Clance IP Scale

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

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

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

1 2 3 4 5
(not at all true) (rarely) (sometimes) (often) (very true)

Scoring the Impostor Test

The Impostor Test was developed to help individuals determine whether or not they have IP characteristics and, if so, to what extent they are suffering.

After taking the Impostor Test, add together the numbers of the responses to each statement. If the total score is 40 or less, the respondent has few Impostor characteristics; if the score is between 41 and 60, the respondent has moderate IP experiences; a score between 61 and 80 means the respondent frequently has Impostor feelings; and a score higher than 80 means the respondent often has intense IP experiences. The higher the score, the more frequently and seriously the Impostor Phenomenon interferes in a person's life.

Note. From The Impostor Phenomenon: When Success Makes You Feel Like A Fake (pp. 20-22), by P.R. Clance, 1985, Toronto: Bantam Books.

Appendix F: Brief COPE Measure

Brief COPE

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.

24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

Appendix G: Beliefs About Psychological Services Scale

Instructions: Please rate the following statements using the scale provided. Place your ratings to the left of each statement by recording the number that most accurately reflects your attitudes and beliefs about seeking psychological services. There are no "wrong" answers, just rate the statements as you honestly feel or believe. It is important that you answer every item.

Strongly Disagree					Strongly Agree
1	2	3	4	5	6

____ 1. If a good friend asked my advice about a serious problem, I would recommend that he/she see a psychologist.
____ 2. I would be willing to confide my intimate concerns to a psychologist.

____ 3. Seeing a psychologist is helpful when you are going through a difficult time in your life.

____ 4. At some future time, I might want to see a psychologist.

____ 5. I would feel uneasy going to a psychologist because of what some people might think.

____ 6. If I believed I were having a serious problem, my first inclination would be to see a psychologist.
____ 7. Because of their training, psychologists can help you find solutions to your problems.

____ 8. Going to a psychologist means that I am a weak person.
.
____ 9. Psychologists are good to talk to because they do not blame you for the mistakes you have made.
____ 10. Having received help from a psychologist stigmatizes a person's life.
.
____ 11. There are certain problems that should not be discussed with a stranger such as a psychologist.
____ 12. I would see a psychologist if I were worried or upset for a long period of time.

____ 13. Psychologists make people feel that they cannot deal with their problems.

____ 14. It is good to talk to someone like a psychologist because everything you say is confidential.
____ 15. Talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.
____ 16. Psychologists provide valuable advice because of their knowledge about human behavior.
____ 17. It is difficult to talk about personal issues with highly educated people such as psychologists.
____ 18. If I thought I needed psychological help, I would get this help no matter who knew I was receiving assistance.

Information for researchers using the Beliefs About Psychological Services Scale (BAPS)

Scoring:

The BAPS has 11 positively worded items and 7 negatively worded items. The negatively worded items need to be reverse scored before analyses. These are items: 5, 8, 10, 11, 13, 15, and 17. The BAPS has 3 factors: Intent, Stigma Tolerance, and Expertness. Scoring consists of adding up values for each item on a subscale and dividing by the number of items. Scores range from 1-6. Higher scores reflect a more positive view of psychologists and their services. That is, the higher the scores the greater the beliefs in the merits of psychological services due to psychologists' expertness, the greater the tolerance for stigma, and the greater the willingness to seek help if in need.

Intent: Items 1, 2, 3, 4, 6, and 12.
Stigma Tolerance: Items 5, 8, 10, 11, 13, 15, 17, and 18.
Expertness: Items 7, 9, 14, and 16,

