The Effect of Uncertainty Avoidance on the Relationship Between Intuitive Decision-Making Style and Take-the-Best Heuristic Use in Employee Selection: Evidence from Botswana

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By

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I, Gillian Keneilwe Mmolotsa, declare that the dissertation, which I hereby submit for the degree of Doctor of Philosophy at the University of Pretoria, is my own work, and has not been previously submitted by me for a degree at this or any other tertiary institution.

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Dedication

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Abstract

The take-the-best heuristic is one of the decision-making strategies used to optimise organisational decisions made under uncertainty. Previous heuristics research focuses on the flaws emanating from using heuristics for decision-making and places little emphasis on factors influencing the use of heuristics. Currently, there is a renewed interest in unveiling individual factors that lead to the use of specific heuristics. This study drew a sample of 203 employee selection decision-makers, working in Botswana's services sector, to examine the moderating effect of the decision-maker's uncertainty avoidance on the relationship between an intuitive decision-making style and the use of take-the-best heuristic in employee selection. The theoretical lens used to understand this relationship was Cognitive Experiential Self Theory. The results of a controlled hierarchical multiple regression with moderation analysis demonstrated that an intuitive decision-making style predicts the use of the take-the-best heuristic in employee selection through a moderating mechanism of uncertainty avoidance. The study's original theoretical contribution to the literature on heuristics is that the use of the take-the-best heuristic in employee selection is not independently influenced by intuitive decision-making style. Rather, high levels of the decision-makers' uncertainty avoidance positively moderate the relationship between the intuitive decision-making style and the take-the-best heuristic use. Low and medium levels of uncertainty avoidance have a negative moderation effect on the relationship. Practically, this study suggests that managers can rely on the decision-maker's intuitive decision-making style and uncertainty avoidance orientation when developing interventions aimed at optimising employee selection decisions through the take-the-best heuristic use. The methodological benefit of this study is that even though factors that influence the take-the-best heuristic use were not studied in real life, the employee selection simulation facilitated the collection of qualitative and quantitative data, which were triangulated to enrich the heuristic use decision theory.

Keywords: Cognitive Experiential Self Theory, employee selection, intuitive decision-making style, take-the-best heuristic use, uncertainty avoidance

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Chapter 1: Introduction

1.1 Background of the study

Decision-making is the nucleus of strategic management in organisations (Bromiley et al., 2015; Calabretta et al., 2017; Luan et al., 2019). One strategic organisational decision concerns employee selection decisions. The quality of employee selection decisions affects the sustainability of organisations (McDowell et al., 2018; Yilmaz, 2013; Yilmaz & Flouris, 2010). Equally, poor employee selection decisions may expose organisations to risks that may result in corporate scandals (Chen, 2016; Georgen & Tonks, 2019). Not surprisingly, scholars have a keen interest in how these decisions are made and how they can be optimised (Bolander & Sanberg, 2013; Luan et al., 2019).

The challenge with employee selection decisions is that they are made through a complex process (Hodgkinson & Sadler-Smith, 2018; Moore et al., 2017; Rashid et al., 2003). Therefore, we still do not know how they are made (Bolander & Sanberg, 2013). Previous employee selection researchers focused on investigating the influence of the validity of employee selection tools and information cues on the quality of employee selection decisions (Glöckner & Witteman, 2010; Kausel et al., 2016; Luan et al., 2019). Such studies did not pay attention to the influence of information cue integration on the quality of employee section decisions (Luan et al., 2019). This has created a knowledge gap regarding the influence of cue integration on improving the quality of these decisions. Knowledge gaps such as this inhibit theory interpretations that promote comprehension of the social reality, and they provide opportunities for theory development (Alvesson & Kärreman, 2007).

A synthesis of heuristics literature has provided abundant evidence showing that the quality of the organisational decisions made under uncertainty can be improved by using managerial heuristics (del Campo et al., 2016; Gigerenzer & Gaissmaier, 2011; Jung & Kellaris, 2004; Lejarraga & Pindard-Lejarraga, 2020; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016; West et al., 2020). A heuristic is defined as “a strategy that ignores part of the information, with the goal of making decisions more quickly, frugally, and/or accurately than more complex methods” (Gigerenzer & Gaissmaier, 2011, p. 454). Managerial heuristics refers to decision-making strategies that involve making managerial decisions in a fast and frugal manner and using simple cues to examine judgement-relevant information (Gigerenzer & Gaissmaier, 2011; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016).

Heuristics are used when the decision-makers are cognitively constrained to evaluate all the information presented for informing organisational decisions and when decisions must be made quickly due to time limitations (Gigerenzer & Gaissmaier, 2011; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016; West et al., 2020).

Previous heuristics research focused on the flaws emanating from the use of heuristics and placed little emphasis on factors that influence the use of specific heuristics in various organisational contexts (del Campo et al., 2016; Galavotti et al., 2021; Lejarraga & Pindard-Lejarraga, 2020). Some scholars have already shown that the use of heuristics partly reflects one's decision-making style (del Campo et al., 2016; Lejarraga & Pindard-Lejarraga, 2020). There still exists a knowledge gap regarding other factors that affect heuristics use, which scholars and practitioners should be aware of. Michalkiewicz and Erdfelder (2016) urged modern researchers to investigate other individual difference factors affecting the use of heuristics.

A positive relationship between cultural values and cognition has been established at the organisational and national levels of analysis (McSweeney, 2002; Mustafa et al., 2017; Sivakumar & Nakata, 2013; Yoo et al., 2011). This set of findings makes a curious mind seek answers to the naturally arising question of the nature of the relationship at an individual level. Triandis (2006) asserts that cultural values evident at the national level may also be observed at an individual level. Therefore, the researcher argues that an explanation that heuristic use can improve the quality of organisational decisions seems to be incomplete without an acknowledgement of the role that psychological factors such as individual cultural values play in the use of heuristics when making organisational decisions under uncertainty.

There is another call for research on the effect of people's cultural value orientation on their cognitive response to organisational decisions (Sarafan et al., 2020). An in-depth understanding of the micro-foundations of mental processes that take place when employers make employee selection decisions is important for the development of theories and frameworks aimed at improving the quality of these strategic decisions. Guided by calls from Michalkiewicz and Erdfelder (2016) and Sarafan et al. (2020), this study aimed to examine the moderating effect of uncertainty avoidance on the relationship between an intuitive decision-making style and the use of take-the-best heuristic in employee selection.

Intuitive decision-making style refers to a preference for making everyday life judgements based on the intuitive mind as well as on gut feelings and affection (del Campo et al., 2016; Lodato et al., 2011). Uncertainty avoidance refers to "the individual's tendency to feel threatened by uncertain and/or ambiguous situations" (Astakhova et al., 2017, p. 43). The take-the-best heuristic involves making a choice based on what is thought to be best rather than making decisions based on all information cues provided (Luan et al., 2019; West et al., 2020). To the best of the researcher's knowledge, this study is the first to attempt to develop an integrated framework that brings together literature on decision-making styles, uncertainty avoidance and heuristics in employee selection.

The study is grounded in Cognitive Experiential Self Theory (Epstein et al., 1992). This theory is one of the parallel-competition variants of dual process models. Cognitive Experiential Self Theory (Epstein et al., 1992) assumes that the rational and intuition cognitive processes of decision-making can be employed at the same time and will operate independently to cue a decision (Hodgkinson & Sadler-Smith, 2018). This theory provides a helpful framework to understand how the three building blocks of the adaptive toolbox (i.e., search, stop and decision rules) come into play when heuristics are used in decision-making (Galavotti et al, 2021). Furthermore, Cognitive Experiential Self Theory (Epstein et al., 1992) has previously been used as a theoretical lens for demonstrating that the decision-makers affect is associated with how information is processed (Lieberman, 2002). Since the use of heuristics depends on the decision-maker's subjective perception of cue validity (Luan et al., 2019), it was a relevant theory for this study.

The study was conducted in Botswana, one of the fastest-growing economies in the world (Bolt & Hillbom, 2016; Raboloko, 2019). The post-colonial economic success of Botswana is attributed to its unique culture. Although Botswana has multiple ethnic groups (Hjort, 2010; Statistics Botswana, 2016), unlike other African countries where multiple ethnicities result in ethnic conflicts that affect the economy, Botswana has inter-ethnic unity and a unique homogenous culture that shares features with those of western countries (Hjort, 2010).

A conjoint analysis experimental vignette methodology was used to collect data for answering the research question, "What is the effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection?" An experimental vignette methodology was used to study how employee selection decision-makers evaluate and process information to make selection decisions.

The experimental task was an unaided paired comparison employee selection simulation. Respondents were asked to put themselves in a situation of making employee selection decisions and they were asked to choose between two competing job applicants with comparable job attributes, who had passed the initial employee selection hurdles and were at the last selection stage. Decision-makers were not given instructions on how to integrate information cues about job applicants' attributes. The experiment provided an uncertain context that allowed them to draw on their uncertainty avoidance orientation and to employ the intuitive cognitive process when making decisions.

The results of a controlled hierarchical multiple regression with moderation analysis study show a positive and significant moderating effect of uncertainty avoidance on the relationship between an intuitive decision-making style and take-the best heuristic use for decision-makers with high levels of uncertainty avoidance. By contrast, a negative moderating effect of uncertainty avoidance exists on the relationship between an intuitive decision-making style and take-the-best heuristic use when the levels of the decision-maker's uncertainty avoidance are low.

The remainder of this section is structured as follows: Firstly, the two cognitive processes of decision-making are discussed to foreground the independent and dependent variables of this study. Thereafter, a discussion of the various cultural values perspectives found in the literature is presented to foreground the individual-level uncertainty avoidance, which is the moderating variable.

1.1.1 Cognitive processes of decision-making

Because of the strategic importance of employee selection decisions, employee decision-makers should possess sound abilities to manage the cognitive processes required for optimising these decisions (Gavetti, 2012; Karhu & Ritala, 2018; Merendino et al., 2018). According to dual process theory, there are two cognitive processes used in decision-making: intuition and rationality. While rationality is a slow, thoughtful, logical process of decision-making, intuition is a fast, involuntary, cognitive process that is emotionally driven and uses heuristics (Evans & Stanovich, 2013; Hodgkinson & Sadler-Smith, 2018; Kahneman & Frederick, 2014; Stanovich, 2014, 2018).

This specific dual process theory that was used as a theoretical lens for this study is Cognitive Self Experiential Theory (Epstein et al., 1992). This theory assumes that people use two independent but interactive cognitive processes to make sense of their world (Evans, 2003, 2008; Evans & Stanovich, 2013; Gawronski & Creighton, 2013; Hodgkinson & Sadler-Smith, 2018; Kahneman & Frederick, 2014; Oaksford & Chater, 2014; Sloman, 1996; Stanovich, 2014). These cognitive processes are differentiated based on whether the cognitive process is employed automatically or in a controlled manner, as well as by the time the cognitive processes take to cue a decision (Chen & Chancellor, 2019). Table 1-1 shows differences between intuition and rationality processes.

Table 1-1: Differences between intuition and rationality

Intuition Process	**Rationality Process**
System 1, Type 1	System 2, Type 2
Experiential	Analytic
Fast	Slow
Autonomous	All encompassing
Effortless	Requires effort
Automatic	Voluntary
Uses heuristics, based on the intuitive mind such as gut feelings, hunches and affection	Uses logic or analytic processes of reasoning, rule-based
No need for precise details	Need for precise details
Ignores context	Takes context into consideration

(Source: Author – based on Evans & Stanovich, 2013; Hodgkinson & Sadler-Smith, 2018; Kahneman & Frederick, 2014; Stanovich, 2014, 2018)

Over the years, the intuition cognitive process generated research interest among psychology, management and organisational studies scholars and practitioners. Recent research has shown that the rationality cognitive process does not have as profound an influence on one's behaviour as originally thought, and that intuition plays a key role in most organisational decisions (Calabretta et al., 20217; Khatri et al., 2018; Lodato et al., 2011). Intuition plays a significant role when making organisational decisions, especially when using heuristics (Calabretta et al., 2017; Gigerenzer & Gaissmaier, 2011; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016; West et al., 2020).

Intuition is not a "homogeneous concept, but a label used for four different cognitive mechanisms" (Glöckner & Witteman, 2010, p. 1). These cognitive mechanisms include (i) associative intuition – deals with arousing affection leading to making decisions based on a gut feeling of liking or disliking or activation of experience from previous successful behavioural option; (ii) matching intuition – deals with using exemplars or prototypes or comparing images to inform the decision; (iii) accumulative intuition – deals with tapping on accumulated cognition or affection to compare options with the threshold; and finally (iv) constructive intuition – works by activating related information to automatically construct mental representations to choose between options (Glöckner & Witteman, 2010).

In some workplace contexts, decisions are made in teams (Akinci & Sadler-Smith, 2018). Collective intuition, demonstrated when decisions are made in teams, improves the quality of organisational decisions (Akinci & Sadler-Smith, 2018). Thus intuition is not an inferior process to rational choice cognitive process, as viewed by some scholars. Rather, it is an alternative cognitive process that can benefit organisational decision-making (Glöckner & Witteman, 2010; Hodgkinson & Sadler-Smith, 2018).

Intuition also plays a role in employee selection. However, an intuition-rationality paradox exists in employee selection literature. On the one hand, a plethora of studies shows that traditionally, employers have been encouraged to use rational approaches over intuitive ones when making employee selection decisions because scholars contend that intuition leads to decision error (Bolander & Sandberg, 2013; Gilboa et al., 2018; Hodgkinson & Sadler-Smith, 2018; Kahneman & Frederick, 2014; Kuhn, 2015; Kuncel et al., 2013; Luan et al., 2019; Miles & Sadler-Smith, 2014; Nolan & Highhouse, 2014; Slaughter & Kausel, 2014). Yet, those studies have not isolated intuition from other possible causes of poor employee selection decisions to establish that indeed intuition is undesirable when making employee selection decisions. Glöckner and Witteman (2010) assert that before one can claim that intuition leads to decision errors, they need to be clear about the type of intuition they are referring to.

On the other hand, empirical studies give several reasons why employers prefer using intuition to rational approaches in employee selection. Some of the reasons point to individual differences, while others relate to organisational factors. The first reason elucidated by the literature is that the intuition cognitive process facilitates autonomous decision-making (Nolan & Highhouse, 2014). Secondly, the decision-making style also influences the use of intuition when making employee selection decisions (Lodato et al., 2011).

Third, employers reported that they make employee selection decisions intuitively due to resource constraints, decision-makers' personal preferences, and recognition that there are limitations associated with more structured approaches to decision-making (Miles & Sadler-Smith, 2014). In addition, the mechanisms of some employee selection tools significantly influence the use of intuition in employee selection. For example, in an assessment centre, the job candidate is rated as they perform some job tasks, and thus decisions must be made quickly (Ingold et al., 2018). Fast decision-making requires the use of heuristics (Luan et al., 2019). Another employee selection tool that relies on intuition is unstructured interviews, in which the interview questions are open-ended, unstandardised and do not follow any predetermined order (Kuncel et al., 2013).

Even though empirical research shows that employers prefer making employee selection decisions intuitively rather than using rational approaches, little evidence from the reviewed research supports claims that in practice, employers make employee selection decisions intuitively more than rationally. A meta-analysis of the data from 25 samples across 17 studies found that 2,263 predictions for workers were done using the rationality process, while 2,027 predictions were made using intuition (Kuncel et al., 2013). An analysis of these results shows that the usage of both intuition and rationality cognitive processes in employee selection is comparable because the difference between the statistics for employee selection decisions made intuitively and those made using rationality approaches is small.

1.1.2 Perspectives on cultural values

After a comprehensive review of relevant literature in high-quality journals, the researcher noted that there was little scholarly work examining the effect of cultural values on the use of managerial heuristics for making organisational decisions, including employee selection decisions. A paucity of literature on the interplay between cultural values and other factors that influence the use of managerial heuristics confirms that "existing research has usually paid less attention to how employee selection decision-making takes place in real-life situations" (Bolander & Sandberg, 2013, p. 285).

There are divergent perspectives among scholars on whether cultural values are propensities of an individual or a group (Mustafa et al., 2017). According to the culture-comparative perspective, cultural values are shared meaning systems among members of a collective (Hofstede & Minkov, 2010). Based on this perspective, at a societal level, cultural values refer to a set of beliefs that define what a given society generally prefers (Yoo et al., 2011). At an

organisational level, cultural values are defined as "the broad goals that business organisation members are expected to pursue" (Sagiv & Schwartz, 2007, p. 176).

The sociological perspective of cultural values suggests that the modal influence of the cultural values of individuals within a society is affected by macro-level factors and social institutions, and the way societal members internalise these modal values differs (Fisher & Schwatz, 2011). Therefore, cultural values capture similarities and differences in how people interact with each other in a social world (Boscari et al., 2018).

According to the psychological perspective, cultural values are defined as abstract beliefs about one's desired goals, which are ordered following a system of priority, and they guide the way an individual evaluates people, events, and actions (Schwartz, 1992). Unlike the culture-comparative and sociological perspectives that view cultural values as propensities of the collective, the psychological perspective views cultural values as propensities of an individual. This study adopted the psychological perspective of cultural values.

Cultural values influence the formation of the structure of cognitive schemata. Cognitive schemata refer to an individual's system of values and beliefs, which reflect their knowledge about a domain (Sarafan et al., 2020). When decisions are made under uncertainty, decision-makers use cognitive schemas to make sense, understand and clarify ambiguity associated with the uncertainty (Sarafan et al., 2020).

This study used one of Hofstede's cultural values, uncertainty avoidance, because several organisational studies have found a positive relationship between this cultural value and decision-making (Hofstede & Minkov, 2010; Mustafa et al., 2017; Yoo et al., 2011). Uncertainty avoidance has emerged as a cultural value in studies conducted by researchers other than Hofstede (McSweeney, 2002).

Uncertainty avoidance was examined at an individual level in this study because individual cultural values have an influence on the employees' attitudes and work behaviours as they make sense of their environments (Mustafa et al., 2017). There is a stronger relationship between cultural values and perceptions than between attitudes and behaviours (Taras et al., 2010). People with high levels of uncertainty avoidance seek security and cherish written rules while ambiguity and uncertain situations threaten them (Sarafan et al., 2020). However, those with low levels of uncertainty avoidance are comfortable working under uncertain circumstances because they accommodate unstructured and ambiguous situations (Sarafan et al., 2020).

1.2 Problem statement

The use of managerial heuristics is one of the decision-making strategies that optimise organisational decisions made under uncertainty (Artinger et al., 2015; Gigerenzer & Gaissmaier, 2011; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016). Prior research has demonstrated that the use of the take-the-best heuristic is partly dependent on decision-making styles. Furthermore, research shows that the use of this heuristic is context-dependent (del Campo et al., 2016; Gigerenzer & Gaissmaier, 2011; Michalkiewicz & Erdfelder, 2016).

The problem is that the role that psychological uncertainty avoidance plays in the relationship between intuitive decision-making style and take-the-best heuristic use has been neglected by previous scholars. Moreover, this relationship has not been explored in employee selection. Consequently, a knowledge gap has arisen concerning the effect that the decision-maker's intuitive decision-making style and their uncertainty avoidance value orientation, have on the use of the take-the-best heuristic in the context of employee selection. To advance our understanding of the factors that influence take-the-best heuristic use, an online conjoint analysis experimental vignette was designed to examine the moderating effect of an employee selection decision-maker's uncertainty avoidance on the relationship between their intuitive decision-making style and take-the-best heuristic use.

1.3 Purpose of the study

The purpose of the research was to examine the moderating effect of the decision-maker's uncertainty avoidance on the relationship between their intuitive decision-making style and take-the-best heuristic use in employee selection.

1.4 Research question

The study has provided an answer to the following research question: "What is the effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection?"

1.5 Study constructs

This section discusses the study constructs of intuitive decision-making style (independent variable), take-the-best heuristic use (dependent variable) and uncertainty avoidance (moderating variable).

1.5.1 Intuitive decision-making style

The intuitive decision-making style is conceptualised as a preference for making everyday life judgements based on the intuitive mind and basing decisions on gut feelings and affection (Lodato et al., 2011). It is a theoretical construct of Cognitive Experiential Self Theory (Epstein et al., 1992). This decision-making style is a cognitive trait that makes one inclined to use intuition when making decisions in everyday life. As discussed above, when making decisions intuitively, decisions are made fast, autonomously and based on one's gut feelings and hunches (Evans, 2003, 2008; Evans & Stanovich, 2013; Gawronski & Creighton, 2013; Kahneman & Frederick, 2014; Oaksford & Chater, 2014; Sloman, 1996; Stanovich, 2014).

Studies have shown that managerial heuristics use "reflects a specific style of decision-making rather than individual differences in the processing of information on which decisions and inferences are made" (Michalkiewicz & Erdfelder, 2016, p. 464). Michalkiewicz and Erdfelder (2016) argue that even though research has shown that individual differences predict managerial heuristics use in decision-making, research on whether decision-making style is one of the predictors of managerial heuristics use is scarce. Therefore, an intuitive decision-making style was selected as an independent variable in the study. The intuitive decision-making style is not specific to any context (Lodato et al., 2011), and thus it was studied in the context of employee selection in this study.

1.5.2 Take-the-best heuristic use

This study focuses on the take-the-best heuristic. This is a general heuristic used in paired comparison decision-making tasks, where decisions are informed only by cues perceived to be valid by the decision-maker (Gigerenzer & Gaissmaier, 2011; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016; West et al., 2020).

The take-the best heuristic use construct has been selected for use as a dependent variable for this study because employee selection decisions are made under uncertainty (Artinger et al., 2015; Connelly et al., 2011; Guion, 2011; Klotz et al., 2013). In fact, they are made under substantial uncertainty because they are made from uncertain human capital signals (Bromiley et al., 2015; Calabretta et al., 2017; Luan et al., 2019; West et al., 2020). The take-the best heuristic was also selected for this study because employee selection decisions are made under time constraints owing to competitive pressure from other organisational tasks (Miles & Sadler-Smith, 2014). Managerial heuristics facilitate fast decision-making in employee selection, especially where the decision-maker has limited cognitive capability to evaluate all the information presented to aid decision-making.

1.5.3 Uncertainty avoidance

Uncertainty avoidance is conceptualised differently at the societal (national and organisational) levels from the way it is conceptualised at the individual level. At the societal and organisational levels, it is conceptualised as "the extent to which members of a society or an organisation strive to avoid uncertainty by reliance on social norms, rituals, and bureaucratic practices to alleviate the unpredictability of future events" (Javidan & Dastmalchian, 2009, p. 47). At an individual level, uncertainty avoidance is conceptualised as "the individual's tendency to feel threatened by uncertain and/or ambiguous situations" (Astakhova et al., 2017, p. 43).

Previous studies found that the effects of cultural differences may go beyond the country level because such differences may be attributed to the cultural value orientations of individuals (Kirkman et al., 2006; Triandis, 2006). Therefore, in this study, uncertainty avoidance was operationalised because it has been conceptualised at an individual level in literature. Studying uncertainty avoidance at the individual level provided a more nuanced and richer understanding of the micro-foundation of the use of intuition in employee selection decision-making.

Uncertainty avoidance was selected for use as a moderator in the study for several reasons. Firstly, the study addressed a call for research on cultural values other than individualism-collectivism, which have been widely researched (Kashima et al., 2019). Secondly, the study addressed Ghantous and Maher's (2019) concern that the role of uncertainty avoidance in service sectors has received little attention.

The third reason for choosing to study the effect of the uncertainty avoidance cultural value on the employee selection decision-making process is that employee selection decisions are uncertain. They are made by predicting the job applicant's future performance based on uncertain human capital signals (Artinger et al., 2015; Connelly et al., 2011; Guion, 2011; Klotz et al., 2013; Luan et al., 2019).

1.6 Significance of the study

This study aimed to examine the moderating effect of uncertainty avoidance on the relationship between an intuitive decision-making style and take-the-best heuristic use in employee selection. The original contribution made by this study to the body of knowledge is to determine that in employee selection, the intuitive decision-making style does not independently predict take-the-best heuristic use. Rather, it does so through the moderating mechanism of the decision-maker's uncertainty avoidance orientation. The moderator analysis shows that when the decision-maker's levels of uncertainty avoidance are high, the relationship between an intuitive decision-making style and take-the-best heuristic use is strengthened. By contrast, the moderating effect of uncertainty avoidance is negative when the decision-maker's uncertainty avoidance levels are low.

The benefit of the study results to practitioners is to demonstrate that while it is true that practitioners can improve the quality of employee selection decisions by using the take-the-best heuristic, the effectiveness of that decision-making strategy depends on the decision-maker's levels of intuitiveness in decision-making style and uncertainty avoidance orientation. This study will reduce the science-practitioner research gap in the role that individual differences in psychological factors play in the use of the take-the-best heuristic because it provides a balanced view by adding another factor, uncertainty avoidance. A comprehensive discussion of the theoretical, practical and methodological contributions made by the study is presented in section 7.2.

1.7 Delimitation of the study - Employee selection

The context for take-the-best heuristic use in this study has been delimited to employee selection because the relationship between an intuitive decision-making style and take-the-best heuristic use has not been previously explored in this context. Additionally, this theoretical context was selected because employee selection decisions are made under significant uncertainty (Bolander & Sandberg, 2013; Bromiley et al., 2015; Calabretta et al., 2017; Luan et al., 2019; West et al., 2020), and the decision-makers must mitigate the uncertainty if such decisions are to be made by using heuristics (Jung & Kellaris, 2004). This context allows for testing the relationship between the three study constructs.

1.8 Conclusion

To build an argument for the need of this study, this chapter introduced the debate in decision-making literature between scholars and employers regarding the use of rationality and intuition cognitive processes used in making employee selection decisions. While scholars argue that employee selection decisions should be made rationally to avoid decision error, empirical studies give several reasons employers prefer the use of intuition when making employee selection decisions. This study built on previous studies showing that the decision-making styles influence the use of managerial heuristics.

Another central idea of this chapter was drawn from another stream of research on the effect of individual difference propensities or psychological traits on the use of heuristics. Existing culture-cognition studies conducted at national and organisational levels of analysis found that culture moderates decision-making. However, a gap in this relationship was identified at an individual level of analysis. The current study reduces this knowledge gap by examining the relationship between the decision-maker's intuitive decision-making style and uncertainty avoidance value when making employee selection decisions.

The chapter has also summarised the significance of this study to both scholars and practitioners. The study results extend the scholarship because they show that the effect of an intuitive decision-making style on the use of the take-the-best heuristic is not independent but is strengthened by the decision-maker's uncertainty avoidance orientation.

1.9 Dissertation outline

To study the relationship between an intuitive decision-making style, uncertainty avoidance and managerial heuristic use in employee selection, this dissertation is organised into six chapters, which are briefly described in this section.

Chapter 1: Introduction

This chapter explains what the study is about. It explains the research problem and gives an overview of the benefits of the study to scholars and practitioners.

Chapter 2: Study Setting

The chapter discusses why Botswana provided a unique study setting. It also discusses why the employee selection theory should be extended to that study setting.

Chapter 3: Literature Review

This chapter first presents a theoretical lens used to understand the research problem. It discusses current debates in employee selection theory and practice to identify the knowledge gap in the literature. This chapter also discusses how the effect of an intuitive decision-making style on take-the-best heuristic use might be affected by the decision-maker's uncertainty avoidance value. The chapter concludes with a conceptual model developed by synthesising the literature, and it was tested in this study.

Chapter 4: Research Methodology

The methodology chapter discusses the philosophy that underpinned the study. It also discusses the research approach that was adopted for the study. The chapter describes the research design and methodology that were followed to collect data. It discusses the sampling strategy that was used to recruit the respondents for the study. The chapter also discusses the respondents' response behaviour. The design and format of the data collection instrument that was used and the scales that were used to measure the study constructs are also explained in this chapter. The chapter concludes with a discussion of the ethical considerations observed during the entire research process.

Chapter 5: Results

This chapter deals with the statistical tests that were run when analysing the data and presents the results of the statistical tests. Aspects of research quality showing the rigour of the methodology used for data collection and analysis are also discussed in this chapter.

Chapter 6: Discussion of Results

The discussion chapter deals with the interpretation of the results to provide an answer to the research question. The results of the tests for the study hypotheses and a confirmation that the study achieved its purpose are presented here.

Chapter 7: Conclusion, Contributions and Recommendations

This is the last chapter of the dissertation. It discusses deductive conclusions made from the interpretation of the study results. The chapter presents the significance of the study results for scholars and practitioners, along with limitations encountered in the study and the mitigation strategies that were used to address them. The chapter concludes by making recommendations for future research.

Chapter 2: Study Setting

This chapter gives a brief description of the study setting and justifies the unique context of that setting.

2.1 Introduction

This chapter contextualises the research problem in Botswana, the study setting. The study's overall aim was to examine the role of individual-level uncertainty avoidance on the relationship between the decision-maker's intuitive decision-making style and take-the-best heuristic use in employee selection. The Botswana context was particularly intriguing because this country is one of the fastest-growing economies in the world (Raboloko, 2019). Its post-colonial economic success is attributed to its unique culture (Hjort, 2010). Botswana has multiple ethnic groups (Hjort, 2010; Statistics Botswana, 2016); unlike other African countries where multiple ethnicities result in ethnic conflicts, Botswana has inter-ethnic unity and a unique homogenous culture that shares features with those of western countries (Hjort, 2010).

Previous studies conducted in Botswana have shown that individual psychological factors play a role in human resource practices (Gumaelius & Kamenou-Aigbekaen, 2015; Masale et al., 2021). For example, an exploratory study that used the theoretical lens of institutional isomorphism and rational economic decision-making, which was conducted among employers and managers working in various key sectors of Botswana, showed that the adoption of HIV/AIDS policies and practices in businesses operating in that country is influenced by psychological factors such as employers' perception of risk associated with having HIV positive employees, as well as the employers' traditional and religious beliefs (Gumaelius & Kamenou-Aigbekaen, 2015).

Another study showed that although literature shows that adults state that hope, which is one of the psychological and individual strengths, has a positive moderating effect on the relationship between job satisfaction and organisational commitment, this was not the case with Botswana's local government employees (Masale et al., 2021). Even though these studies are not in the same field as the current one, the results of these studies suggest that diverse patterns may be observed on the moderating effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection.

Africa has not attracted much interest from management researchers to find solutions for the unique problems faced by organisations on this continent (Barnard et al., 2017). Economists have also been reluctant to study the effect of culture on economic outcomes (Hjort, 2010). Most employee selection studies that were reviewed as background to the research problem were conducted in western countries. Those studies have not generated an understanding of employee selection theory from neither an African nor a Botswana perspective. Conducting this study in Botswana addressed a need for decision-making research that integrates culture and cognition to be conducted in diverse cultural settings (Schramm-Nielsen, 2001).

The chapter starts with a description of Botswana's economic landscape. A justification follows of the economic sector and industries where respondents were recruited.

2.2 Botswana's economic environment

Botswana is a developing country in southern Africa. This country was selected as a study setting because its economy has been one of the fastest-growing in the world (Mogae, 2005). In 2019, the country experienced 3.6% growth (Republic of Botswana, 2020). Botswana is regarded as an African economic success story due to its remarkable long-term economic growth (Bolt & Hillbom, 2016). There is a widely accepted view that Botswana's economic success is attributable to factors such as inter-ethnic unity and good governance that are like those of western nation-states (Hjort, 2010).

The International Monetary Fund January 2021 World Economic Outlook estimated that the global output contracted by 3.5%, while that of sub-Saharan Africa contracted by 2.6% (Republic of Botswana, 2021a). In an update on the status of the COVID-19 pandemic in Botswana, President Masisi estimated that Botswana's economy contracted by 7.7% in 2020. These statistics were higher than the 2.4% estimated contraction of emerging markets and developing economies reported by the Minister of Finance, Dr Thapelo Matsheka, when delivering the country's budget speech (Republic of Botswana, 2021b). However, the country's economy was projected to rebound by 8.8% in 2021, compared to 5.5% for the global economy (Republic of Botswana, 2021b).

One of the factors that differentiates Botswana from its neighbours in sub-Saharan Africa is its culture of commerce (Hjort, 2010). Botswana has a narrow economic base, and its economy has for a long time been based primarily on natural resources, especially diamond mining (Mutoko & Kapunda, 2017). The predominant drivers of this country's economy are mining, agriculture, particularly beef cattle production, and tourism. The mining sector suffered a decline in the recent past because of a decline in the export market for diamonds (Statistics Botswana, 2016). Most Batswana, especially those living in rural areas, work in the agriculture sector, which employs 20.4% of the working population and contributes 2% to the Gross Domestic Product (United Nations, 2020). The agriculture sector has also suffered a decline in the recent past due to unfavourable weather conditions (Statistics Botswana, 2016).

Botswana's estimated population is 2.254 million, comprising 1,088,049 males and 1,166,077 females (United Nations, 2020). Even though it has a small population, it has macro-economic challenges such as a high rate of unemployment. The uniqueness of Botswana's economy is that the government is the major employer, and the private sector takes a small fraction of the labour market share (Mutoko & Kapunda, 2017).

One of Botswana's developmental challenges is unemployment. The Quarterly Multi-Topic Household Survey found that the country's unemployment rate for the quarter, which ended in December 2020, was 24.5% (Republic of Botswana, 2021a). This unemployment rate was reported to have increased slightly from 23.2%, recorded at the end of the first quarter of the year 2020 (International Labour Organisation, 2020; Republic of Botswana, 2021a). In 2020, the increase in the unemployment rate was attributed to the community lockdowns that were instituted to control the spread of COVID-19 (Republic of Botswana, 2021a). Unemployment in Botswana affected mostly young people (National Development Plan 11; Republic of Botswana, 2021a). Some unemployed people have tertiary education qualifications (Statistics Botswana, 2016).

Contemporary organisations operate under uncertain business environments that are characterised by economic volatilities, internal turbulence and instabilities (Jackson et al., 2018). Many countries are moving towards a knowledge-based economy to reduce the negative impact of the phenomena that cause uncertainties in the business environment (Jackson et al., 2018). Similarly, Botswana has adopted and is implementing economic diversification strategies that are intended to transform the country from being a resource-based economy to a knowledge-based economy (Republic of Botswana, 2020). One of the strategies to fast-track growth in the private sector outlined in National Development Plan 11

is attracting foreign direct investment. As investors come to set up businesses in Botswana, they are expected to create job opportunities for the people of Botswana.

In Botswana, research priority is given to development-oriented research (Republic of Botswana, 2004). The importance of applied research is that it contributes practical solutions to workplace problems (Henard & McFadyen, 2005). However, research on employee selection in Botswana has not attracted researchers' interest. This study fits well into Botswana's prioritised research agenda because the knowledge generated by this study is required by practitioners to improve the development of interventions aimed at improving the quality of employee selection decisions.

This study shows that the interaction of the decision-maker's uncertainty avoidance and intuitive decision-making style influences take-the-best heuristic use when making employee selection decisions in Botswana's services sector. This study shows that work experience is perceived as the most influential information cue for informing employee selection decisions. This cue is followed by tertiary education qualifications, also perceived as important for informing employee selection decisions by employee selection decision-makers in Botswana, despite the high unemployment rate among graduates of tertiary institutions in the country. The study contributes an explanation for the high unemployment rate among graduates of tertiary institutions in Botswana. It could be that some youths are unemployed because they lack work experience.

To curb the negative effects of macro-economic problems such as unemployment, Botswana is implementing economic-driven strategies premised on structural reforms to enhance productivity, maximise wealth and create employment opportunities for the people of Botswana (International Labour Organisation, 2020; Republic of Botswana, 2020). The main thrust of Botswana's National Development Plan 11 Economy and Employment thematic area is to promote inclusive economic growth and competitiveness through competitive human resources. To achieve this, the country is working on attracting both domestic and foreign direct investors who will facilitate the fast growth of the private sector (Makoni, 2015). The establishment of new businesses in the country will boost employment opportunities in that country.

2.2.1 Service industries studied in the research

There were four reasons for choosing to conduct the study on the services sector. Firstly, the achievement of the 2030 agenda for Sustainable Development Goals depends to a large extent on the services sector (United Nations Conference on Trade and Development, 2004; Fiorini & Hoekman, 2018). Secondly, since independence in 1966, western culture in the form of business operations, information and communications technology, consumer goods, tourism and the media have been introduced and adopted by Batswana. This has led to the growth of the services sector. Approximately 61.5% of the working population worked in the services sector in 2019, and that sector contributed 60.6% to the Gross Domestic Product (United Nations, 2020). Although economic growth in the services sector has been slow in the past years (Mupimpila & Moalosi, 2016), its overall contribution to the Gross Domestic Product is 64% and it has increased over time (Raboloko, 2019). Thirdly, Botswana's services sector also contributes largely to employment since it is a labour-intensive sector (Raboloko, 2019) This means many employee selection decisions have been made in this sector. Finally, the inclusion of this sector in this study addresses a call for studies focusing on uncertainty avoidance in the services sector (Ghantous & Maher, 2019).

Organisations that operate in Botswana's services sector can be categorised as the government, non-governmental organisations (NGOs), parastatals, state-owned organisations and private companies. To improve the representability of employee selection decision-makers in this sector, the study selected respondents from the engineering, hospitality and tourism, and business services industries. Justifications for drawing samples from these industries are provided in the following sub-sections.

i. Engineering

The engineering industry made an interesting case for the study because there was evidence that over the years, this industry has performed poorly. Engineering projects were delivered with low quality and with time overruns (Ssegawa-Kaggwa et al., 2013). Despite this, the government of Botswana continues to invest substantially in engineering projects (Statistics Botswana, 2016). Fiscal stimulus is injected into the engineering sector to boost it because the sector is expected to facilitate the implementation of the country's transformation agenda by providing key infrastructure such as electricity, road/rail transportation, water and technology (Republic of Botswana, 2020). There was a need to understand how employee selection decisions in this industry are made.

The engineering sector is risky (Kuo & Lu, 2013). More companies across countries have embraced enterprise risk management, and yet this management approach is poorly integrated into business processes (Arena et al., 2010).

In the past 10 years, new laws were promulgated to regulate the engineering industry in Botswana. These included the enactment of the Engineers Registration Board Act, Cap 61:06, which provides for the registration of all engineers and technicians practising in that country. To practise as an engineer or technologist in Botswana, one must first be registered with the Engineers Registration Board (ERB), a professional body for the engineering sector. Therefore, part of job applicants' information that is critical to the employee selection process is the engineer's registration licence. This licence is issued based on the engineers' academic qualifications. Before applying for registration with ERB, one's qualifications must be verified for authenticity by the Botswana Qualifications Authority as per section 4(2)(i) of the Botswana Qualifications Authority Act of 2013. All these legislative requirements seem to promote the use of rationality-based approaches to employee selection.

ii. Government departments

Government departments were selected for this study because the government is a major employer in Botswana (Mutoko & Kapunda, 2017). The uniqueness of this sector is that it is self-regulating. The government's legislative environment demonstrates how bureaucratic practices affect employee selection decision-making. The hypothetical job that was advertised in this sector was for an Accountant. This job was selected because it is complex and is also a regulated profession (Baudot et al., 2018; Baudot et al., 2017). In Botswana, the Botswana Institute of Chartered Accountants regulates the accounting profession according to the Accountants Act Number 12 of 2010.

iii. Hospitality and tourism

The hospitality and tourism industry is regulated by the Botswana Tourism Organisation according to the Tourism Act, Cap 42:09. According to this Act, the types of tourism establishments are guest houses (including bed and breakfast), self-catering enterprises, self-service hotels, fully serviced hotels, game lodges and camps, and other tourist enterprises. Even though the hospitality and tourism industry is regulated, some professions within the sector, such as the Client Relations Management Officer, which was advertised in this study, are not regulated.

iv. Other services industries

Organisations that operate in this industry provide services to the general population and businesses that fall under transformative, distributive, producer, social and personal services (Browning & Singlemann, 1975). There were many respondents in this category because this industry encompassed many organisations. Schramm-Nielsen (2001) made calls for decision-making research integrating culture and cognition to be conducted in diverse cultural settings and industries. Responding to this call, the study focused on the above four industries in Botswana's services sector.

2.3 Conclusion

This chapter explained that Botswana was an interesting setting for the study because it is under-researched. Previous heuristics studies that established the relationship between decision-making styles and decision heuristics use have not been conducted here. Therefore, the generalisability of those study results to this setting is limited, especially since the use of heuristics is context-dependent.

Additionally, studies on uncertainty avoidance and organisational decision-making conducted in Botswana are limited, creating a knowledge gap. Finally, the benefits of conducting the study in Botswana's services sectors contributed to the study achieving a heterogeneous sample, thereby improving the quality and generalisability of the study results.

The next chapter is a review of the literature, and gaps in the results of previous studies that guided this one are discussed. The literature review also provides a basis for the methodology adopted for this study.

Chapter 3: Literature Review

3.1 Introduction

The research question in this study is "What is the effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection?" This chapter has two objectives. The first is to advance the development of Cognitive Experiential Self Theory (Epstein et al., 1992) by demonstrating the theoretical support for linkages between uncertainty avoidance, an intuitive decision-making style and take-the-best heuristic use in employee selection. The second objective is to discuss findings from previous related studies to provide theoretical support for the conceptual model that was proposed and tested in the study.

Recent studies show that selection practices have evolved (Derfler-Rozin et al., 2018), and they are affected by a nation's cultural practices (Ryan et al., 1999). Therefore, the scope of the literature review was limited to studies on uncertainty avoidance, decision-making and employee selection.

The chapter has four sections. This first section briefly introduces the scope and structure of the chapter. The second section discusses the study's theoretical framework. In that section, the core assumptions of Cognitive Experiential Self Theory (Epstein et al., 1992) are discussed. Various contexts in which dual process theory was used to frame studies are also discussed. The third section discusses the theoretical gaps that have been identified in employee selection literature and previous research agendas to show the "white spot on the knowledge map" (Sandberg & Alvesson, 2011, p. 30), where this study is positioned (Alvesson & Sandberg, 2011). The fourth section provides a conceptual model that parsimoniously links the three study constructs to support the thesis. The last section summarises key points discussed in the chapter.