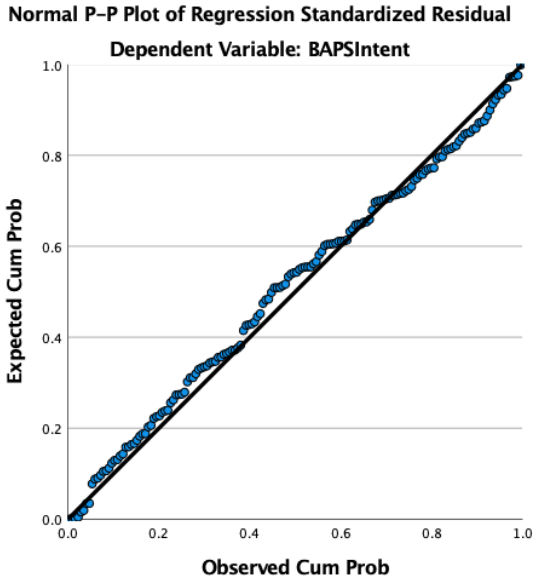
If more information is needed on the BAPS, feel free to contact the primary scale developer:

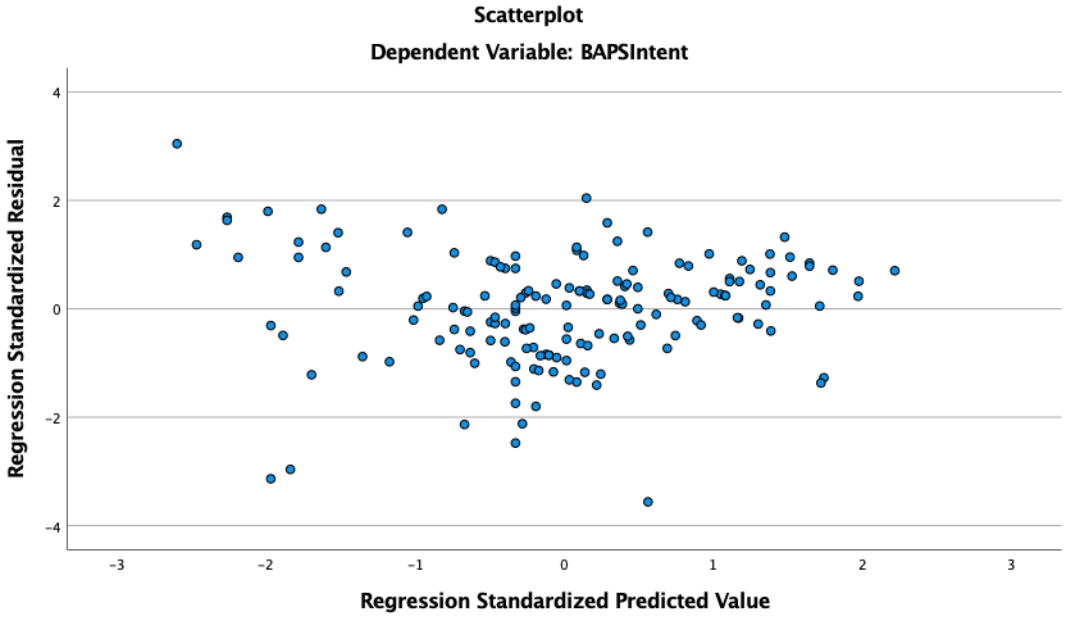
Stefanía Ægisdóttir Ph.D.
Department of Counseling Psychology and Guidance Services
Ball State University
Muncie, IN 47306
USA
Tel: 765-285-8040
stefaegis@bsu.edu