3.2 Theoretical framework

This study is grounded in Cognitive Experiential Self Theory (Epstein et al., 1992), a dual process model. In dual process models, human beings constantly switch between intuition and rationality cognitive processes, depending on the context in which decisions are made (Evans & Stanovich, 2013; Hodgkinson & Sadler-Smith, 2018; Kahneman & Frederick, 2014; Lieberman, 2002; Sloman, 1996; Stanovich, 2014, 2018).

The Cognitive Experiential Self Theory (Epstein et al., 1992) broadly assumes that the human mind makes decisions by using two independent cognitive processes, that is, analytical-rationality and intuitive-experiential information processing systems (Evans, 2003, 2007, 2008; Evans & Stanovich, 2013; Hodgkinson & Sadler-Smith, 2018; Kahneman & Frederick, 2014; Lieberman, 2002; Sloman, 1996; Stanovich, 2014, 2018). This assumption means intuition and rationality can be employed in parallel and independently to cue a decision without synchronising the two cognitive processes (Gawronski & Creighton, 2013; Hodgkinson & Sadler-Smith, 2018). Cognitive Experiential Self Theory (Epstein et al., 1992) also assumes that a person's experience plays a role in how they make decisions.

The intuitive decision-making style relies on intuition to make everyday decisions, while the take-the-best- heuristic operates within the boundary of ecological rationality (Gigerenzer & Gaissmaier, 2011; Luan et al., 2019). Therefore, a parallel-competition dual process model such as Cognitive Experiential Self Theory was most suitable for this study.

The history of dual processes is discussed next. Then the variants of dual process models are explained to demonstrate how the mechanisms of the theory grounding this study differ from other variants. Then critics of dual process models are discussed to assess the suitability of using the theoretical lens of Cognitive Self Experiential Theory (Epstein et al., 1992) for the study. Lastly, the different contexts under which the use of this theory was applicable are discussed.

3.2.1 History of dual process theory

The history of two cognitive processes in the human mind can be traced back to the Ancient Greeks, who differentiated intellectual intuition from the knowledge that was received through the senses (Sowden et al., 2015). With time, great philosophers also contributed knowledge on how the human mind works. One such philosopher was Descartes, who argued that to explain mental activities, one must hypothesise how activities result from an interplay between the environment, senses, and the dual processing capability of the brain (Clarke, 2003). Descartes's argument did not lead to the development of a scientific theory (Clarke, 2003); nonetheless, his idea stimulated many kinds of research that have resulted in the development of decision-making theories.

Another classical decision-making theorist is Herbert Simon. His decision theory postulated that the human mind is limited in making rational decisions because human beings are irrational by nature (Simon, 2006). This human irrationality garnered much attention from studies in different fields, including psychology. As classical cognitive psychologists explored human beings' irrationality, they discovered that human beings are not only irrational, but they are also capable of making decisions rationally (Stanovich, 2018). These discoveries led to dual process theories in the 1970s and 1980s (Evans & Stanovich, 2013; Gawronski & Creighton, 2013; Hodgkinson & Sadler-Smith, 2018; Kahneman & Frederick, 2014; Tversky & Kahneman, 2002).

3.2.2 Types of dual process models

Much research that led to the development of dual process theory proposed a collection of several models in cognitive psychology. These models can be grouped into three sets: general, dual-interventionist and parallel-competition (Gawronski & Creighton, 2013; Hodgkinson & Sadler-Smith, 2018). The common feature of these dual process models relates to the dichotomous nature of the human mind, evidenced by the two cognitive processes used in decision-making, intuition and rationality (Evans, 2003, 2007, 2008; Evans & Stanovich, 2013; Hodgkinson & Sadler-Smith, 2018; Kahneman & Frederick, 2014; Sloman, 1996; Stanovich, 2014, 2018).

The general models aim at making a clear distinction between intuition and rational cognitive processes. The parallel-competition models assume that when making a decision, both intuitive and rational cognitive processes are deployed at the same time in the decision-maker's mind, until both processes cue a decision (Gawronski & Creighton, 2013; Hodgkinson & Sadler-Smith, 2018). Where a conflict arises in the decisions cued by both processes, a state of cognitive dissonance is created, and the two cognitive processes compete for the decision-maker's control of thinking and behaviour (Gawronski & Creighton, 2013; Hodgkinson & Sadler-Smith, 2018). This study deals with the deployment of intuition and ecological rationality when using heuristics (Gigerenzer & Gaissmaier, 2011; Kruglanski & Gigerenzer, 2011; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016). Therefore, the parallel-competition model was the most suitable theory to use.

The default-interventionist models assume that when making a decision, the intuitive process is deployed first until a decision is cued and that the rationality process is deployed only if there is a need to intervene to correct or support the decision that was cued by the intuitive process (Gawronski & Creighton, 2013; Hodgkinson & Sadler-Smith, 2018). This default-interventionist variant of dual process theory argues that intuition and rationality processes work sequentially and that in a decision-making transaction, the rationality processes may not be employed at all.

3.2.3 Critiques of dual process theory

The main difference between dual-interventionist and parallel-competition variants of dual process theories concerns how the human mind synchronises and synergises intuition and rationality processes to cue a decision (Evans, 2003, 2007, 2008; Evans & Stanovich, 2013; Hodgkinson & Sadler-Smith, 2018; Sloman, 1996; Stanovich, 2014, 2018). The scholarly arguments on synchronisation and synergising intuition and rational cognitive processes are widely supported by research (Bazerman & Chugh, 2006; Gilovich et al., 2012; Kahneman & Frederick, 2014).

The core assumptions of the default-interventionist variant of dual process theory have been criticised by some scholars who hold that default-interventionist models fit the characteristics of a uni-model and not a dual process model. Critics argue that synchronisation of intuition and rationality occurs in one sequential process, with intuition preceding rationality cognitive processes (Kruglanski, 2013; Kruglanski & Gigerenzer, 2011).

3.2.4 Use of dual process theory in previous studies

Dual process theory has been used to explain the mechanisms of team cognition and to demonstrate how team cognition guides action to improve the quality of organisational decisions in some workplace contexts (Akinci & Sadler-Smith, 2018). Dual process theory has also been used to demonstrate the usefulness of the intuition cognitive process in assessment centres where employee selection decisions must be made quickly (Ingold et al., 2018). This theory has also previously been used to explain the role that culture plays in organisational decision-making (Miles et al., 2019). These empirical studies demonstrate that dual process theory has been predominantly used to explain cognitive processes of decision-making, providing evidence that the theory has matured.

Cognitive Experiential Self Theory (Epstein et al., 1992) has also been used in heuristics research to explain the mechanisms of the “adaptive toolbox” (Gigerenzer & Gaissmaier, 2011). In the next section, the effect of the intuitive decision-making style on the use of the take-the-best heuristic is reviewed. A discussion of the moderating effect of uncertainty avoidance on the relationship between these two constructs, along with two hypotheses for the conceptual model, follows.

3.3 Hypotheses and conceptual model development

This section discusses the reviewed literature to support the relationships that were predicted between uncertainty avoidance, an intuitive decision-making style and take-the-best heuristic use in employee selection. Discussions are presented under the study's two themes. The hypotheses that were developed from synthesising literature and then tested are presented immediately following discussions under each theme.

3.3.1 Intuitive decision-making style and take-the-best heuristic use

The take-the-best heuristic is one of the most-studied heuristics (del Campo et al., 2016; Michalkiewicz & Erdfelder, 2016). A positive relationship between decision-making styles and the take-the best heuristic has been established in various choice problems (del Campo et al., 2016; Michalkiewicz & Erdfelder, 2016; West et al., 2020). However, the relationship between the intuitive decision-making style and take-the-best heuristic use in the context of employee selection has not been explored. For the sake of completeness in the heuristic theory, an exploratory hypothesis on the relationship between an intuitive decision-making style and take-the-best heuristic use in employee selection is formulated based on the results of related studies discussed in this section.

Galavotti et al. (2021) used dual process theories and the adaptive toolbox to develop an integrative conceptual framework that demonstrates the mechanisms behind the representative heuristic. They assert that their framework shows that intuition affects the functioning of representative heuristics in decision-making because this cognitive process may assist the decision-maker in mentally analysing the information for competing analogies. Galavotti et al.’s (2021) conceptual framework shows that the effectiveness of intuition depends on the decision-maker’s experience, where the decision-maker draws on past learned information to solve the current problem. Since the respondents in the current study

were experienced in decision-making, it was hypothesised that their intuitive decision-making style would predict the use of the take-the-best heuristic.

A series of four experiments that assessed the effect of individual differences in the use of the recognition heuristic showed medium to high correlations between the use of the recognition heuristic and the experimental conditions. The data analysis showed that the use of the recognition heuristic was stable across time ($\rho_{r1, r2}$=.73 [.46,.91] on Test 1 and $\rho_{r1, r2}$=.72 [.47, 89] on Test 2), choice objects ($\rho_{r1, r2}$=.54 [.26,.75] on Test 1 and $\rho_{r1, r2}$=.53 [.25,.75] on Test 2), domains ($\rho_{r1, r2}$=.42 [.18,.62] on Test 1 and $\rho_{r1, r2}$=.33 [.08, 55] on Test 2), and presentation format of the choice object ($\rho_{r1, r2}$=.60 [.44,.74]) (Michalkiewicz & Erdfelder, 2016). These results indicate that the use of the recognition heuristic was stable across various contexts. The researchers of the study concluded that the use of the recognition heuristic partly depends on the decision-making styles.

Michalkiewicz and Erdfelder (2016) called modern researchers to explore the role that personality traits have on the use of this heuristic because research along that line is limited. The recognition heuristic shares a one-reason principle of decision-making with the take-the-best heuristic (del Campo et al., 2016; Gigerenzer & Gaissmaier, 2011; Michalkiewicz & Erdfelder, 2016). It seems likely that the intuitive decision-making style will influence take-the best heuristic use when making employee selection decisions.

The results of an electronic questionnaire survey that identified the specific heuristics used in new product development projects showed that senior managers use specific decision-making types (e.g., heuristics and intuition) when making innovation screening decisions (West et al., 2020). That survey found individual differences in the decision-making styles when making new product development decisions using various heuristics. The study demonstrated a .26 correlation coefficient ($p<.01$) between the intuitive decision-making style and take-the-best heuristic use. Furthermore, the study showed that decision-makers tend to use the take-the-best heuristic (M=4.43, SD=2.35, 17.05%) more than other types of heuristics when making such decisions. According to the researchers, a conceptual explanation for these results was that the association between intuition and heuristics occurs due to the significantly high uncertainty characterising the creative industry (West et al., 2020).

The results of this study are aligned to the heuristics literature where uncertainty has been identified as one of the conditions required for heuristics to work best (del Campo et al., 2016; Gigerenzer & Gaissmaier, 2011; Jung & Kellaris, 2004; Lejarraga & Pindard-Lejarraga, 2020; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016). Similarly, the nature of the relationship between an intuitive decision-making style and the take-the-best heuristic can be expected because employee selection decisions are made under uncertainty.

A meta-analysis that examined the relationship between thinking styles and decision-making, found that an association between thinking styles and decision outcomes is context-dependent (Phillips et al., 2016). The relationship was strongest when the task undertaken matched "the theoretical strengths of the thinking style (up to *r*=.29)" (Phillips et al., 2016, p. 260). While someone may have a high measure of an intuitive decision-making style, depending on the task structure or the context in which the decision must be made, they may use either intuition or rationality cognitive processes (Brown & Daus, 2015; Salas et al., 2010; Pande et al., 2021; Phillips et al., 2016; West et al., 2020). Phillips et al. (2016) urged decision scholars and practitioners to study the relationship between individual differences and the decision task structure in one study to inform interventions aimed at improving the quality of decisions. Although this study used a different methodology from the one used by West et al. (2020), both studies demonstrate that a high amount of uncertainty in the decision-making environment affects decision-making approaches.

del Campo et al. (2016) noted that cue validity influences the use of heuristics. This was demonstrated in an experimental study premised on Cognitive Experiential Self Theory (Epstein et al., 1992) about the relationship between cognitive processes and extralegal heuristics use. The results of that experiment indicate a positive and significant relationship between operating in an intuitive decision-making mode and the use of extralegal heuristics in juror decision-making, rather than when one operates on a rational decision-making mode (Lieberman, 2002). The decision-making cues (testimony and exhibits) aroused respondents' emotions when they were in the intuitive decision-making mode (M=4.9), as opposed to those who were in the rational mode (M=41); the difference was marginally statistically significant (p=.058) (Lieberman, 2002). A marginally significant difference in the effect of high and low levels of attractiveness of the cues when one is in the intuitive mode of decision-making (t (77) = 77, p =.54) was observed (Lieberman, 2002).

An experimental study to evaluate the influence of individual characteristics on the performance of heuristics use in a hypothetical multi-criteria decision-making task showed that the use of a heuristic also depends on the task characteristic (Pande et al., 2021). Pande et al. (2021) argue that self-reported decision styles may correspond to strategy use. Since an intuitive decision-making style was measured through a self-reporting measure in the present study, it was hypothesised that there would be a positive relationship between an intuitive decision-making style and take-the-best heuristic use.

The right data collection procedures or instruments are required for measuring intuition. The affection misattribution procedure has been found to measure automatic cognition better than forced-choice questionnaires or interviews and Brief Implicit Association Test (Miles et al., 2019). The results of Miles et al.'s (2019) study are important for anchoring the procedure that was adopted in the present study. A study is needed to examine the relationship between an intuitive decision-making style and take-the-best heuristics use, which was approached using research methodologies that would yield credible results.

The results of heuristics studies discussed in this section have shown two important points for this study. The use of heuristics is affected by both personal factors (decision-making style, experience) and environmental ones (uncertainty in the decision-making environment, time pressure, task structure and cue validity). Even though a positive relationship has emerged between decision-making styles and the use of certain heuristics, this relationship must be explored further to understand the nature and extent of the relationship between specific decision-making styles and specific heuristics in the context of employee selection. Based on these findings, it is hypothesised that

Hypothesis 1 – Intuitive decision-making style predicts take-the-best heuristic use such that employee selection decisions will be based on fewer (versus all) information cues subjectively perceived to be valid for informing the decision.

3.3.2 Uncertainty avoidance as a moderator

For the use of heuristics to be effective, the effects of uncertainty must be minimised (Jung & Kellaris, 2004). To do this, decision-makers use cognitive schemas to make sense, understand and clarify the ambiguity associated with the uncertainty (Sarafan et al., 2020). The decision-maker's social and cultural values play a role in making complex decisions (Dabić et al., 2015). Cultural values influence the formation of the structure of cognitive schemata, which refers to an individual's system of values and beliefs about a domain (Sarafan et al., 2020). According

to the psychological perspective, cultural values are defined as abstract beliefs about one's desired goals, which are ordered following a system of priority, and they guide the way an individual evaluates people, events and actions (Schwatz, 1992).

Modern researchers are urged to focus more on cultural values that are under-researched (Kashima et al., 2019). Ghantous and Maher (2019) lament that uncertainty avoidance has received little attention in the services sector. Guided by the call from previous researchers (Ghantous & Maher, 2019; Kashima et al., 2019), this study examined the moderating effect of one of Hofstede's cultural values, uncertainty avoidance, on the relationship between the decision-maker's intuitive decision-making style and the take-the-best heuristic in employee selection.

While uncertainty avoidance at a national and organisational level of analysis is a cultural characteristic, at an individual level it is a personality or psychological trait. Previous researchers have measured Hofstede's cultural value uncertainty avoidance at individual levels, where it was treated as a personality trait similar to a tolerance of ambiguity (Jung & Kellaris, 2004; Triandis, 2006). Following those studies, uncertainty avoidance was measured at an individual level in this study. As explained in Chapter 1, this was meant to avoid over-generalising results on the effect of uncertainty avoidance measured at a country level to an individual level of analysis (McSweeney, 2002; Sivakumar & Nakata, 2013; Yoo et al., 2011).

del Campo et al. (2016) conducted a between-subject experimental study that used a choice problem to analyse whether the use of the recognition or take-the-best heuristic depends on individual decision-making styles. The multinomial regression result of their study showed that in Madrid, when decisions must be made under time pressure, and when the levels of rational decision-making style are high, there is a lower preference for the take-the-best product. However, in Vienna, when decisions must be made under time pressure, and when the decision-makers' levels of rational decision-making style are high, there is a higher preference for the take-the-best product. The differences in these results demonstrate that different decision-making styles influence the use of the take-the-best heuristic. The researchers argue that a possible conceptual explanation of variations in their study results might be due to the influence that other personality traits such as cultural factors may have had on the examined relationships.

A questionnaire survey aimed at examining the link between different decision-maker profiles and the quality of decisions showed that managers tend to use heuristics to optimise investment decisions in new product development (West et al., 2020). In addition to the use of heuristics, organisational uncertainty avoidance plays a role in new product development. This was shown in a meta-analysis of the data from the US Software Security Industry (SSI) trademark that aimed at investigating the effect of organisational-level uncertainty avoidance on firm performance. Organisational uncertainty avoidance does not uniformly affect new product development stages (Broekhuizen et al., 2017).

Organisational uncertainty avoidance was demonstrated by how organisations manage their limited funds to the extent that they invest in activities where they are sure that value is guaranteed (Broekhuizen et al., 2017). For example, during product design, high levels of organisational uncertainty avoidance reduce the rate of product innovation (β=-4.251, $p<.05$), while during commercialisation activities, firms apportion more value to activities that protect their brand trademark (β=1.711, SE=.032, $p<.05$) (Broekhuizen et al., 2017). These results show that uncertainty avoidance plays a role in the survival and protection of company brands.

According to the ecological imprinting approach, environmental factors are a conceptual explanation for the varieties and variabilities in decision-making associated with employee relations approaches (Tüselman et al., 2008). The uncertainty avoidance of members of a society or organisation contributes to the degree to which they take risks in uncertain conditions (Hofstede, 1984).

The connection between the results of Broekhuizen et al.'s (2017) and the present study is that some organisations manage the uncertainty associated with employee selection decisions by offering jobs to internal job applicants as opposed to external ones, because employers already know the human capital value of their internal candidates and know how their competencies would benefit the organisation, compared to those of external candidates (DeOrtentiis et al., 2018; Fini et al., 2018; Keller, 2018; Rodrigues, 2018).

A questionnaire survey conducted among British and Spanish consumers, aimed at analysing the moderating effect of uncertainty avoidance on the relationship between the decision-maker's overall perceived value of a service purchased online and the decision-maker's buying behaviours (Sabiote et al., 2012), showed that when the overall perceived value of the service is formed, uncertainty avoidance moderates the decision to buy the service (or not) and enjoy it. These results varied for the nationality of international consumers. A positive and significant

relationship between monetary price and perceived risk of purchase was observed among consumers from cultures with high uncertainty avoidance levels, as opposed to those from cultures with low levels of uncertainty avoidance.

Sabiote et al. (2012) concluded that the relationships observed in their study could be attributed to individual differences in buyers' tolerance for uncertainty and how they react to situations creating ambiguity. Since heuristics are used when making decisions under uncertainty (e.g., employee selection decisions), the decision-maker's tolerance for uncertainty is expected to play a part in the behavioural intention, such as whether to use the take-the-best heuristic or not.

Uncertainty avoidance also plays a role in non-online purchases. For example, it affects consumers' attitudes and significantly influences consumer intentions such as decisions to dine at certain restaurants (Seo et al., 2017). A street intercept survey conducted among foreign residents in metropolitan areas of South Korea examined the moderating effect of uncertainty avoidance on the relationship between subjective knowledge, attitudes towards Korean food and behavioural intentions associated with whether to dine out. The results of the study show that (i) subjective knowledge of Korean food has a stronger effect on behavioural intentions for consumers with low levels of uncertainty avoidance ($\beta=0.51$, $p<.001$) than on those with higher levels ($\beta=0.12$, $p<.05$), and that (ii) uncertainty avoidance moderates the relationship between consumers' attitude and behavioural intentions, such that the relationship was significantly stronger for consumers with higher uncertainty avoidance levels ($\beta=0.49$, $p<.001$) than for those with lower levels ($\beta=0.08$, $p>.05$) (Seo et al., 2017).

Although the two studies discussed here examine consumer decisions, they have shown that uncertainty avoidance plays a role in behavioural intentions under uncertain contexts. This relationship occurs because uncertainty avoidance moderates the processing of knowledge about an object and how one reacts because of the analysis of the information. In this study, uncertainty avoidance was expected to moderate the relationship between the decision-makers' intuitive decision-making styles and their perception of information cue validity, making them decide on employee selection based only on valid cues.

Societal cultural values affect the cognitive structures of decision-makers, and they influence personal values (Jang et al., 2018). A meta-analysis of data from the 2012 administration of WorkTrends^{TM}, an opinion survey conducted since 1985 to track trends in specific human resource themes, showed that societal uncertainty avoidance has a moderating effect on the relationships between employees' participation in decision-making and strain (Jang et al., 2018) The relationship between job control and strain is stronger in cultures with higher levels of uncertainty avoidance (y=.018, p<0.1).

At an organisational level, a positive relationship between uncertainty avoidance and employers' attitudes towards applicant faking has been established, where organisations with cultures high in uncertainty avoidance emphasise social order and have a societal corset of norms for not condoning job applicant faking (Fell & König, 2016; Fell et al., 2016). The relationship between organisational uncertainty avoidance and organisational employee selection processes has also been found to be positive. Organisations with high levels of uncertainty avoidance are more likely to use a variety of selection tools and techniques, to standardise selection processes to a greater extent and to use test security selection methods than are organisations with low levels of uncertainty avoidance (Ryan et al., 1999; Ryan et al., 2017).

The decision-maker's uncertainty avoidance sets a boundary condition for decision-making. A U-shape curvilinear relationship has been established between Demands-Abilities fit and risk-taking propensity in employee selection decisions (Astakhova et al., 2017). People with high levels of uncertainty avoidance seek security and cherish written rules, while ambiguity and uncertain situations threaten them, and those with low levels of uncertainty avoidance are comfortable working under uncertain circumstances because they can accommodate unstructured and ambiguous situations (Sarafan et al., 2020).

The theme emerging from the studies discussed in this section is that uncertainty avoidance has a moderating effect on behavioural intentions, the decision-maker's behaviour and decision-making processes. Moreover, the studies show that uncertainty avoidance is an individual difference factor that people use to tolerate uncertainty associated with making certain decisions. However, environmental factors play a role in the utility of uncertainty avoidance.

The decision-makers' uncertainty avoidance orientation affects their tolerance for ambiguity (Jung & Kellaris, 2004; Sarafan et al., 2020). Intuitive decision-makers are less likely to avoid uncertainty. Those who do not avoid uncertainty are more likely to use heuristics and less likely to adhere to rational decision-making processes. By the analogy of the findings of previous studies, one would expect that in this study, the effect of an intuitive decision-making style on a take-the-best heuristic exhibits differences between decision-makers with low and high levels of uncertainty avoidance. Therefore, I hypothesise that

Hypothesis 2 – Employee selection decision-maker's uncertainty avoidance positively moderates the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection such that the relationship between intuitive decision-making style and take-the-best heuristic use will be stronger when levels of uncertainty avoidance are high than when they are low.

3.3.3 Control variables

The control variables for the study are the employee selection decision-maker's age and gender, as well as the effect of national-level uncertainty avoidance. These three control variables are extraneous to the hypothesised conceptual model. The next sub-sections discuss evidence from previous studies, which show that the control variables in this study, the decision-makers' age and gender, employee selection tools and national-level uncertainty avoidance affect the use of heuristics in decision-making.

i. **Employee selection decision-maker's age**

Previous studies have shown that the age of the decision-maker affects the decision-making process and the use of heuristics (Besedeš et al., 2015; Cole & Balasubramanian, 1993; del Campo et al., 2016; Rhodes & Pivik, 2011). A controlled experimental study that examined how choice overload can be reduced without reducing the effect of choices to improve decision-making found that older people have reduced reliance on heuristics commonly used in decision-making (Besedeš et al., 2015).

A field study that sought to determine if there were age differences in how older and younger consumers search for information about products, and what search outcomes emerge when consumers solve problems in supermarket aisles, showed that older people approach problem-solving by using different heuristics than those used by younger people (Cole & Balasubramanian, 1993). The results of this study found that older people displayed more

loyalty to the brands of products they selected than younger people did (Cole & Balasubramanian, 1993). An experimental study also established a positive relationship between the decision-maker's age and the use of the recognition heuristic, even though the impact is small (del Campo et al., 2016). The results of the study showed that older customers tend to buy a product if they are familiar with the packaging more frequently than younger customers.

Finally, a telephone survey grounded on dual process theory was conducted within a context of driving and showed that positive affect is higher for teenage drivers than for adults (b=.23, p<.001), while the perceived risk is higher for adult drivers than for teenagers (b=−.31, p<.001) (Rhodes & Pivik, 2011). These study results showed that gender has a mediating effect on the relationship between intuitive and rational decision-making styles. The results show that affect and perception of risk influence the use of intuitive and rational decision-making styles (Rhodes & Pivik, 2011). These results are consistent with the assumptions of dual process theories, that cognitive processes of decision-making are interdependent.

ii. Employee selection decision-maker's gender

There are differences between how males and females process information when making decisions (Byrne & Worthy, 2015; Carnes et al., 2019; Lodato et al., 2011; Rhodes & Pivik, 2011). For example, a phone survey among teenage and adult drivers found a significant relationship between gender and perceived risk in driving, noting that the perception of risk in female drivers is higher than that in male drivers (β=−.24, p<.001) (Rhodes & Pivik, 2011).

iii. Effects of national uncertainty avoidance

Previous studies have shown that cultural values measured at a national level have a positive effect on decision-making (McSweeney, 2002; Sivakumar & Nakata, 2013; Yoo et al., 2011). The uncertainty avoidance levels for nations surrounding Botswana such as South Africa and Zambia are classified as moderate, with the uncertainty avoidance index of South Africa being 49, and of Zambia being 50 (Phatshwane et al., 2014). However, there is a paucity of research focusing on uncertainty avoidance in Botswana (Phatshwane et al., 2014).

Numerous studies, including the Global Leadership and Organisational Behaviour Effectiveness (GLOBE) project (Javidan & Dastmalchian, 2009) and those of Hofstede examining cross-cultural practices in different countries (Hofstede, 1980; Hofstede & Minkov, 2010), established a positive relationship between uncertainty avoidance and employee selection processes and use of employee selection tools (Fell & König, 2016; Fell, König & Kammerhoff, 2016; Ryan et al., 1999, Ryan et al., 2017). However, these studies did not draw samples from Botswana. Consequently, there remains a knowledge gap in the level of uncertainty avoidance of employee selection decision-makers in Botswana. Even the uncertainty avoidance levels of Batswana are not known, and that gap will be assumed to affect the relationship being tested in this study.

An experimental study of the effect that decision-making style has on different heuristics was conducted in Madrid and Vienna. The study examined the use of heuristics (i.e., emotional, cognitive, filler, take-the-best and recognition) when making consumer decisions. The experiment yielded mixed results. In Madrid, a positive and significant relationship was established between high levels of rational decision-making style and less frequent choice of the take-the-best heuristic in the absence of the interaction effect of time pressure. When the interaction variable (decision-making style x time pressure) was introduced to the model, the ordering was reversed.

However, in Vienna, where time pressure was not an experimental factor, high levels of rational decision-making style resulted in choosing the take-the-best heuristic more often than the cognitive one. The researchers concluded that the considerable differences in the results on the product choices could be attributed to cultural factors (del Campo et al., 2016). To control the effects of the influence of national uncertainty avoidance on employee selection decision-making in this study, the study was conducted in Botswana only.

3.3.4 Conceptual model

A conceptual model is a visual representation of the direction of the relationship between variables (Benitez et al., 2018). To facilitate the development of the conceptual model in Figure 3-1, which was tested in the study, the researcher drew on the synthesised literature of previous related decision-making research discussed in sections 3.3.1 and 3.3.2. To advance the model, it was tested to examine the moderating effect of uncertainty avoidance on the relationship between an intuitive decision-making style and take-the-best heuristic use. Cognitive Experiential Self Theory (Epstein et al., 1992) was used as a basis for latent variables of the conceptual model.

The study's conceptual model has four control variables: employee selection decision-makers' age and gender, employee selection tools and effects of national uncertainty avoidance. These confounding variables were included in this model because previous research has shown that they affect take-the-best heuristic use. Therefore, if not controlled for, they may cause spuriousness in the observed relationship between an intuitive decision-making style and managerial heuristic use (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010; Bernerth et al., 2018; Steiner et al., 2017). Section 4.9.4 contains a more detailed discussion of the study's control variables. The model in Figure 3-1 served as a reference point for data collection, data analysis and discussion of study results.

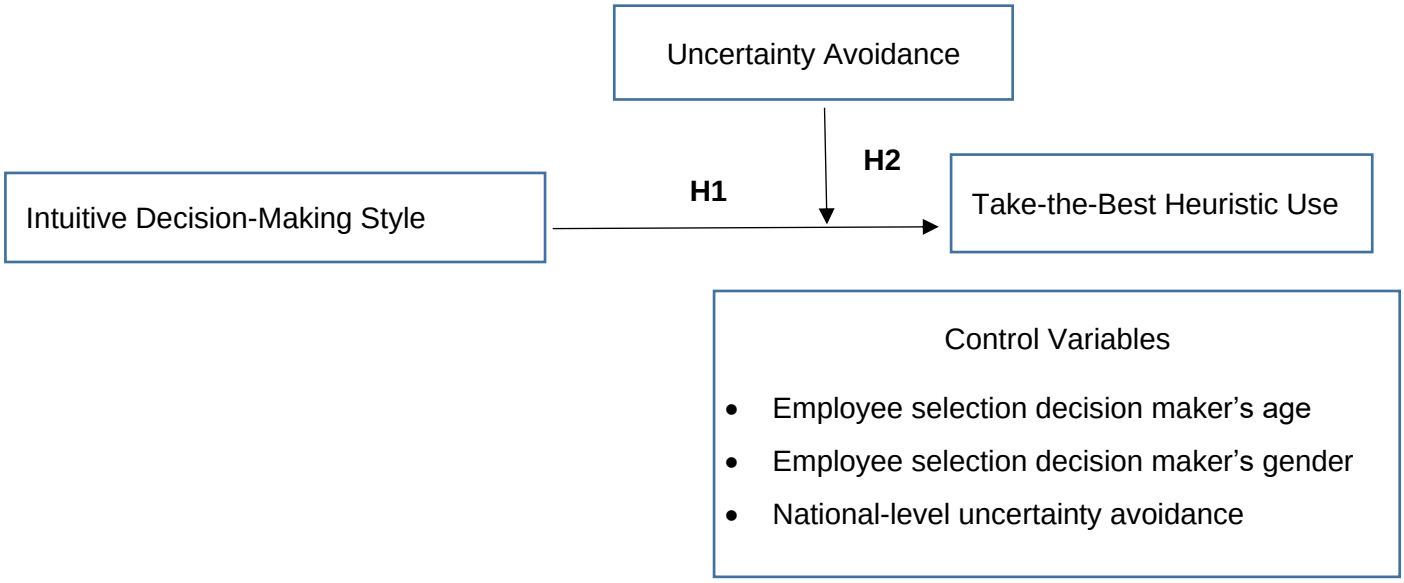

Figure 3-1: Conceptual model (Source: Author)

In summary, the two hypotheses that will be tested are as follows:

Hypothesis 1 – Intuitive decision-making style predicts take-the-best heuristic use such that employee selection decisions will be based on fewer (versus all) information cues subjectively perceived to be valid for informing the decision.

Hypothesis 2 – Employee selection decision-maker's uncertainty avoidance positively moderates the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection such that the relationship between intuitive decision-making style and take-the-best heuristic use will be stronger when levels of uncertainty avoidance are high than when they are low.

3.4 Conclusion

This chapter has laid the theoretical foundation for this study. The reviewed literature shows that the intuitive decision-making style predicts take-the-best heuristic use in certain decision-making contexts. Studies have also shown that uncertainty avoidance moderates many business relationships. Finally, a parsimonious conceptual model tested by the study is presented in the chapter. The model visually depicts linear relationships between an intuitive decision-making style and take-the-best heuristic use. It also shows the interaction of uncertainty avoidance as a moderating variable for the linear relationship stated earlier. The next chapter addresses research methodology along with research procedures and criteria that were used to generate data for this study.

Chapter 4: Research Methodology

4.1 Introduction

This chapter articulates the research methodology that was applied to collect the data to answer the primary research question, "What is the effect of uncertainty avoidance on the relationship between their intuitive decision-making style and take-the-best heuristic use in employee selection?" The methodological choice for the study was guided by the nature of the research problem and the theory anchoring the study, Cognitive Experiential Self Theory (Epstein et al.,1992).

The purpose of this chapter is to report on the research design and to explain the methodology that was adopted to collect data. The chapter starts by explaining the philosophy that underpins the study. The research approach and design that were adopted are then discussed, followed by a discussion of the sampling strategy used to recruit and select the study respondents. The results of the data analysis are presented next. Finally, aspects of research quality are discussed to demonstrate that the study has generated valid, reliable, generalisable and objective results. The chapter also explains ethical considerations that were observed during the entire research process.

Aguinis and Bradley's (2014) best practice recommendations for experimental vignette methodology studies were adopted and followed for the research design and methodology. The recommendations include six decision points that were considered during the research planning as well as the trade-offs that were made at that research stage. The recommendations also include two other decision points relating to procedures that were implemented when executing the research strategy, particularly during data collection. The procedures implemented ensured that the study had external and internal validity. The scope of the chapter excludes the last two decision points in Aguinis and Bradley's (2014) recommendations, which deal with reporting the study results. Those two decision points are addressed in the next chapter.

Figure 4-1 provides a summary of the decision points that were made during the planning and implementation of the research design and methodology and reporting of results. Figure 4-1 also shows the relevant sections of the chapter where each of the eight decision points relating to research methodology has been addressed in this report.

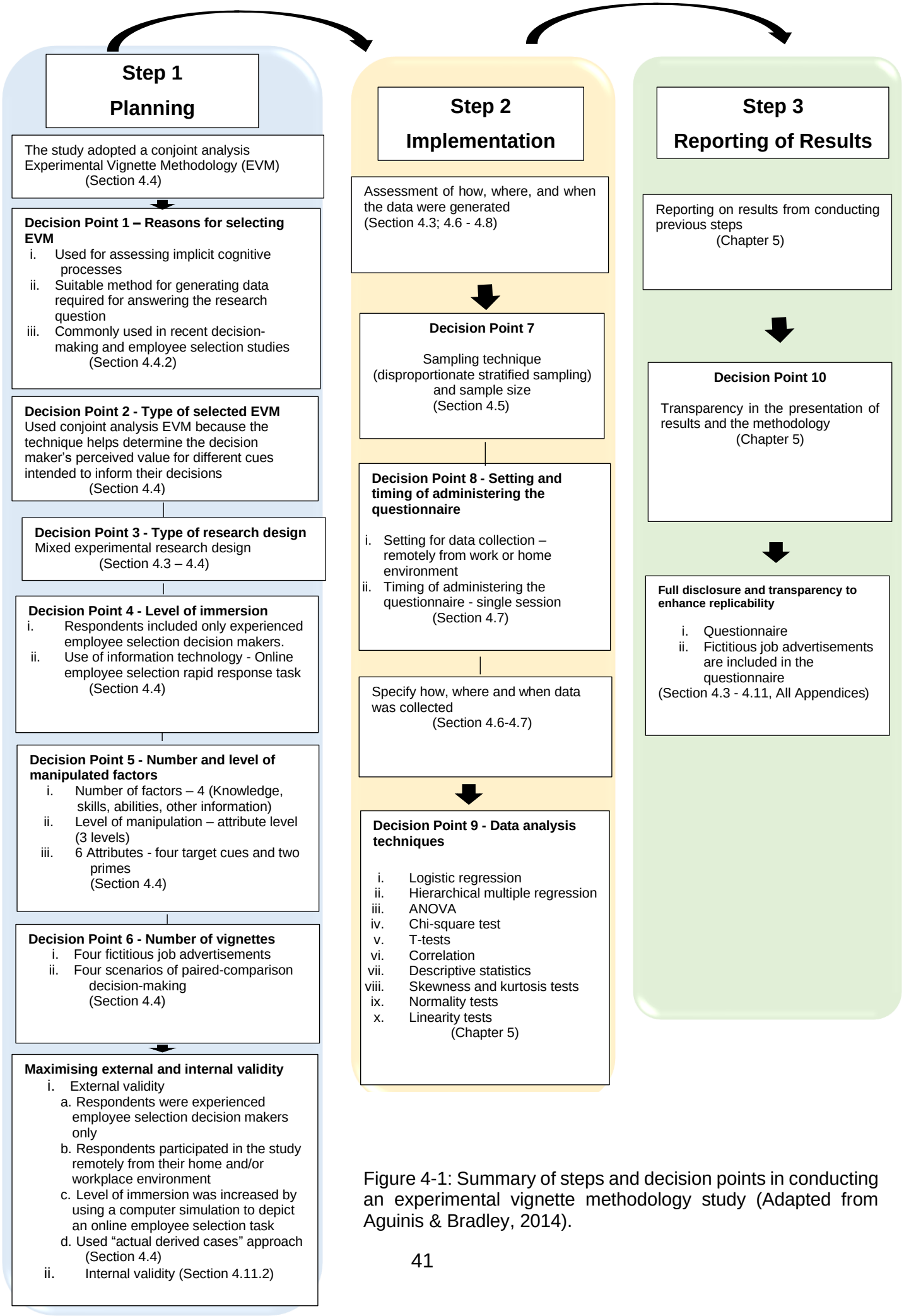

Figure 4-1: Summary of steps and decision points in conducting an experimental vignette methodology study (Adapted from Aguinis & Bradley, 2014).

4.2 Research philosophy

Due to the objective nature of the study's research problem, the philosophy that underpins the study is positivism. The positivist paradigm assumes that knowledge about reality can be predicted and obtained by using scientific methods that test cause-and-effect theories (Al-Habil, 2011; Antwi & Hamza, 2015; Rahi, 2017; Wahyuni, 2012; Yilmaz, 2013). The review of the literature showed that previous studies that identified factors influencing the use of heuristics in organisational decision-making were underpinned by positivism (del Campo et al., 2016; Galavotti et al., 2021; Lejarraga & Pindard-Lejarraga, 2020). Some studies that established a relationship between uncertainty avoidance and employee selection decisions also followed positivist epistemologies (Astakhova et al., 2017; Fell & König, 2016; Fell et al., 2016; Ryan et al., 1999, 2017). Following these related previous studies, the study adopted a positivist paradigm.

4.3 Research approach

The study utilised a mono method to collect data. It adopted a quantitative research approach because studies that established a causal relationship between decision-making styles and heuristics use were quantitatively oriented (del Campo et al., 2016; Galavotti et al., 2021 Lejarraga & Pindard-Lejarraga, 2020; Michalkiewicz & Erdfelder, 2016; Phillips et al., 2016). Additionally, a quantitative research approach fits positivist epistemological methodologies used for testing theories that measure the causal relationships between variables to arrive at deductive conclusions (Al-Habil, 2011; Antwi & Hamza, 2015; Rahi, 2017; Wahyuni, 2012; Yilmaz, 2013).

The theoretical framework for the study is the Cognitive Experiential Self Theory (Epstein et al., 1992). This theory assumes that the mind is dichotomous, with specific reference to its capability to engage two distinct cognitive processes when making decisions (Evans, 2003, 2007, 2008; Evans & Stanovich, 2013; Gawronski & Creighton, 2013; Sloman, 1996; Stanovich, 2018). Another reason a quantitative research approach was adopted for the study is that this research orientation is aligned to the theory grounding the study.

4.4 Research design

The study adopted an experimental vignette design. This section covers the first step of Aguinis and Bradley's (2014) recommendations for conducting studies that follow an experimental vignette methodology. Discussions in this initial step include six decision points that address how the study was planned. These decision points are (i) reasons for selecting an experimental vignette methodology for collecting data, (ii) the type of experimental vignette methodology that was followed and reasons for choosing experimental vignette methodology, (iii) the type of experimental vignette research design that was used, (iv) strategies that were used to improve respondents' level of immersion in the experimental task, (v) the number and level of factors that were manipulated and (vi) the number of vignettes that were used in the experimental task.

4.4.1 The study's type of research

This study was explanatory. Explanatory studies are best approached by methodologies that test cause-and-effect relationships (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010; Weisshaar, 2018). The conceptual model that was tested in the study, which is shown in section 3.3.3, is a regression model with an interaction between intuitive decision-making style and uncertainty avoidance. As indicated above, the conceptual model has two hypothesised relationships. The first relationship is a causal relationship between an intuitive decision-making style and take-the-best heuristic use. The other relationship is a moderated relationship between these two constructs and uncertainty avoidance, which is a moderator.

4.4.2 Decision Point 1 – Reasons for selecting experimental vignette methodology

The study adopted an experimental vignette methodology because it is suitable for studies that deal with causal investigations. The choice of experimental vignette methodology was influenced by its use in previous studies that examined respondents' judgements (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010). The methodology is not only common in general decision-making studies (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010; Brown & Daus, 2015) but it has commonly been used in recent employee selection research (Ababneh et al., 2014; Carnes et al., 2019; DeCarlo et al., 2015; Miles et al., 2019; Olsen & Martins, 2016; Roulin & Bhatnagar, 2018; Weisshaar, 2018).

Furthermore, experimental vignette methodology was suitable for this study because it allowed for the isolation and inclusion of only factors that are relevant to the research question, and it excluded those that might confound the results (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010). The methodology also gives researchers the control to manipulate the independent variable and to collect data that are unbiased to provide a more accurate estimated measure of the independent variable's prediction ability for the dependent variable (Aguinis & Bradley, 2014; Mariani et al., 2019). Therefore, the results of this study provide a more granular understanding of the effect of one's intuitive decision-making style on the use of the take-the-best heuristic in employee selection.