Appendix H: Scatterplots, Maladaptive and Intent

RQ1 Assumptions Scatterplots

Maladaptive and Intent

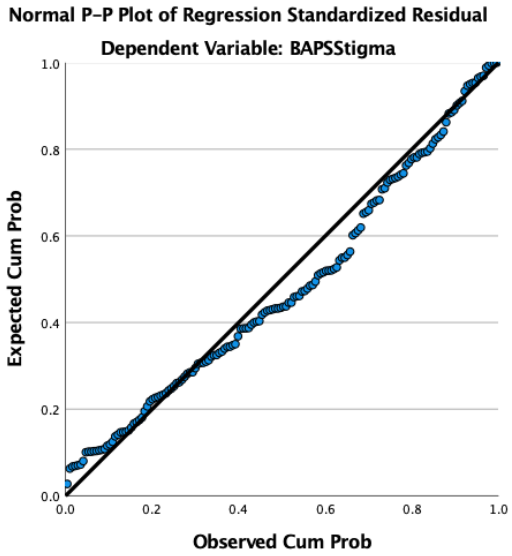


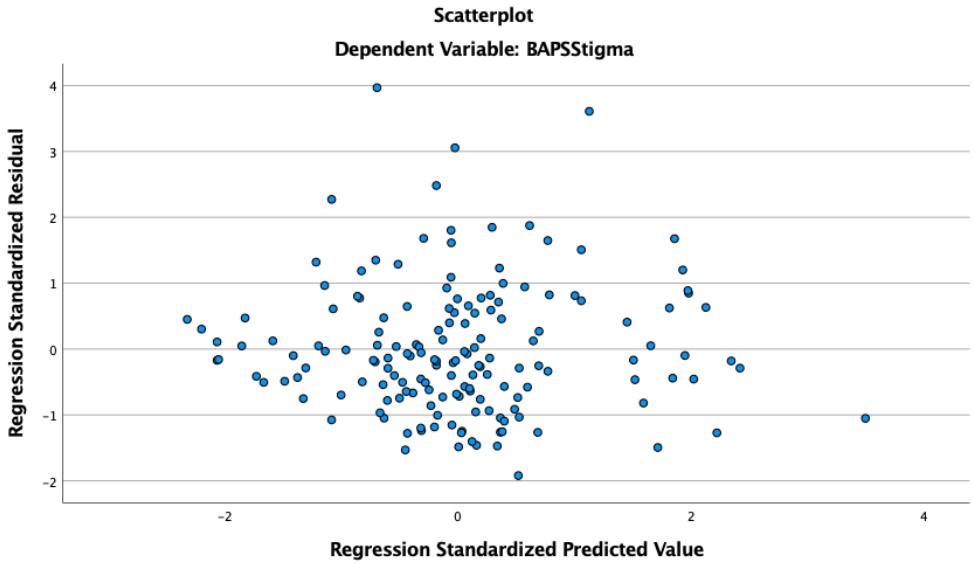


Appendix I: Scatterplots, Maladaptive and Stigma

RQ1 Assumptions Scatterplots

Maladaptive and Stigma

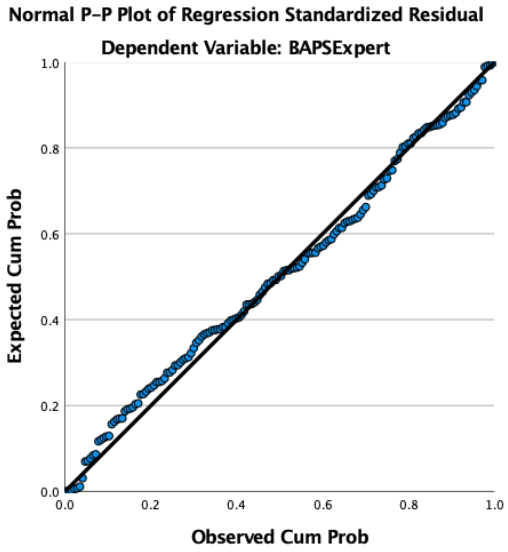