The study's experimental task was a paired comparison employee selection simulation. Even though it would have been best to test the relationship between an intuitive decision-making style and take-the-best heuristic use in a real-life situation, this would have posed methodological challenges because it would not have been possible to standardise the employee selection scenario across all 153 respondents who participated in the experimental task. The study's employee selection paired comparison experimental task used experimental vignettes to standardise the employee selection decision-making context across all respondents (Brown & Daus, 2015; Lu et al., 2019). This improved the quality of results since the respondents did not have to reflect on the employee selection decision-making tasks they had previously participated in for them to respond to questionnaire items.

Additionally, the experimental vignette methodology was appropriate because it is useful for assessing implicit cognitive processes (Aguinis & Bradley, 2014). As observed by some researchers, measuring implicit automatic cognitive processes cannot be achieved if forced-choice surveys and the Brief Implicit Attribution Test are used for collecting data (Miles et al., 2019). Even classical experimental studies do not accurately measure implicit automatic cognition because decision-making in classical experiments is not the same as decision-making in real life (Toplak et al., 2017; Winch & Maytorena, 2009).

4.4.3 Decision Point 2 – The selected type of experimental vignette methodology

This study used the conjoint analysis technique for three reasons. Firstly, this type of analysis, experimental vignette methodology, has successfully been used in previous human resource management studies (Luan et al., 2019; Miles et al., 2019). Secondly, factors that influence the use of heuristics are documented in the literature. Conjoint analysis experimental vignette studies are used when a theory on factors that influence an individual's decision process is known a priori (Priem et al., 2011). The third reason the conjoint analysis technique was used in the study is that the technique is suitable for studies that deal with multidimensional causal relationships. The technique helps to determine factors that influence the decision-maker's perceived value for different cues intended to inform their decision (Aguinis & Bradley, 2014; Hein et al., 2020).

4.4.4 Decision Point 3 – Type of research design

The study used a mixed experimental vignette design. Different homogenous groups of study respondents were assigned to read different vignettes depending on the industry they worked in. Respondents were randomly assigned to one of the four vignettes. Within the same experimental group, the respondents were randomly assigned to the same vignette (Aguinis & Bradley, 2014). Automatic randomisation was done by a split-logic feature in SurveyMonkey. As soon as respondents responded to item 10 of the questionnaire, they were directed to a scenario with a job that exists in that industry, for which they had to make employee selection decisions. The mixed experimental vignette design did not provide a chance for comparing the respondents' responses for different prototypical job positions (Aguinis & Bradley, 2014). This design did not affect the integrity of the study results because all the respondents were experienced employee selection decision-makers.

The vignettes were fictitious advertisements portraying prototypical job positions that exist and were also relevant to the sectors the respondents worked in. The vignettes also had profiles of two job applicants competing for a job. Figure 4-2 shows the four experimental groups and the vignettes they were assigned.

Experimental Group 1 Engineering industry Vignette – Civil Engineer (Regulated Profession)	**Experimental Group 2** Hospitality and Tourism industry Vignette – Client Relations Management Officer (Unregulated Profession)
Experimental Group 3 Other business services industry Vignette – Marketing Officer (Unregulated Profession)	**Experimental Group 4** Government Departments (Self-regulated sector) Vignette – Accountant (Regulated Profession)

Figure 4-2: Experimental groups and prototypical jobs (Source: Author)

Experimental group 1 was for employee selection decision-makers who work in organisations that provide engineering services. They were assigned an employee selection decision-making task for a Civil Engineer position. A fictitious job advertisement for this experimental group is shown in Figure 4.3.

Job Advert
REF: ENG123456

Are you a Civil Engineer registered with Engineers Registration Board who is interested in working on world-class construction projects in a reputable and well-established organisation? Do you want professional training and development that will equip you with the skills of modern civil engineering technologies? We welcome applications from exceptional engineers to work on engineering projects in our organisation. The organisation offers an exceptional package. Ideally, you will have demonstrated experience in civil or structural engineering projects such as sewer and water reticulation, road works or earthworks. You will need to have a working knowledge of using engineering software.

The successful applicant should be a self-motivated individual with:

- A relevant Bachelor's degree
- At least 5 years of work experience.
- Good communication skills
- Leadership and people management skills
- A focus on time management
- Solid computer skills

To apply for this role, submit your application online at the address below:

The Human Resource Manager
ABC Pty (Ltd)
P O Box 45678, Gaborone
Email: recruitment@abc.org.bw
For further information, please contact the Human Resources Department at Telephone number: (+267) 3123456

Figure 4-3: Fictitious job advertisement for Civil Engineer (Source: Author)

Table 4-1 shows profiles of the two job applicants who were competing for the Civil Engineer job in Scenario 1.

Table 4-1:Fictitious job applicants' profiles for job applications competing for the Civil Engineer position

Factors	Attributes	Job Applicant 1	Job Applicant 2
1. Knowledge	Level of education	Bachelor's degree	Bachelor's degree (honours)
	Field of study	Civil Engineering	Project Management
2. Skills	Previous work experience	Six years in the specified job	Six years in a related job
3. Abilities	Structured interview score	75%	79%
4. Other information (prime cues)	Age	30 years old	27 years old
	Candidate type	Internal	External

Experimental group 2 was for employee selection decision-makers who work in the hospitality and tourism industry. They were assigned an employee selection decision-making task for a Client Relations Management Officer position. Appendix 1 shows a fictitious job advertisement and profiles of two job applicants, which respondents in this group were given to compare and to select the job applicant they preferred for a job offer.

Experimental group 3 was for employee selection decision-makers who work in the services sector. They were assigned an employee selection decision-making task for a Marketing Officer position. Appendix 1 shows a fictitious job advertisement and profiles of two job applicants, which respondents in this group were given to compare and to select the job applicant they preferred for a job offer.

Experimental group 4 was for employee selection decision-makers who work for the government. They were assigned an employee selection decision-making task for an Accountant position. Appendix 1 shows a fictitious job advertisement and profiles of two job applicants, which respondents in this group were given to compare and to select the job applicant they preferred for a job offer.

4.4.5 Decision Point 4 – Level of immersion

Four factors were used to enhance the respondents' level of immersion in the experimental task. The first factor was using information technology. The experiment was an electronic employee selection rapid task that was web-based. It was designed, set up and conducted in SurveyMonkey. Using information technology enhanced the respondents' level of immersion in the experimental task since the task was interactive. This ensured that respondents were not passive during the simulated employee selection task. Technological advancements such as using visual aids in research have been seen to provide tools that enhance the realism of experimental tasks because the presentation manner of experimental scenarios increases the respondents' level of immersion (Aguinis & Bradley, 2014).

The second factor that enhanced the respondents' level of immersion was informing them of the estimated time for completing the questionnaire at the beginning of data collection. This made them conscious of the time they had for completing the questionnaire. Further, at the beginning of the experimental task, the respondents were informed that the purpose of the experiment was to measure how fast people can make snap judgements, and they were thus requested to respond as fast as they could to questionnaire items. Informing them of the purpose of the experiment was meant to keep them attentive throughout the session.

Thirdly, the respondent's level of immersion in the task was enhanced by restricting participation in the study to experienced employee selection decision-makers only. This selection criterion was desirable for the study because Cognitive Experiential Self Theory (Epstein et al., 1992) assumes that the decision-makers experience affects the cognitive process they use for decision-making. Purposely selecting only experienced employee selection decision-makers to participate in the study was done because experienced employee selection decision-makers know the type of information that is normally required for informing employee selection decisions.

Lastly, the respondents' level of immersion in the experimental task was improved by including theoretical information cues that inform employee selection decisions. The cues were kept at a manageable number. However, care was taken for the number not to be too small to compromise the required statistical power (Knudsen & Johannesson, 2019). Research on managerial heuristics use has demonstrated that employee selection decision-makers base their decisions on a few information cues (Luan et al., 2019). Having a small number of information cues in experiments avoids respondents' fatigue (Hein et al., 2020).

4.4.6 Decision Point 5 – Manipulation of factors

The purpose of manipulating factors in the experimental task was to allow for the collection of data for measuring the use of the take-the-best heuristic. This was observed by respondents choosing the job applicant attributes they subjectively perceived to be valid for informing the decision. This section discusses the number and level of manipulated factors.

i. Number of factors

The experimental task was based on four factors. Three of these factors, knowledge, skills, and abilities, have been identified in employee selection literature as factors that influence employee selection decisions (Astakhova et al., 2017; Cable & DeRue, 2002). The theoretical attributes of these three factors include job applicants' previous work experience, level of education, field of study, and interview scores. Employee selection literature shows that employee selection decision-makers use all these theoretical attributes to predict job applicants' future performance (Jackson et al., 2018; Luan et al., 2019; van Esch et al., 2018).

The last factor in the study was information that was not related to person-job fit but is found to influence employee selection decisions in employee selection literature. This type of information is called primes. The inclusion of primes in the experimental tasks was meant to manipulate the respondents' intuitive decision-making style, to assess if those would influence their intuitive decisions. Luan et al. (2019) argue that when decision-makers are presented with an ambiguous stimulus to guide their decision-making processes, they tend to base their decisions on their moods and feeling about the ambiguous information. The experiment's two primes included age (van Esch et al., 2018) and candidate type (DeOrtentiis et al., 2018; Fini et al., 2018; Keller, 2018; Rodrigues, 2018).

ii. Level of manipulated factors

Careful manipulation of experimental scenarios helps ascertain the specific causal antecedents of managerial heuristics use (Skarlicki & Turner, 2014). Manipulation of the experimental factors was done at the attribute level. The level of manipulated attributes was three (1 – Job applicant 1 attribute, 2 – Job applicant 2 attribute and 0 – Job applicant's attribute not important). The attributes on job applicants' profiles were presented as automated generated statements. After reading the job advertisement, the respondents were asked to select their preferred job applicant based on attributes they perceive valid for informing the advertised job.

Table 4-2 shows the numbers and level of manipulated factors that were used in the experimental task, which measured the marginal effect of information used for informing employee selection decisions.

Table 4-2: Number and level of manipulated factors

Factors	Attributes	Levels (Attribute value)
1. Knowledge	**Level of education**	1. Bachelor's degree 2. Bachelor's honours degree 3. Attribute not important
	Field of study	1. Relevant field 2. Related field 3. Attribute not important
2. Skills	**Previous work experience**	1. Six years in the specified job 2. Six years in a related job 3. Attribute not important
3. Abilities	**Structured Interview score**	1. 75% 2. 79% 3. Attribute not important
4. Other information (Prime cues)	**Age**	1. 30 years old 2. 27 years old 3. Attribute not important
	Candidate type	1. Internal 2. External 3. Attribute not important

4.4.7 Decision Point 6 – Number of vignettes

The study had four vignettes, which are fictitious job advertisements for four prototypical jobs found in the services sector. The vignettes were advertisements for a Civil Engineer for the engineering industry, one for Client Relations Management Officer for the hospitality and tourism industry, a Marketing Officer for other services industries besides engineering and hospitality and tourism, and one for an Accountant for government departments. All fictitious job advertisements are included in Appendix 1. The vignettes were systematically varied by having four different prototypical jobs that exist in real life.

For easy comparison of responses, all prototypical job positions were at the professional level. This was done to standardise the contexts of decision-making across the sectors (Brown & Daus, 2015; Lu et al., 2019).

4.4.8 Maximising external and internal validity

i. External validity

This study's experiment had good external validity because the randomisation process worked well. The cloud-based research software that was used, SurveyMonkey, had a split-logic feature, a randomisation feature used to direct respondents to different experimental treatments (Hunt & Scheetz, 2019). As already discussed in section 4.4.5, the external validity of the study was increased by having experienced employee selection decision-makers in the sample. The study also had ecological validity because although it followed an experimental vignette design, the simulation of employee selection decision-making was similar to the real-life employee selection decision-making process. Therefore, the study results can be generalised to the actual world.

External validity was also maximised by improving the experimental task's realism. This was achieved by using actual derived cases, by experimenting in the natural work environment where employee selection decisions are usually made, and by using information cues that were found to influence employee selection decision-making in literature. These three points are discussed below.

(a) using actual derived cases

The study's external validity was improved by adopting an 'actual derived case' approach for the manipulation of the experimental factors. The 'actual derived case' approach means variables in the experimental task are manipulated to resemble the concrete object (Aguinis & Bradley, 2014). The four fictitious job advertisements resembled real job advertisements for actual jobs that exist in the services sector. To improve the realism of the experimental vignettes, before data collection, the human practitioners were asked to comment on the clarity and content of the job advertisement.

(b) experimenting in the natural work environment where employee selection decisions are made

In real life, employee selection decisions are made in a work environment, which could be in an office or a home environment when one is working remotely. Since the study was an online experiment, the respondents participated in the study in their usual workplace environments.

(c) using information cues that were found in the literature to influence employee selection decision-making.

To enhance the realism of the employee selection experimental task, respondents were presented with six theoretical information cues. Four out of six information cues were target cues. These included a field of study, level of education, interview scores and previous work experience (Jackson et al., 2018; Luan et al., 2019; van Esch et al., 2018). The remaining two information cues were primes. These were age (van Esch et al., 2018) and candidate type, that is, whether the job applicant is an internal or external candidate (DeOrtentiis et al., 2018; Fini et al., 2018; Keller, 2018; Rodrigues, 2018).

The choice of the theoretical information cues that were included in the study's experimental task was influenced by the results of the pilot study. In the pilot study, the respondents were given 13 cues, which they had to rate in the order of their perceived importance to informing employee selection decisions (see Appendix 3). The pilot study results on the perceived importance for the 13 cues are shown in Table 4-3.

Table 4-3: Perceived cue importance

Information Cue	**Frequencies**		**N**
	Mean	**Percentages (%)**	
1. Gender	1.54	30.83	28
2. College heterogeneity	2.13	42.50	28
3. Social ties	2.29	45.83	28
4. Extracurricular activities	2.67	53.33	28
5. Candidate type	2.75	55.00	28
6. Age	2.88	57.50	28
7. Intention during or after tertiary education	2.92	58.33	28
8. Study duration	3.21	64.17	28
9. Grade Point Award/Academic grades	3.21	64.17	28
10. Previous work experience	3.83	76.67	28
11. Interview scores	3.96	79.17	28
12. Level of education	4.21	84.17	28
13. Field of study	4.33	86.67	28

(Source: Pilot study, 2020)

Based on these pilot study results, four target cues—field of study (86.67%), level of education (84.17%), interview scores (79.17%) and previous work experience (76.67%)—were selected for use in the main study because the pilot study respondents perceived them to be the four most important cues in information employee selection decisions. Despite age (57.50%) and candidate type (55.00%) not being relevant to the requirements of the advertised jobs, the pilot study respondents perceived them to be important for informing employee selection decisions. These two were included in the study to prime the respondents into making intuitive decisions.

ii. Internal validity

The conjoint analysis experimental vignette methodology maximised the study's internal validity because, for the linear relationship on the conceptual model, the study measured the causal relationship between an intuitive decision-making style and take-the-best heuristic use only. A comprehensive discussion of the reliability and validity of the experientiality scale (Pacini & Epstein, 1999) and uncertainty avoidance scale (Yoo et al., 2011) and take-the-best heuristic use measure is presented in the next chapter in the section dealing with measurement statistics.

To increase the study's internal validity, other factors that have been shown to affect the use of heuristics, such as age and gender and the effect of national uncertainty avoidance, were controlled for in the experimental task and data analysis to avoid spuriousness of the observed relationship.

4.5 Sampling strategy

The discussion in this section concerns the strategy that was used to recruit and select respondents for the study. The sampling strategy section addresses Decision Point 7 of Aguinis and Bradley's (2014) framework for studies that follow an experimental vignette methodology. The section specifies the characteristics of the sample. This includes a discussion of the study population, level and unit of analysis, sampling frame that was compiled, a sampling technique that was used to select the respondents, how and where the respondents were recruited and the sample size for respondents.

4.5.1 Study population

The study population was employee selection decision-makers who work in various organisations within Botswana's services sector. These included human resource practitioners, line managers and executives who play a role in employee selection decision-making. The organisations where employee selection decision-makers were drawn from were privately owned companies, NGOs, parastatals and government departments.

4.5.2 Level and units of analysis

The level and unit of analysis for the study was limited to individuals. The need to examine cultural values at an individual level of analysis is supported in literature because it avoids over-generalising the results for studies that measured cultural values at a country level to an individual level (Jung & Kellarfis, 2004; McSweeney, 2002; Sarafan et al., 2020; Sivakumar & Nakata, 2013; Yoo et al., 2011).

4.5.3 Sampling frame

A sampling frame for the study was not readily available. The researcher had to compile it before the commencement of the study. The first list that the researcher compiled was for organisations operating in Botswana's hospitality and tourism industry. This sector is regulated by the Botswana Tourism Organisation (BTO). In Botswana, no hospitality and tourism establishment may operate unless it is registered and licensed by the BTO. Some of the BTO-registered hospitality and tourism organisations are members of the Hospitality and Tourism Association of Botswana (HATAB). A complete list of HATAB members was obtained from HATAB's website. The HATAB members who were not included in the sampling frame were those whose contact details, especially email addresses, were unavailable.

Another list that was compiled was that of government departments, parastatals, NGOs and private companies operating in the services sector. A list of organisations falling within industries in this sector was compiled from the Botswana Telecommunication Corporation's phone book, which had telephone numbers and email addresses of organisations. The sampling frame was finalised by merging the two lists.

The study's sampling frame had variables of interest such as names of the organisations and their contact details (i.e., telephone numbers and email addresses). In cases where the organisations and potential respondents' email addresses were known or identified from the telephone directory, they were captured on the sampling frame because the weblink to the questionnaire was shared through respondents' emails. The email addresses were also captured for purposes of making follow-ups and sending reminders to respondents. The confidentiality of respondents was protected by deleting the email addresses in the codebook before data analysis.

4.5.4 Access and respondents' recruitment strategy

Even though the study was conducted at an individual level of analysis, access to potential respondents had three levels. First, the researcher had to request a research permit from the Ministry of Tertiary Education, Research and Technology before the commencement of data collection (see Appendix 5). After being granted the research permit, the next level of requesting access involved contacting government departments because they were a link to potential respondents. At the time of requesting access from government departments, information on their confidentiality protocols was sourced and complied with by completing the required documentation.

When requesting access from government departments, employers were informed that the study was not obtrusive as it did not require the use of any organisational information. The gatekeepers were given a copy of the questionnaire to verify from the content of the questionnaire that it did not require respondents to disclose any organisational-related information. Despite the nature of the research, most government departments were not comfortable with giving the researcher the contact details of their employees who were responsible for employee selection decision-making. Rather, they preferred to be given a survey web link, with the view that employers are responsible for sending it to their employees. The recruitment strategy for this study supports the argument that negotiating access to data sources is an ongoing process at several levels (Crowhurst, 2013).

After gaining access to potential respondents, emails were randomly sent to all organisations and individuals in the sampling frame, inviting them to participate in the study. This selection strategy was not effective, as evidenced by the few people who accepted the invitation to participate in the study. As soon as the researcher realised that the traditional way of sourcing research respondents by email yielded low results, she resorted to using a backup plan of recruiting potential respondents through social media.

A choice to recruit the respondents on social media is not uncommon, as evidenced in literature (Hunt & Scheetz, 2019; Owens & Hawkins, 2019). There are online crowdsourcing platforms, which have demographically diverse samples (Buhrmester et al., 2016). Previous experimental studies in academic accounting research have used online labour markets such as Amazon's Mechanical Turk (MTurk) and Qualtrics online samples to examine people's judgements decisions (Hunt & Scheetz, 2019; Owens & Hawkins, 2019). Some researchers have concerns about sourcing research respondents from online crowdsourcing platforms. They argue that this compromises the external validity of experimental studies when the respondents lack the relevant experience required (Loepp & Kelly, 2020; Stewart et al., 2015). A pre-study screening was conducted in this study to mitigate against sourcing unqualified potential respondents.

Secondly, during the data collection phase of this study, there was massive growth in the use of social media, since many people had embraced digital technology during the COVID-19 pandemic. Embracing technology usage due to the COVID-19 pandemic increased time and flexibility for doing work, reduced location rigidity because people in various locations could connect, and work-life boundaries were reduced since workspaces had been extended to people's homes. As a result, the internet capabilities added respondents' sourcing possibilities and improved the response rate for this study (Koch et al., 2018). Data collection had to be done within a fixed time frame. The observation made during the pilot study was that the high usage of the internet and social media provided a quick turnaround on sourcing respondents and data collection, as compared to the use of emails (see Appendix 5 for the pilot study report).

Thirdly, the strategy of recruiting respondents from social media and sending questionnaires was time-saving (Hunt & Scheetz, 2019; Koch et al., 2018). The submission times of responses in the main study showed that many responses were received outside the usual working hours. This would not have been the case if only official email addresses were used as the only collector because some employees have access to their work emails only during office hours and only when they are in their offices.

Respondents sourced through social media could be accessed quickly; they provided their responses quickly, and the recruitment strategy was inexpensive (Koch et al., 2018, Hunt & Scheetz, 2019). A need to research the use of emerging technology such as social media to acquire an understanding of its value to recruitment has been identified (Koch et al., 2018). The social media platform where potential respondents were recruited and sourced was LinkedIn. This platform was preferred because it is an online labour market, and some previous

studies that examined people's judgements and decisions sourced respondents from the online labour market (Owens & Hawkins, 2019). Since the study focused on decision-making, the use of the online labour market was supported.

The use of LinkedIn is reported to be growing exponentially, especially its use in recruitment and selection processes (Hunt & Scheetz, 2019; Koch et al., 2018; Roulin & Levashina, 2019). The platform enables recruiters to identify their targeted candidates based on job-related information such as education, professional experience and skills captured on account holders' profiles (Roulin & Levashina, 2019; Shields & Levashina, 2016). LinkedIn had qualified employee selection decision-makers who were the target population for the study. By reading the profiles of LinkedIn account holders, potential respondents who met the study's selection criteria could easily be identified. A pre-study screening was conducted to select potential respondents who were eligible to participate in the study and mitigate against sourcing potential respondents without the required experience in employee selection decision-making (Cycyota & Harrison, 2006; Hunt & Scheetz, 2019).

Initially, an advertisement was posted on LinkedIn asking people who would be interested in participating in the study to complete a questionnaire through a web link that was shared. The advertisement stated the selection criteria respondents had to meet. For example, it stated that respondents had to be working in Botswana, within industries selected for the study, and that they should have been involved in employee selection decision-making. Figure 4-4 is an advertisement that was posted on LinkedIn.

Figure 4-4: Advertisement to recruit respondents for the study from LinkedIn

A week after that invitation was posted on LinkedIn, there was still no response. This confirmed that placing an advertisement on social media has limited chances of attracting the targeted candidates (Koch et al., 2018). To mitigate the non-response to the advertisement, invitations were sent to personal accounts of people (LinkedIn connections) who met the selection criteria. These included individuals within and outside the researcher's LinkedIn connections. Since the invitations were sent to inboxes of potential respondents, only the account owners could access the invitation.

To generate the potential respondents' interest to participate in the study, invitations were personalised by addressing them with their names in the message's salutation. Also, the message stated that the individuals were selected to participate in the study because of their professional experience in a particular sector and/or their experience in employee selection decision-making. It was observed that sending personalised messages yielded the desired results for the study because within a short time the response rate increased.

4.5.5 Sampling criteria

This section discusses the inclusion and exclusion rules that were used to determine the potential respondents' eligibility for participating in the study. The study had four selection criteria that all respondents had to meet for them to be eligible to participate in the study. The violations that would result in the potential respondents being rejected or disqualified from participating in the study were known upfront.

Firstly, potential respondents had to work in any of the four selected industries within Botswana's services sector, that is engineering, hospitality and tourism, business services, and the government.

Secondly, respondents needed to have access to the internet because the data collection instrument was web-based. Because of the nature of the research problem, there was no option for respondents to participate via a paper-and-pencil version of the questionnaire. Even though adopting a hybrid approach of using both electronic and paper-and-pencil questionnaires would have improved the response rate for the study, there were major benefits of only using an online questionnaire for the study. First, the automation of the questionnaire allowed for easy manipulation of the experimental factors. It also allowed for easy randomisation of vignettes to the four experimental groups. Second, had a paper-and-pencil questionnaire been used for the study, it might also have been impacted by social distancing requirements that were established in Botswana to curb the spread of COVID-19 during the data collection period. Lastly, a web-based experiment improved the flexibility of data collection because it was not restricted to a fixed time and location.

A third selection criterion was that the respondents needed to voluntarily give informed consent to participate in the study. Eligibility for participation in the study was limited to those who were not coerced to participate, were willing and voluntarily gave consent to participate. One of the ethical considerations that had to be observed in this present study was that respondents could not be paid for their participation. LinkedIn is not one of the online crowdsourcing platforms that requires payment for participation.

The fourth selection criterion was that respondents needed to have experience in employee selection decision-making. This selection criterion has been used in previous related employee selection studies (Carnes et al., 2019; DeCarlo et al., 2015; Olsen & Martins, 2016; Roulin & Bhatnagar, 2018; Wang et al., 2014). The researcher considered at least one experience of employee selection reasonable for respondents to have acquired the necessary experience in

making employee selection decisions, which was required for the employee selection simulation.

Using experienced respondents minimised the chances of receiving artificial responses because respondents were familiar with employee selection. This selection criterion is aligned to one of the core mechanisms of the theory underpinning the study, Cognitive Experiential Self Theory (Epstein et al.,1992), which states that the decision-maker's experience influences the use of cognitive processes of decision-making. Data on the third and the fourth selection criteria were collected during the pre-study screening.

4.5.6 Sampling techniques

The study used disproportionate stratified sampling to select respondents. This sampling technique ensured that the sample design was heterogeneous and representative of the study population (Mutoko & Kapunda, 2017; Rahi, 2017; Sabiote et al., 2012). When using disproportionate stratification, the sampling fractions from one stratum to another are varied (Mutoko & Kapunda, 2017).

The disproportionate stratified sampling technique used was interlocking because it uses both probability and non-probability sampling techniques. First, a simple random sampling technique was used to select organisations from the sampling frame that was developed. The technique was used because probability sampling performs better in yielding a sample that is representative of the study population, compared to other sampling techniques (Dutwin & Buskirk, 2017).

In addition to the employment of the simple random sampling technique, a purposive sampling technique was used to select some experienced employee selection decision-makers to participate in the study. This sampling technique was used for selecting only relevant respondents with experience in employee selection decision-making. The purposive sampling technique was relevant because it provided the criteria for testing through the Cognitive Experiential Self Theory, which assumes that the decision-maker's experience influences the use of cognitive processes of decision-making (Epstein et al., 1992).

4.5.7 Sample size

An adequate sample size is required for testing hypotheses dealing with the effect of one variable over another (Bonett & Wright, 2015; Shaw, 2012). The sample size also affects the choice of the statistical techniques used for data analysis (Rogelberg & Stanton, 2007; Pallant, 2016). Sample adequacy for this study was predetermined by running a priori power analyses and was verified through a post hoc power analysis using a G*Power 3 calculator. G*Power is a statistical test commonly used to determine the required sample size in social science behavioural research (Faul et al., 2007). As advised by Cohen (1988), to determine an adequate sample size a priori, the required power level (1–β error probability), statistical significance level (α), the effect size of the study population (f^2), and the number of predictors must be determined.

According to G*Power analysis, the study required a sample size of 77 respondents for us to achieve the actual power of 0.802 computed as a function of the .80 power level (1–β error probability), significance level (α) of .05, the effect size of the study population (f^2) of .15 and three predictor variables (intuitive decision-making style, uncertainty avoidance, interaction variable – intuitive decision-making style x uncertainty avoidance). An adequate sample size is required for testing hypotheses dealing with the effect of one variable over another (Bonett & Wright, 2015; Shaw, 2012). The sample size also affects the choice of the statistical techniques used for data analysis (Rogelberg & Stanton, 2007; Pallant, 2016).

According to Zikmund (2013), sampling adequacy can be determined by using the sample sizes of related previous studies. This was also adopted to determine sample adequacy for this study. Table 4-4 shows the sample sizes of recent previous related employee selection studies, which used an experimental vignette research design. Information in Table 4-4 shows that the realised sample sizes for those previous studies range from 28 to 265 respondents.

Table 4-4: Sample sizes of some of the employee selection studies that used experimental research design

Source	Sample size
1. Carnes et al. (2019)	N=28 recruiters and 229 job applicants
2.DeCarlo et al. (2015)	N=102 participants comprising 43 undergraduate students and members of the national management association; 44 of these were managers
3.Olsen & Martins (2016)	N=84 participants, who were undergraduate students enrolled in upper-level management courses
4. Roulin & Bhatnagar (2018)	N=265 comprising of 122 Canadian business students and 143 online U.S. participants with hiring experience
5. Stone & Stone (1987)	N=188 participants (119 men and 69 women), whose work involved employee selection

(Source: Author)

The recommended response rate for studies where respondents are organisational representatives or top executives is 35%–40% (Baruch & Holtom, 2008). Based on Zikmund's (2013) advice for using an approximate average of sample sizes for previous studies, the expected sample size for this study was 135 respondents. If the expected sample was 135 and the minimum response rate for the study is 35%, then the study's expected actual sample size was 385, calculated as follows:

$$35\% \text{ (response rate)} = 135 \text{ (expected sample size)}$$
$$100\% = x \text{ (actual sample size)}$$
$$35x = 13500$$
$$x \simeq 385$$

Even though the study's sample size is lower than the expected actual sample size of 385 respondents, its realised sample size is 203 respondents. This sample size far exceeded the expected sample size of 135 respondents. The sample size for this study is smaller than the one for Roulin & Bhatnagar's study (2018) of 265 respondents, but it is closer to Carnes et al.'s (2019) study, which had 229 respondents. The sample size for the present study is larger than the rest of the studies in Table 4-4, which had sample sizes fewer than 200.

A post hoc power analysis for a sample size of 203 with the same significance level (α) and effect size (f^2) outlined above showed that the study's power level (1–β error probability) is 0.998. Therefore, a sample size of 203 respondents was adequate for achieving the required statistical power. Furthermore, based on an average of the sample sizes of previous related studies (Carnes et al., 2019; DeCarlo et al., 2015; Olsen & Martins, 2016; Roulin & Bhatnagar, 2018; Stone & Stone, 1987) that used an experimental vignette research design (Zikmund, 2013), a sample size of 203 was considered adequate.

4.6 Decision Point 7 - Respondent behaviour

This section discusses the response burden, the response behaviour and item non-response. It also outlines the insights into the study's response volume. Due to the nature of the research problem, this study was cross-sectional. Data were collected in one session.

4.6.1 Response burden

Invitations to participate in the study were sent to 385 potential respondents. A total of 252 potential respondents accepted the invitation to participate in the study. All of them went through a pre-study screening and only 203 respondents passed the screening. Therefore, the response rate for the study was 52.73%. This response rate was good because it exceeded the 35%–40% recommended response rate for organisational studies where respondents are top executives or organisational representatives (Baruch & Holtom, 2008).

The study questionnaire had 21 questions. The questionnaire was kept short. Data were collected in one session. This reduced the burden on the respondents. Of the 203 received questionnaires with usable responses, a total of 156 questionnaires were completed fully while the remaining 47 were partially completed. The high completion rate shows that the length of the study questionnaire was reasonable. Hunt and Scheetz (2019) argue that the length of a questionnaire can contribute to or harm the validity of the data. Figure 4-5 shows the completion rate and estimated time to complete the questionnaire estimated by SurveyMonkey.

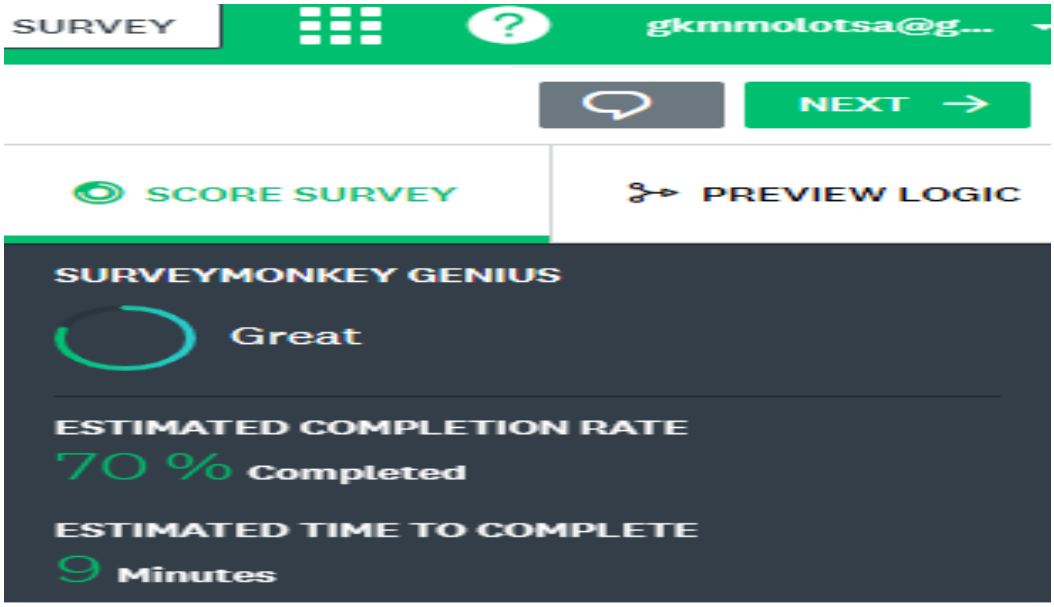

Figure 4-5: Completion rate and time to complete the questionnaire estimated by SurveyMonkey

Figure 4-5 shows that according to SurveyMonkey, the estimated completion rate for the questionnaire was 70%, and the estimated time to complete the survey was nine minutes. Even though SurveyMonkey's estimated completion time was nine minutes, the researcher estimated the completion time for the questionnaire as 20 minutes. This time was based on 45 seconds per questionnaire item on average, which added up to 15 minutes to attempt all questionnaire items. The remaining five minutes was the time that was estimated for the respondents to read the job advertisement.

The insights into the 252 collected responses show that the typical time spent on completing the questionnaire was 12 minutes 23 seconds. The typical time spent on completing the questionnaire was more than the nine minutes predicted by SurveyMonkey, based on the question design and the number of questionnaire items. A limitation with SurveyMonkey is that it could not capture the time respondents took to respond to each questionnaire item. Instead, it only captured the completion time for the two screening questions and the 19 question items in the main study's questionnaire. This did not impact the measurement of take-the-best heuristic use in this study because it was measured only on the frugal use of information cues to make employee selection decisions.

The study results show that the completion rate is 76.86%, which is higher than the 70% that was predicted by SurveyMonkey, as shown in Figure 4-5. This shows that respondents' fatigue was effectively managed by having a reasonable number of items in the questionnaire (Hein et al., 2020; Knudsen & Johannesson, 2019).

4.6.2 Response behaviour

Out of the 252 collected responses, a total of 49 were discarded because the potential respondents did not meet the selection criteria. Four of the 49 disqualified potential respondents did not give consent to participate in the study while 37 did not have experience in employee selection decision-making. The final eight of the 49 responses were discarded because even though the respondents met the selection criteria, the respondents withdrew before providing the data required for the study constructs. A thank-you message for willingness to participate in the study was sent to all 49 potential respondents who were disqualified. Therefore, the remaining questionnaires for data analysis were 203. Table 4-5 summarises the response behaviour statistics.

Table 4-5: Response behaviour

Response behaviour	**Number of responses**
Total responses received	252
Number of discarded responses i. No consent for participating in the study – 4 ii. No experience in employee selection decision-making – 37 iii. Met selection criteria but withdrew after going through the pre-study screening – 8	49
Total responses for analysis i. Fully completed questionnaires – 156 ii. Partially completed questionnaires – 47	203
Response behaviour (Total responses for analysis/Total responses received)	80.6%
Response rate (Total responses for analysis/Total questionnaires sent out to potential respondents)	52.73%

The statistics in Table 4-5 indicate that there was a positive response from the respondents. The adopted strategies that led to the collection of a good number of usable responses include making telephone follow-ups and sending email reminders. Conducting pre-study screening also improved the collection of a good number of usable responses for the study (Cycyota & Harrison, 2006; Hunt & Scheetz, 2019).

There are several ways in which pre-study screening can be done. One option is to have a screening questionnaire separate from the main study questionnaire (Hunt & Scheetz, 2019). This option was tested in the pilot study, and it was found to be ineffective. The pilot study showed that none of the pilot study respondents was willing to complete the pre-study questionnaire. They wanted to respond immediately to the questionnaire for the main study.

Another option for conducting pre-study screening is to decide on the violations that would lead the researcher to discard a questionnaire (Hunt & Scheetz, 2019). In this instance, before analysing the collected data, the researcher must filter out the screening questions and discard all questionnaires that have a violation. This option was not adopted for the study because it creates a burden of assessing the respondent's eligibility to participate after collecting data. Had this option been selected for this study, the elimination process in this section would have been cumbersome, since the sample size of the study was large.

The third option is to have a screening questionnaire at the beginning of the electronic data collection instrument. The design of the data collection instrument should be such that the questionnaire terminates for respondents who are not eligible to participate (Hunt & Scheetz, 2019). This third option was adopted for the study because the data questionnaire was electronic, making termination for non-eligible respondents easy. This approach also mitigated the risk of collecting data from respondents who did not meet the selection criteria.

Another way of improving the response rate was sending questionnaires by email because email (54.7%) is 10% more effective than sending them by post (44.7%) (Baruch & Holton, 2008). When using email, questionnaires get sent to a large sample, are sent quickly and responses can be received in the same manner, thus minimising the chances of losing completed questionnaires (Baruch & Holtom, 2008). Figure 4-6 shows the number of responses that were collected through a web link (216) and email (36) collectors.

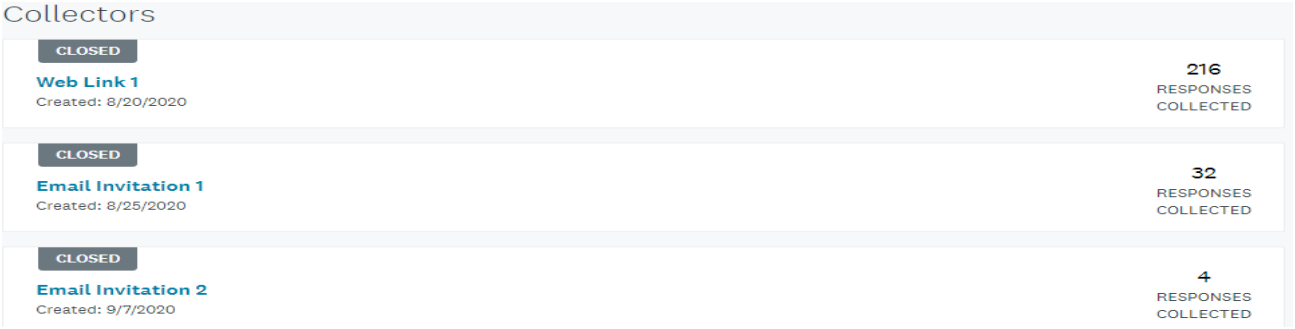

Figure 4-6: Number of responses received by weblink collector and email

Figure 4-6 shows that in this study, more responses were received by weblink than those collected through email, despite the researcher's attempts to send email reminders. The high number of responses generated through the web link could be attributed to the fact that the web link could be accessed on a smartphone, while in some organisations, work emails can only be accessed when one is connected to the organisation's Local Area Network. Furthermore, it is possible that respondents who received questionnaires through their work emails could not spare time to complete the questionnaire during working hours.

4.6.3 Item non-response

The item non-response rate for the study was low (26.07%). These favourable results were achieved because SurveyMonkey was set such that in cases where the respondents skipped mandatory questionnaire items, a message would be displayed on the screen to show them the questions that were not answered.

The respondents were informed that they could withdraw at any time of the study and that there would be no penalty for withdrawing. It is assumed that this ethical consideration contributed to the non-response rate for some questionnaire items because the rate of non-response to questionnaire items increased with questionnaire items from the beginning to the end of the questionnaire.

4.6.4 Response volume

The data were collected between 21 August and 20 October 2020. Figure 4-7 shows the number of collected responses per month.

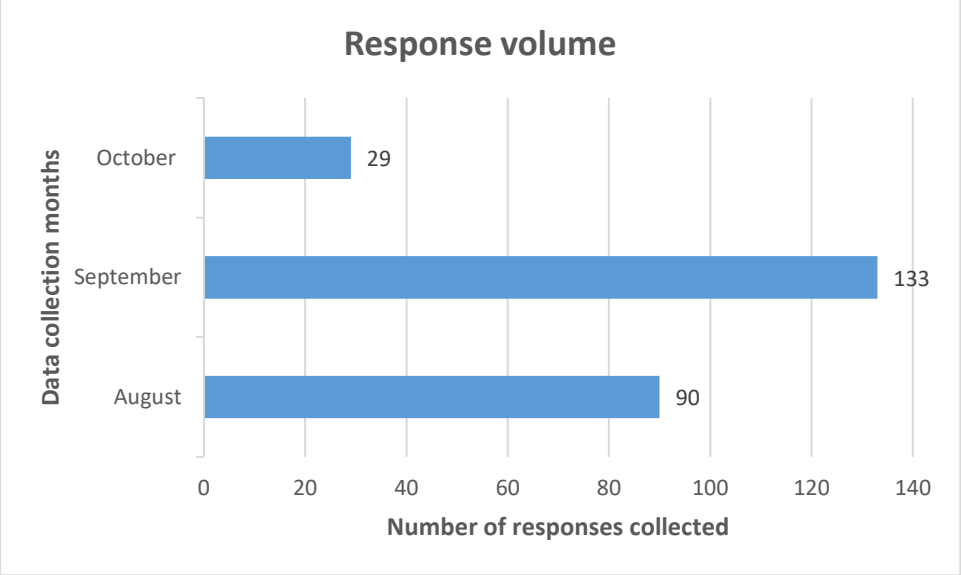

Figure 4-7: Number of collected responses per month

The graph in Figure 4-7 shows that 90 responses were received in August, 133 in September and 29 in October 2020. The data show that more responses were collected in September 2020.