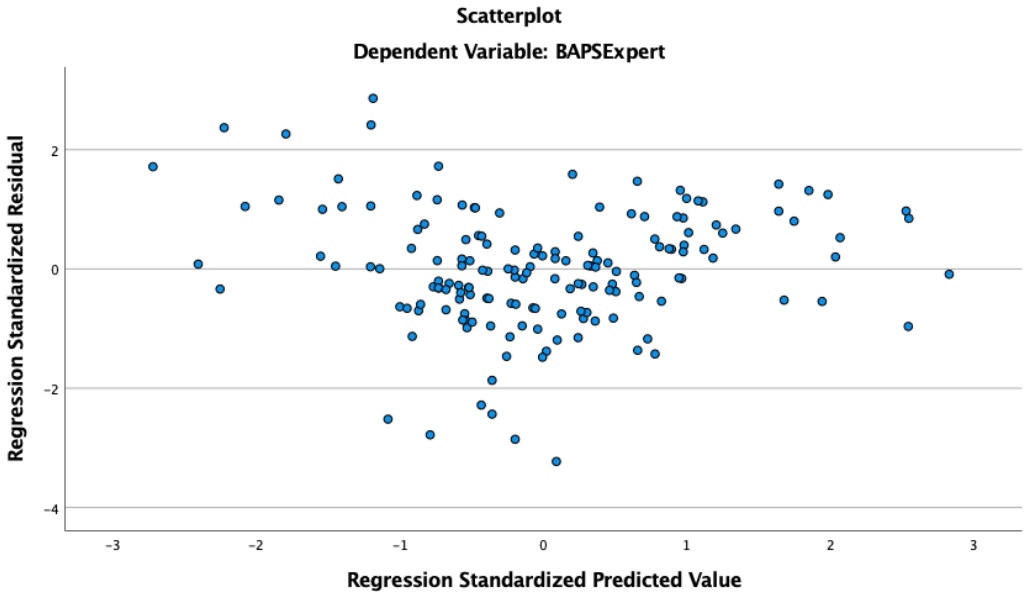


Appendix J: Scatterplots, Maladaptive and Expertness

RQ1 Assumptions Scatterplots

Maladaptive and Expertness

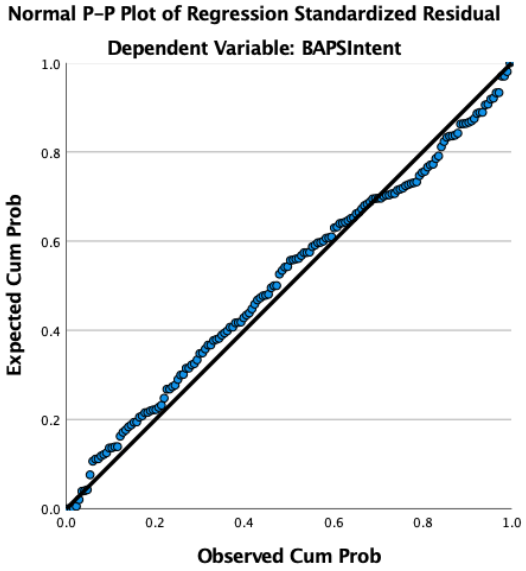


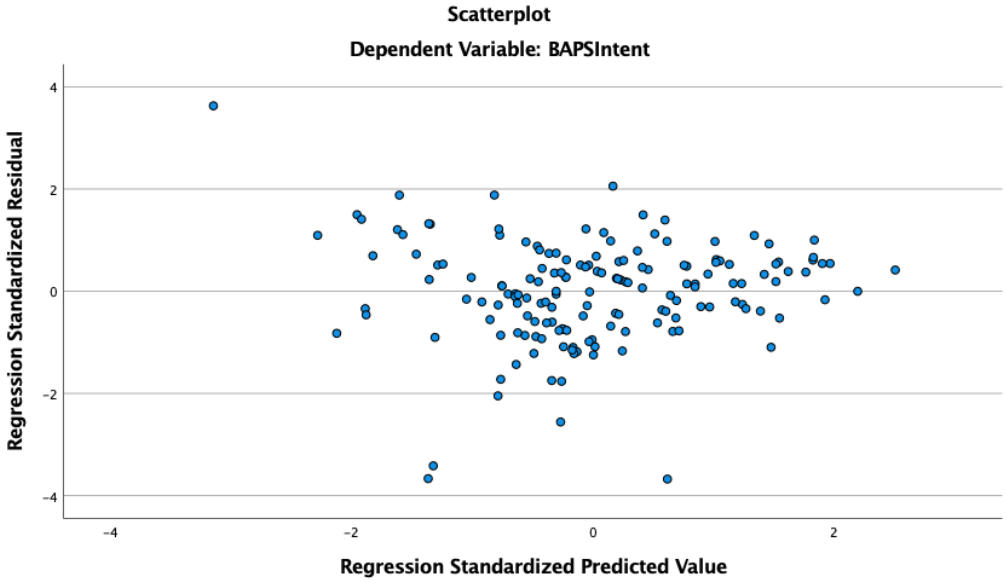


Appendix K: Scatterplots, Adaptive and Intent

RQ2 Assumptions Scatterplots