4.7 Materials and instruments for data collection

This section discusses the materials and the instruments that were used to collect data. It starts by explaining the materials that were used in the data collection procedure. It also describes the format and design of the data collection instrument that was used.

4.7.1 Materials

As discussed in section 4.4, the study adopted an experimental vignette design. Some of the materials that were used in the experimental task were profiles of eight job applicants. Each experimental scenario used two job profiles since the task was a paired comparison simulation. The other materials that were used were four fictitious job advertisements for the prototypical jobs that were being recruited for. There were job advertisements for Civil Engineer, Client Relations Management Officer, Accountant and Marketing Officer positions.

4.7.2 Description of the questionnaire

The instrument that was used for collecting data was an online self-administered questionnaire (see Appendix 1). A self-administered questionnaire was beneficial for this study because it was underpinned in positivism. It allowed for data collection without the interference of the researcher, which could have biased the results, leading to wrong conclusions about the study theory (Al-Habil, 2011; Antwi & Hamza, 2015; Rahi, 2017; Wahyuni, 2012; Yilmaz, 2013).

The questionnaire was developed in SurveyMonkey, which is software for creating online questionnaires (Hunt & Scheetz, 2019). This software was selected because it had the capability of creating URL addresses that could be copied to social media platforms where the study respondents were recruited. SurveyMonkey enhanced the respondents' anonymity and right to privacy by generating unique identifiers and assigning them to respondents. These identifiers linked and traced responses to respondents, thus enhancing respondents' anonymity.

SurveyMonkey was also chosen because it has a split-logic feature, which is a randomisation feature used to direct respondents to different experimental scenarios (Hunt & Scheetz, 2019). This split-logic feature was also helpful for the study because it terminated the questionnaire during the pre-study screening for potential respondents who were not eligible to participate.

Even though developing the data collection instrument in SurveyMonkey was beneficial to the research design that was adopted for this study, the software had three limitations that impacted the study. The first is that SurveyMonkey did not have a control feature to deny respondents access to the questionnaire and to participate more than once from a single device. Secondly, SurveyMonkey allowed validating the collected data such as respondents' response time and checking individual responses for questionnaire items without exporting data from SurveyMonkey to Microsoft Excel or SPSS. However, identifying responses generated from a single device could not be done on SurveyMonkey. That information could only be identified after exporting the data to Excel or SPSS.

To mitigate against double entries by the same respondents, after closing the collectors, data collected through SurveyMonkey was exported to a data analysis instrument. Thereafter, IP addresses were used to identify responses generated from a single device. Where more than one response was received from one device, depicted by the same IP address, if the responses were similar, only one was retained and the duplicates were deleted.

The second limitation of SurveyMonkey is that the software did not restrict respondents from continuing to respond to the questionnaire for this study after taking a break. If the web link remained open, the respondents continued to respond to the questionnaire. This is evidenced by the data collected from some respondents who took longer than the estimated completion time. The completion time for some respondents spans more than 24 hours. This suggests that the level of immersion for some respondents was compromised since their completion time was much longer than the estimated completion time. No measures were taken to mitigate against this limitation.

The third limitation did not affect the results of the study because take-the-best heuristic use was measured by the decision-maker's frugality in using information cues to inform their employee selection decisions. Thus the responses of three cases who took a long time completing the questionnaire were retained in the dataset.

4.7.3 Format of the questionnaire

All questionnaire items except one were closed-ended questions that had a fixed and strict format. Closed-ended questions generated quantitative data that was used to predict the objective nature of reality. Quantitative data is aligned to a positivist paradigm, which assumes that knowledge about reality can be predicted and obtained by using scientific methods that test cause-and-effect theories (Al-Habil, 2011; Antwi & Hamza, 2015; Rahi, 2017; Wahyuni, 2012; Yilmaz, 2013).

All 10 items for measuring the intuitive decision-making style that was in the questionnaire were from the experientiality scale (Pacini & Epstein, 1999). Five items were from the uncertainty avoidance scale (Yoo et al., 2011). The researcher developed other items to collect the data required for measuring take-the-best heuristic use. The questionnaire also had items for collecting the respondents' socio-demographic characteristics, which included their age and gender and work-related information.

Since closed-ended questions do not generate rich data normally generated from in-depth answers to open-ended questions, the questionnaire had one open-ended item. This open-ended question generated qualitative data on other factors, which respondents perceived to be valuable information cues that inform employee selection decisions in real life. The data generated from this open-ended question enhanced the richness and quality of the data that were required for testing the theory.

4.7.4 Questionnaire design

The questionnaire had nine sections. The first contained information about what the study was, its purpose, the number of questionnaire items, estimated completion time, ethical consideration statements and contact details of the researcher and her supervisors. The first section of the questionnaire also had instructions on how to respond to questionnaire items and how to move between the electronic pages of the questionnaire.

The second section of the questionnaire had two pre-study screening items. The first item asked potential respondents to indicate whether they consented to participate in the study and whether they were coerced to participate. The other item required potential respondents to indicate whether they had participated in employee selection decision-making before. As indicated, negative responses for these two questionnaire items terminated the questionnaire for the main study. This ensured that the potential respondents who eventually participated in the study were only those who were eligible to do so.

The third section of the questionnaire collected information about the respondents' socio-demographic characteristics, specifically age and gender. These two variables are the study's control variables. The data collected from this section was used to profile the sample and to determine the normality of data before conducting data analysis.

The fourth section of the questionnaire had 10 items from the experientiality scale (Pacini & Epstein, 1999). All 10 items in this scale were used as they appear in the original scale.

The fifth section had five items from the uncertainty avoidance scale (Yoo et al., 2011). The five items in the scale were adapted for this study by making them specific to employee selection.

The sixth section had items for collecting the respondents' work-related data, including items on the industries and the type of organisation the respondents worked for, the positions respondents held at their workplaces and the number of times they had participated in employee selection.

The seventh section was an online employee selection experimental vignette task in which respondents were required to evaluate information cues for each job applicant and then to select the job applicant based on their subjective perception of cue importance in informing employee selection decisions. The experimental task was set up such that the respondents had to base their employee selection decisions on either the experimental information cues relating to person-job fit, such as job applicants' knowledge, skills and abilities (Cable & DeRue, 2002), or on information cues meant to prime respondents by triggering their feelings of liking or disliking job applicants.

After completing the employee selection experimental task, the respondents answered two items that were based on the experimental scenario. The first question asked respondents whether they would offer the job to applicants with the most attributes they preferred or to their counterparts. The second item was an optional open-ended question that required respondents to explain why they would not offer the job to the applicant with the most preferred attributes if their answer to the preceding question was "No."

The eighth section of the questionnaire was the post-experimental test. The section had one manipulation check item meant to collect data required for assessing whether the manipulation done on the independent variable was effective. The manipulation check item was, "Remembering the employee selection task, that you have just completed, did you feel making employee selection decisions without being told which job applicants attributes are important for the advertised job affected the way you made employee selection decisions?"

The ninth section of the questionnaire was a rating item, where information cues that were included in the experimental task were rated in order of the cue's perceived importance in informing employee selection decisions. The data generated by this rating questionnaire item was used for conjoint analysis to determine whether employee selection decision-makers are rational or intuitive decision-makers. Table 4-6 provides an outline of the sections of the questionnaire to show how it is designed.

Table 4-6: Questionnaire design

Section Number	Section Title
Section 1	Information about the study and instructions
Section 2	Pre-study screening items
Section 3	Respondents' socio-demographic information
Section 4	Intuitive decision-making style items
Section 5	Uncertainty avoidance items
Section 6	Respondents' work-related information items
Section 7	Employee selection decision-making experimental task
Section 8	Post-experiment test/manipulation check item
Section 9	Rating of information cues that inform employee selection decisions

(Source: Author)

The questionnaire was designed such that providing answers to most of the questionnaire items was mandatory. This contributed to the high completion rate. The questionnaire also had some skip logic questions, which directed respondents to specific pages related to the responses they provided. For example, one skip logic questionnaire item was a randomisation item that assigned respondents to one of the four experimental scenarios. The questionnaire was designed such that after participating in the experimental scenarios, all respondents were directed to a manipulation check item, which all respondents were expected to answer.

There were limited challenges experienced with using the electronic questionnaire during data collection because the research procedure and criteria were tested through a pilot study conducted between 23 June and 8 July 2020. The questionnaire was pretested among 28 pilot study respondents. Based on the pilot study results, some questionnaire items in the main study questionnaire had to be reworded because the pilot study results showed that the respondents did not commonly understand the items. Besides rephrasing some items to make them more comprehensible, minor adaptions were done in the electronic questionnaire after the pilot study to ensure that the design worked as desired.

4.8 Decision Point 8 - Procedures

This section addresses Decision Point 8, about the procedures that were followed for data collection as well as the setting and timing of administering the questionnaire. The procedures discussed in this section were also tested in a pilot study. Thus there were limited challenges with implementing them during this present study.

As discussed in section 4.4.8, which dealt with maximising the external and internal validity of the study, respondents participated in the study remotely from their home or workplace environments. These two settings improved the study's realism because that is where online employee selection decisions are normally made. The procedure for the study had nine steps that were informed by the design of the questionnaire, as discussed in section 4.7.4. The steps are summarised below.

Step 1 Potential respondents were presented with information about the purpose of the study, research ethics considerations, and instructions on how to respond to the questionnaire.

Step 2 Potential respondents were subjected to pre-study screening to determine their eligibility to participate in the study. The electronic questionnaire for the main study terminated for those who were ineligible, and they were sent a thank-you message for expressing interest in the study.

Step 3 Data on the respondents' demographic characteristics were collected.

Step 4 Data on the respondents' intuitive decision-making style were collected.

Step 5 Data on the respondents' uncertainty avoidance were collected.

Step 6 Respondents job-related data were collected. These included the industry that respondents worked in, the type of organisation they worked for (i.e., a private company, parastatal, NGO or government department), their level of operation and the number of times they had been engaged in employee selection decision-making.

Step 7 An experimental task, an unaided paired comparison employee selection simulation, was conducted in this step. The procedure for the experiment was anchored on the affection misattribution procedure because that procedure measures automatic cognition better than a forced-choice questionnaire or interview and Brief Implicit Association Test (Miles et al., 2019). In an affection misattribution procedure, respondents are given abstract information cues to rate as pleasant or unpleasant.

Respondents were asked to imagine themselves being in an employee selection decision-making task where they had to make employee selection decisions on two job applicants who had passed the selection hurdles and were now at the final employee selection stage. Respondents in each experimental group were given the vignettes, which explained the experimental task to respondents. The vignettes standardised the four employee selection experimental scenarios. See Figure 4-2 for the vignettes.

In each of the experimental scenarios, there was a fictitious job advertisement for a prototypical job that exists in each of the four selected industries within the services sector. The realism of the employee selection experimental task was enhanced by asking human resources practitioners to assess whether the content of the fictitious job advertisements captured essential information and if they looked real. The prototypical job advertisement for Scenario 1 is shown in Figure 4-3. The other three job advertisements are included in the questionnaire that is attached to this study in Appendix 1.

Respondents were presented with two profiles of job applicants who were competing for a job. They had to evaluate the attributes of each job applicant against the specification on the job advertisement. The attribute values included the exact information that was specified in the fictitious job advertisement and information that is close to what was specified in the advertisement; the last attribute value allowed respondents to indicate if they perceived the attribute as important for informing the selection decision. There were three levels of attribute manipulation (1 – select, 2 – reject and 0 – cue not important). Table 4-2 shows the numbers and level of manipulated factors that were used in the experimental task.

The knowledge, skills and competencies of the two job applicants were comparable. The only variation on the job applicants' profiles was that one applicant had the exact attributes specified on the job advertisement while their counterpart had an attribute close to what was required. This variation applied to profiles of both job applicants to avoid response bias. Table 4-1 shows profiles of the two job applicants competing for the civil engineering job advertised in Figure 4-3 for Scenario 1. The profiles of job applicants for the three other scenarios are included in the questionnaire attached in Appendix 1.

Information about job applicants' attributes was displayed side by side on the screen for easy comparison. Respondents had to select their preferred job applicant attribute based on the subjective perception of the attribute's importance in informing the employee selection decision. If they did not perceive the attribute to be important for informing employee selection decisions, respondents selected level 3. Respondents used the take-the-best heuristic to make their choices for the six job applicant attributes.

At the end of the simulated employee selection task, respondents were asked if they would offer the job to the job applicant who had the most preferred attributes. Thereafter, those who said they would not offer the job to that applicant were asked to justify their response. This item was also meant to assess if the decision-makers based their selection decisions on other factors beyond the attributes that were in the job applicants' profiles.

Step 8 This step included asking respondents to respond to a manipulation check item, which was "Remembering the employee selection task you have just completed; did you feel making employee selection decisions without being told which job applicants attributes are important for the advertised job affected the employee selection decisions you made on each job applicant?"

The results of the manipulation check show that M_{high}=3.95 versus M_{low}=3.61; Std. Error.086; SD=1.078; and p=.003. These results suggest that the design of the experiment worked as desired, indicating that the manipulation worked effectively, and this enhanced the validity of the experiment.

Step 9 The respondents were asked to reflect on the employee selection process they had completed. Thereafter, they rated the information cues, which they were given for use during the experiment, according to the subjective perception of information cue importance.

In the study, employee selection decision is operationalised as a binary variable, with the job applicant either selected or rejected. Respondents were randomly assigned six information cues about job applicant attributes, which they evaluated one after another until the sixth cue was presented. As stated in section 4.4.6, the six cues randomly assigned to respondents were age, candidate type, interview score, work experience, field of learning and level of education. The information cues for the job applicants' attributes were displayed side by side

for easy comparison of their human capital value. Once the job applicants' numbers and information cues were displayed on the screen, respondents indicated their preferred attribute by clicking the button below the job applicant with that preferred attribute. The button under the counterpart of the selected job applicant remained unmarked.

To avoid getting an overall score that aggregated all the information provided, as happens when using rationality approaches when making decisions (Luan et al., 2019; Pallant, 2016), if a respondent considered a cue to be irrelevant in making the employee selection decision, they clicked "cue not important" on the screen. This is aligned with the assumption that when using heuristics to make decisions, only information considered valid by the decision-maker will inform the decision-making process (Luan et al., 2019).

Another mechanism of heuristics use is the stopping rule. This rule states that searching for additional information stops as soon as the decision-maker finds the information they perceive most important for informing their decisions (Artinger et al., 2015; Gigerenzer & Gaissmaier, 2011; Michalkiewicz & Erdfelder, 2016). The last mechanism of heuristics use is the decision rule, which states how the decision-maker makes a decision with the given information (Artinger et al., 2015; Gigerenzer & Gaissmaier, 2011; Michalkiewicz & Erdfelder, 2016).

In the experiment, respondents were required to identify the job applicant with the most preferred attributes (information cues). Previous studies showed that in real life, there are some instances where even when there is evidence of the job applicant qualified for a job, employee selection decision-makers may select the less favourable job applicant (DeOrtentiis et al., 2018; Fini et al., 2018; Hensvik & Skans, 2016; Jackson et al., 1991; Keller, 2018; Koch et al., 2015; Rodrigues, 2018; van Esch et al., 2018). This shows that the utility employee selection decision-makers generate is random.

Based on the unpredictability of employee selection decision-makers, after identifying the job applicants with the highest number of preferred attributes, respondents were asked if they would like to offer that job applicant the job or not. If they responded that they would not, they had to justify their answer. At the end of the experimental task, respondents took a post-experiment test in the eighth step of the procedure. The test entailed responding to a manipulation check questionnaire item. The purpose of this item was to assess the effectiveness of the manipulation of the independent variable in the intuitive decision-making style. Figure 4-8 summarises the steps that were followed in the procedure.

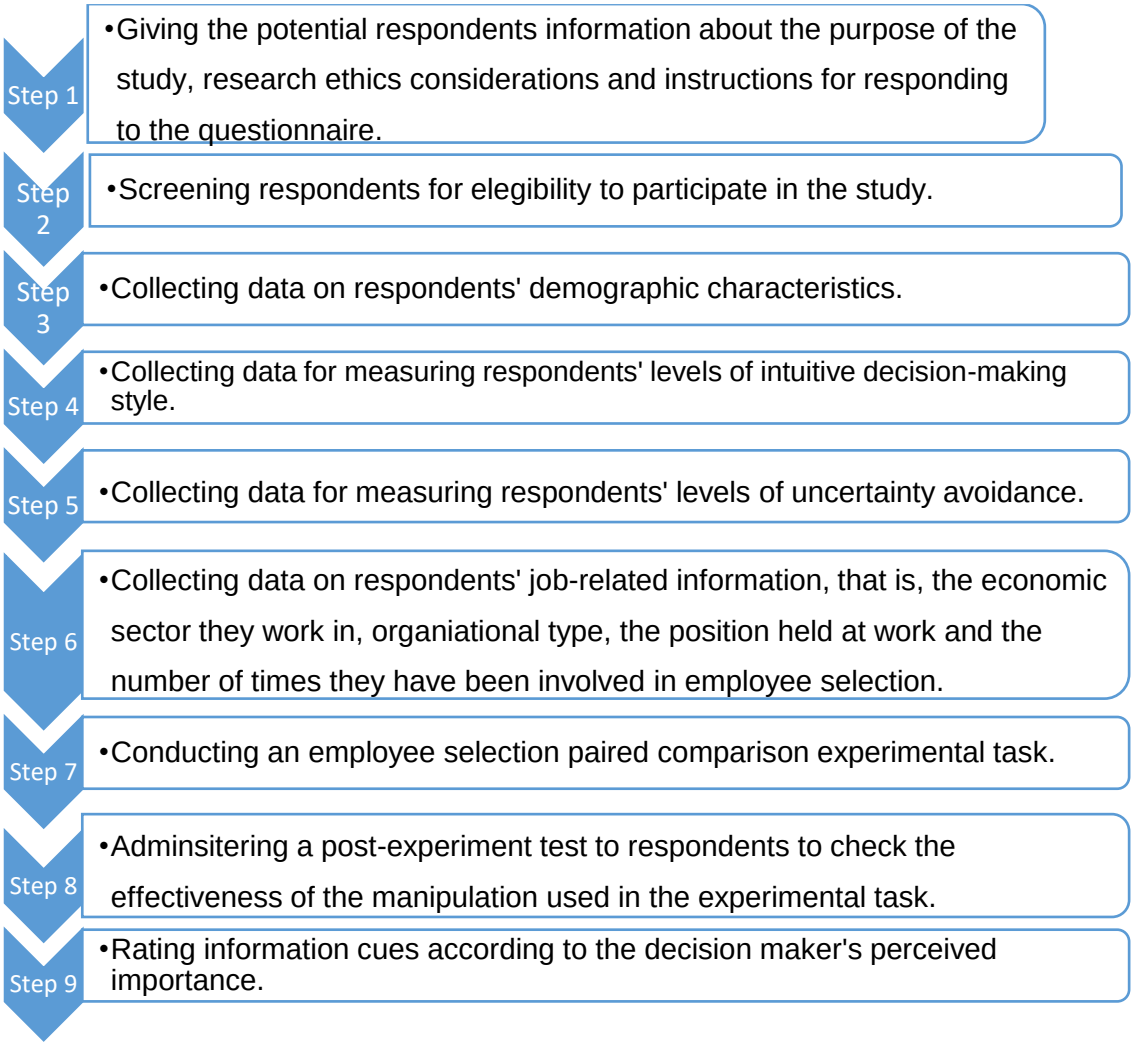

Figure 4-8: Summary of the research procedure (Source: Author)

4.9 Measures

The study used two existing scales, the experientiality scale (Pacini & Epstein, 1999) and the uncertainty avoidance scale (Yoo et al., 2011). These scales use reflective approaches to measurements. Scales with reflective indicators show causality or direction of the relationship between latent variables and their associated indicators in a conceptual model (Diamantopoulos & Winklhofer, 2001; Gerbing & Anderson, 1988).

A pilot study was conducted to test the scales' internal consistency reliability and construct validity in Botswana, which was the study setting (Carpenter, 2018; Churchill, 1979; Svensson, 2015, 2018; Wahid et al., 2011). The Cronbach's alpha values of these scales from previous studies, as well as from the pilot study, are discussed in the following sections.

4.9.1 Intuitive decision-making style

Respondents' scores for intuitive decision-making style were measured by using the experientiality subscale of the Rationality-Experiential Inventory (REI) that was developed by Pacini and Epstein (1999). This scale was based on Epstein's Cognitive Experiential Self Theory (Hodgkinson et al., 2009). As indicated in section 4.7.4, only 10 of the 20 items from REI relating to a person's preference for relying on initial feelings about things were included in the scale and used in the study (e.g., "I like to rely on my intuitive impressions").