Adaptive and Intent

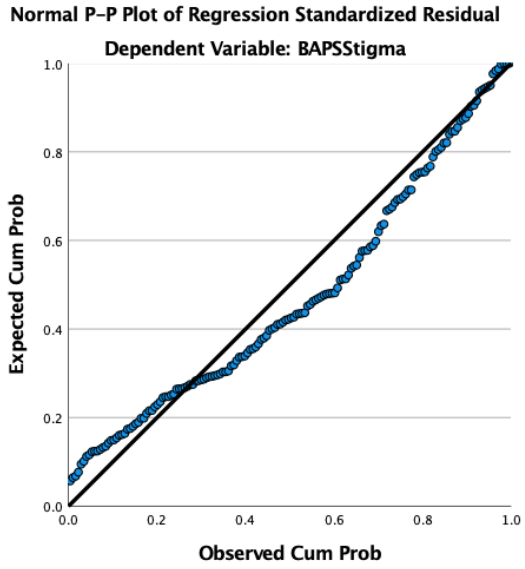


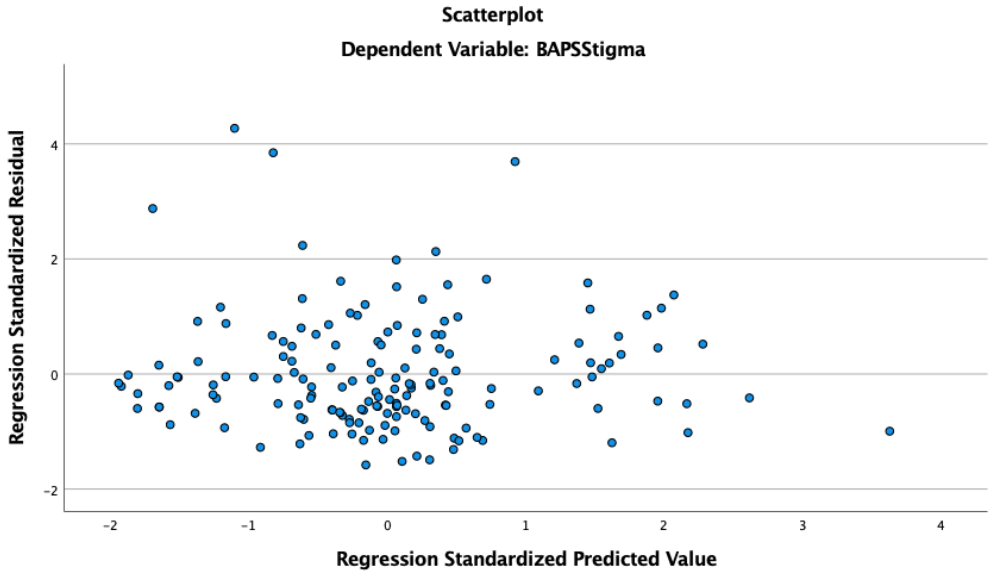


Appendix L: Scatterplots, Adaptive and Stigma

RQ2 Assumptions Scatterplots

Adaptive and Stigma





Appendix M: Scatterplots, Adaptive and Expertness

RQ2 Assumptions Scatterplots

Adaptive and Expertness