The experientiality scale was validated in Australia among 408 undergraduate students studying management at one Australian university, showing that it is a reliable measure (.84 for positive intuitive processes and .79 for negative intuitive processes) (Hodgkinson et al., 2009). The original 20-item experientiality scale (Pacini & Epstein, 1999) was pilot tested in Botswana. The pilot study results showed that the scale's internal consistency reliability was.350 Cronbach's alpha value, which is below the recommended .7 benchmark (Bonett & Wright, 2015; Sarafan et al., 2020).

The internal consistency reliability of a scale can be improved by eliminating items with low coefficient values (Churchill, 1979). Therefore, the coefficient alpha value of the 20-item experientiality scale's internal consistency reliability was improved to .846 by eliminating 10 items from the scale that had low coefficient values. The 10 items that were eliminated from the original experientiality scale are shown in Table 4-7, while those that were retained are in Table 4-8.

Table 4-7: The items in the experientiality scale that were eliminated from the REI

Construct and Items	
Exp01	I do not have a very good intuition.
Exp02	If I were to rely on my gut feelings, I would often make mistakes.
Exp03	I do not like situations in which I have to rely on intuition.
Exp04	I think it is foolish to make important decisions based on feelings.
Exp05	I do not think it is a good idea to rely on one's intuition for important decisions.
Exp06	I generally do not depend on my feelings to help me make decisions.
Exp07	I would not want to depend on anyone who described herself or himself as intuitive.
Exp08	My snap judgements are probably not as good as most people.
Exp09	I can usually feel when a person is right or wrong, even if I cannot explain how I know.
Exp10	I suspect my hunches are inaccurate as often as they are accurate.

Table 4-8: The items in the experientiality scale that were used in the study

Construct and Items	
Scale: Experientiality scale Intuitive decision-making style – preference for making judgements based on feelings (Lodato et al., 2011, p. 356)	
Exp01	I like to rely on my intuitive impressions.
Exp02	Using my gut feelings usually works well for me in figuring out problems in my life.
Exp03	I believe in trusting my hunches.
Exp04	Intuition can be a very useful way to solve problems.
Exp05	I often go by my instincts when deciding on a course of action.
Exp06	I trust my initial feelings about people.
Exp07	When it comes to trusting people, I can usually rely on my gut feelings.
Exp08	I do not like situations in which I have to rely on intuition.
Exp09	I hardly ever go wrong when I listen to my deepest gut feelings to find an answer.
Exp10	I tend to use my heart as a guide for my actions.

Adapted from Pacini & Epstein (1999)

The scale was anchored on a 5-point Likert scale, where 1 – "not true of myself", 2 – "somewhat not true of myself", 3 – "neither true nor untrue of myself", 4 – "somewhat true of myself" and 5 – "definitely true of myself". A higher score for intuitive decision-making style indicated a greater preference for an intuitive decision-making style, while a low score indicated the reverse. Table 4-9 shows the scale's internal consistency reliability based on the collected data for the main study.

Table 4-9: Experientiality scale's reliability and other statistics

Reliability Statistics			**Scale Statistics**			
Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	Number of Items	Mean	Variance	Std. Deviation	Number of Items
.911	.911	10	34.05	82.210	9.067	10

The construct validity and internal consistency reliability of the experientiality scale were good because its Cronbach's alpha values were .911. This value is above the recommended.7 benchmark (Bonett & Wright, 2015; Sarafan et al., 2020).

4.9.2 Take-the-best heuristic use

The measure for take-the-best heuristic use in this study addressed how employee selection decision-makers frugally used the information cues that were presented to them when making managerial decisions. Due to the limited capability of SurveyMonkey, the time that the decision-makers took to make employee selection decisions during the experimental tasks could not be measured. Rather, the time the respondents took to respond to all items in the questionnaire, including participating in the experiment, was measured.

The first measure of take-the-best heuristic use included calculating the weighted scores of jobs applicant attributes that were perceived important for informing the decisions in the employee selection experimental task. The common procedure for calculating scores of attributes considered in choice-based conjoint analysis studies found in previous studies is calculating average marginal component effects (AMCEs) (Knudsen & Johannesson, 2019; Luan et al., 2019; Mariani et al., 2019). Similarly, the study measured probabilities of job applicants' attributes that contribute to the final employee selection decision, by calculating the AMCEs. AMCE is estimated by averaging the marginal effect of each job applicant's attribute over the combined distribution of the other attributes.

The probabilities of each job applicant cue influencing whether the job applicants would be selected or rejected were calculated. The differences in scores for each job applicant's information cues assigned "select" or "reject" represented the effect of the cue in influencing or harming the employee selection decision. The job applicant with the highest number of "preferred information cues" is the one who was selected for the job offer, and their counterpart was rejected, unless the employee selection decision-maker justified selecting the job applicant with less favourable information cues.

The scale that was used for measuring take-the-best heuristic use was developed specifically for this study. It had one item that required a rating for each of the five experiential information cues in terms of their importance in informing employee selection decisions. The benefits of single-item measures include the completion of questions quickly by respondents, reducing the boredom and frustration associated with long multi-item questionnaires, and elimination of redundancy. They are also robust, which helps with the scale's reliability and validity (West et al., 2020). Table 4-10 shows the Likert scale that was used for measuring take-the-best heuristic use.

Table 4-10: Take-the-best heuristic use

How important were the following information cues in informing the employee selection decision you have made in the employee selection scenario?

Please rate the six (6) information cues using the rating scale where:

1 - Not at all important

2 - Not so important

3 - Somewhat important

4 - Very important

5 - Extremely important

	Not at all important	Not so important	Somewhat important	Very important	Extremely important
1. Age	○	○	○	○	○
2. Previous work experience	○	○	○	○	○
3. Level of education	○	○	○	○	○
4. Field of study	○	○	○	○	○
5. Interview scores	○	○	○	○	○
6. Candidate type	○	○	○	○	○

(Source: Author)

The scale for take-the-best heuristic use was anchored on a 5-point Likert scale, where 1 – "not at all important", 2 – "not so important", 3 – "somewhat important", 4 – "very important" and 5 – "extremely important". A higher rating of the cue indicated a higher perceived value in influencing employee selection decisions, while a low score indicated the reverse.

4.9.3 Uncertainty avoidance

The uncertainty avoidance subscale of the Individual CVSCALE (Yoo et al., 2011) was used to measure uncertainty avoidance levels for employee selection decision-makers. According to Yoo et al. (2011), this scale was developed by modifying items in Hofstede's measures developed for measuring uncertainty avoidance at national levels, and the modification of Hofstede's measures included adding two more items to his original three-item scale (Yoo et al., 2011).

The individual uncertainty avoidance scale has been validated on American and Korean adults, which were new samples separate from the samples that were used when the scale was developed (Yoo et al., 2011). The uncertainty avoidance scale has internal consistency reliability of .88, having displayed a reliability alpha of .76 for Poles and .70 for Brazilians (Yoo et al., 2011).

Table 4-11 shows the name of the scale that was used to measure uncertainty avoidance, the definition of the individual-level uncertainty avoidance construct and items on the uncertainty avoidance scales. Sources for the scales have been adapted and have also been indicated in the Table.

Table 4-11: Items from uncertainty avoidance scale

Construct and Items		**Source**
Scale: Uncertainty avoidance subscale of Cultural Values Scale Uncertainty avoidance - "the individual's tendency to feel threatened by uncertain and/or ambiguous situations" (Astakhova et al., 2017, p. 43).		Adapted from Yoo et al. (2011)
Unc01	When making employee selection decisions, it is important to have instructions spelt out in detail so that I always know what I am expected to do.	
Unc02	It is important to closely follow instructions and procedures when making employee selection decisions.	
Unc03	Rules and regulations for employment are important because they inform me of what is expected of me.	
Unc04	Standardised work procedures are helpful in making employee selection decisions.	
Unc05	Instructions for decision-makers are important in the employee selection process.	

The scale was anchored on a 5-point Likert-type scale, where 1 represents "strongly disagree" and 5 represents "strongly agree". Higher values indicate greater levels of uncertainty avoidance, while a low score indicates the reverse.

The scale's internal consistency reliability was tested during a pilot study and showed a .805 Cronbach's alpha score. The internal consistency reliability alpha values based on the pilot study showed that the psychometric properties of these scales are good. Table 4-12 shows the scale's internal consistency reliability based on the main study's collected data.

Table 4-12: Uncertainty avoidance scale's reliability and other statistics

Reliability Statistics			**Scale Statistics**			
Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	Number of Items	Mean	Variance	Std. Deviation	Number of Items
.862	.864	5	20.84	14.750	3.841	5

The construct validity and internal consistency reliability of the uncertainty avoidance scale were good because Cronbach's alpha values were .862. This value is above the recommended .7 benchmark (Bonett & Wright, 2015; Sarafan et al., 2020).

4.9.4 Control variables

The measures that were used for the control variables are also discussed.

i. Employee selection decision-maker's age

Data for respondents' ages were generated through an item that required respondents to write the year they were born. To calculate the age of respondents, their years of birth were subtracted from 2021, which was the year the data was analysed.

ii. Employee selection decision-maker's gender

To generate data on respondents' gender, the respondents were asked to state their gender. Since gender is a categorical variable, it was dummy coded as "1-males", "2-females" and "3-prefer not to say".

iii. Effects of national uncertainty avoidance

Previous studies have shown that cultural values measured at a country level or a national level have a positive effect on decision-making (McSweeney, 2002; Sivakumar & Nakata, 2013; Yoo et al., 2011). The study was conducted in one country to control the effects of the influence of national uncertainty avoidance on employee selection decision-making in this study.

4.10 The impact of the COVID-19 pandemic and its associated restrictions on the execution of the study

This section discusses how the COVID-19 pandemic and the mitigation strategies that were implemented in Botswana to curb its spread affected the execution of the study. The impact of the strategies discussed includes both challenges and benefits of the pandemic to the pilot study as well as to the main study.

4.10.1 Challenges brought by COVID-19 pandemic on the execution of the study

The study had three levels of negotiating access. The first level was negotiating access from the government of the Republic of Botswana. This entailed following a comprehensive process that required submission of similar documents to those that were submitted to the University of Pretoria's Research Ethics Committee when applying for ethical clearance. The first community lockdown that occurred in April and May 2020 affected the study because, during that period, the researcher could not visit government offices to request research permits, a requirement for access to the targeted organisations. This community lockdown had implications for the time that was set for requesting access from organisations.

During the community lockdown, only essential workers were allowed to go to work. This meant that even where the researcher submitted applications for research permits to relevant Ministries before the lockdown, those permits could not be processed because people were not allowed to go to work. Furthermore, no telephone follow-ups on the applications for research permits could be made at this time. When the community lockdown measures were lifted in the first week of June 2020, the researcher applied for research permits from various organisations. Some organisations issued the permits in that same month, while some never responded at all.

The second level of negotiating access included negotiating physical access from some organisations. This was done by having physical meetings with gatekeepers who linked the researcher with potential respondents (Singh & Wassenaar, 2016). While some organisations allowed walk-in clients after the lifting of community lockdown measures, most organisations in Botswana did not allow walk-in clients at their offices. Therefore, the researcher could not have physical meetings with gatekeepers who needed clarity on the purpose of the study. Furthermore, the work arrangements that were put in place to decongest the workplaces also

made it difficult to telephonically contact the gatekeepers in various organisations because their work schedules were not standard.

The country went into another community lockdown in July 2020. Some physical meeting appointments with the gatekeepers scheduled to discuss research access were cancelled. During the time of this second community lockdown, telephones at most offices were not answered. This delayed gaining research access. Unlike the first lockdown, the second community lockdown did not affect the research project plan because the data collection instrument was already designed in SurveyMonkey, and the researcher was granted research permits by some organisations. Thus data for the pilot study was collected during that period.

The third level of negotiating access involved negotiating cognitive access from individual respondents. Although the initial plan was to get lists of potential respondents from the employing organisations, the pilot study showed that the approach would not work. Most organisations were not willing to give the researcher their employees' work email addresses. Additionally, not all work emails could be accessed outside the workplace. This meant that emails sent to potential respondents could only be accessed when the employees returned to their offices.

To mitigate against this, the researcher resorted to recruiting respondents from the web using social media and instant messaging such as WhatsApp. Recruiting respondents from social media has been used in previous studies (Hunt & Scheetz, 2019; Koch et al., 2018; Owens & Hawkins, 2019). Data collection for the main study began in the third week of August 2020, and it was completed within two months, from 21 August to 20 October 2020.

4.10.2 Benefits for the study brought by COVID-19 pandemic

The study had two benefits from the COVID-19 pandemic. First, the study used a hybrid approach of both traditional and internet-mediated approaches for negotiating access. For the traditional approach, the researcher wrote letters to organisations, held face-to-face meetings with gatekeepers in various organisations and made telephone calls. Due to community lockdowns discussed earlier, this approach of negotiating access could not be sustained because people's movements were restricted.

To complement the traditional approach of negotiating access, the researcher used internet-mediated access. This approach involved the researcher recruiting respondents by sending emails to them. Some were recruited through social media, predominantly through LinkedIn, and by using instant messaging such as WhatsApp. This approach was the most effective because many responses for this study were collected from respondents who accessed the questionnaire through a web link.

The use of the hybrid approach for requesting access as explained above contributed to the study's high response rate. The second benefit is that the study's response rate was enhanced by the increased usage of social media and the internet when employers were mandated to provide internet and laptops to their employees. The social media platforms added respondent sourcing possibilities. The study's response rate supports the view made by some scholars (Koch et al., 2018) that recruiting respondents from the web increases the response rate.

Thirdly, the online experimental vignette design benefitted from the increased usage of social media and the internet by the study respondents during the COVID-19 pandemic. The study's sample size was adequate, and the data collection instrument was sent in a cost- and time-efficient manner. This minimised the chances of losing completed questionnaires common with traditional methods such as the post.

A four-week pilot study was conducted and completed in July 2020. From the results of the pilot study, it became apparent that the researcher did not need to adapt the initial research design, the online experimental vignette design.

4.11 Ethical considerations

This section discusses the aspects of research ethics that were taken into consideration throughout the study.

4.11.1 Ethical considerations observed during data collection

The following ethical considerations were followed during data collection.

i. Ethics clearance by the University of Pretoria – Since the study involved human subjects, the data collection instrument needed to comply with and be cleared according to the University of Pretoria's protocols for conducting academic research. Before commencement of data collection, the researcher submitted a completed ethics clearance

form and a data collection instrument to the University of Pretoria's Gordon Institute of Business Science Research Ethics Committee. Having met all the requirements, ethical clearance was granted through a letter (see Appendix 4). This ethics clearance was a confirmation that there was no potential harm to respondents which could arise from the procedure that was used for data collection.

ii. Access – (a) All protocols for applying for a research permit from the Botswana government were observed. As per the requirements of the Republic of Botswana, all research conducted in the country must be cleared. The researcher applied for a research permit, and it was granted by the Botswana government through the Ministry of Tertiary Education, Research, Science and Technology (see Appendix 5). The research permit further confirmed that no potential harm to respondents would arise from the procedure that was used for data collection.

(b) Access was also negotiated from organisations from which potential respondents were sourced. All organisational privacy and confidentiality policies with strict rules for accessing respondents for research purposes were complied with.

(c) Cognitive access was also negotiated with potential respondents. This included requests for access even from employees whose employer had granted the researcher the permit. More details on how respondents were accessed have been discussed in section 4.5.3, dealing with the sampling frame.

iii. Honesty and the informed consent of study respondents – All respondents were informed of the purpose of the study when the researcher requested access and just before data collection. Respondents' informed consent to participate in the study was obtained in writing during the pre-study screening.

iv. Anonymity and right to privacy – As discussed in section 4.5.3 on the sampling frame, the names, email addresses of respondents and the organisations they work for were not captured in the codebook. This was done to ensure that the respondents remained anonymous so that their privacy could be protected. Furthermore, not capturing respondents' names on the data collection instrument ensured that respondents avoided social desirability bias when responding to items (Lu et al., 2019).

v. Confidentiality – Before data collection, respondents were assured that the data collected would be kept confidential and would be used for research purposes only.

4.11.2 Ethical considerations observed during data analysis and reporting

Two ethical considerations were observed during data analysis and reporting of results. These had to do with the respondents' anonymity and right to privacy. They are explained below.

i. Email addresses of respondents who submitted their responses by email were removed from the codebook. The unique identifiers automatically generated by SurveyMonkey that were used in the codebook were the Respondent ID numbers

ii. Responses for individuals have been aggregated and reported as such. This has been done so that responses do not get traced to individual respondents. Where responses to open-ended questions received from specific respondents were reported to thicken the description and for the trustworthiness of results, the Respondent ID numbers were used as identifiers.

4.12 Conclusion

This chapter discussed the procedures and criteria that were followed to collect data required for answering the research question. This chapter discussed why this study was underpinned on the positivist philosophy. The chapter also provided a rationale behind the research approach that was adopted. A detailed description of the conjoint analysis technique used in the experimental vignette design that was followed has been explained. In addition, the sampling strategy that was used to recruit and select respondents to the study is explained. The chapter also explained the respondents' behaviour. The study materials, data collection instruments and measures, as well as procedures that were used for data collection in the study, have also been discussed. A summary of the research methodology chapter can be seen in Figure 4-8.

Chapter 5: Results

5.1 Introduction

This study was guided by the following research question, “What is the effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection?” The data, collected according to the experimental vignette design and methodology, were analysed to answer this question. Several statistical tests were run to analyse the data. The results of the tests are presented transparently and interpreted to show the evidence supporting the logical conclusions made about the two hypotheses on the conceptual model.

Again, Aguinis and Bradley’s (2014) recommendations were adopted to follow steps and decision points for conducting the experimental vignette methodology to analyse data and report the results. The purpose of this chapter is to discuss how the data that were collected for the study were analysed. Specifically, the chapter discusses procedures that were carried out to prepare data for analysis. The instruments that were used for data analysis are outlined and the reasons for choosing those instruments are explained.

This chapter also explains the statistical tests that were run for descriptive, measurement and inferential statistics, which were used for testing the study hypotheses. The chapter deals with Decision Point 9 in Step 2, dealing with data analysis techniques, and Decision Point 10 in Step 3, dealing with transparency in the presentation of results; these are depicted in Figure 4-1.

5.2 Data analysis instruments

The data were analysed using IBM Statistical Package for Social Sciences (SPSS) version 26. This computer software can capture, clean, edit and organise substantial amounts of quantitative data, and it offers functions for running statistical tests required for establishing the nature of the relationship between study variables (Mutoko & Kapunda, 2017; Petzer et al., 2014). The statistical package also supports the transparency of the results and data retrievability. The moderator analysis was done by PROCESS, which is an SPSS plug-in application (Hayes, 2013, 2022)

5.3 Data preparation and cleaning

In research, data quality contributes to the credibility of the results (Templ et al., 2020). To achieve the desired results, preliminary steps were undertaken to prepare and clean the data to make it ready for analysis. Data preparation and cleaning included preparation of the codebook and coding the data, identification of errors associated with coding and mitigating against those errors identified. Data cleaning also included checking the dataset for missing values and determining how the missing values would be handled during data analysis. Lastly, data cleaning included the detection and treatment of multivariate outliers in the dataset.

5.3.1 Preparation of codebook and coding the data

The first step taken to prepare data was the preparation of the codebook. This involved defining variables. Since these two applications are compatible, the data uploaded from SurveyMonkey to SPSS were automatically coded, minimising human errors associated with data coding.

5.3.2 Removal of respondent identifiers

After preparing the codebook, the email addresses for respondents who sent their responses by email were deleted. This was done to enhance respondents' anonymity and right to privacy. Unique identifiers assigned by SurveyMonkey were used to link responses to individual respondents.

5.3.3 Dealing with missing values

Part of data cleaning included checking all 203 responses for missing values. The first criterion for retaining the responses for analysis was if the respondents responded to all questionnaire items. From the 203 usable responses to be analysed, a total of 156 responses did not have any missing values. The remaining 47 questionnaires were partially completed and thus had missing values. Not all cases with missing values were deleted from the dataset. A criterion for retaining cases with impartial responses on the dataset was whether the respondents had responded to all questionnaire items up to the last item of the intuitive decision-making style scale. In general, questionnaires that have responses for fewer than 50% of the questionnaire items should be deleted from the dataset. The purpose of retaining those responses in the dataset was to avoid reducing the sample size.

The cases with missing values were excluded from the data analysis by selecting the “exclude case pairwise” on the option module of statistical tests in SPSS. This ensured that cases with missing values remained in the dataset to be included in other specific statistical tests where values were not missing for some variables. When presenting the results for each statistical test run, the number of cases with missing values were indicated.

5.3.4 Identification of multivariate outliers

An additional step in the data cleaning protocols was checking the dataset for multivariate outliers. Outliers are defined as values that fall outside the calculated range (Templ et al., 2020; Wennberg & Anderson, 2019). Although outliers present important cases to theory testing and theoretical contribution (Wennberg & Anderson, 2019), they are reported to be a concern to micro- and macro-level analyses in organisational studies (Aguinis & Bradley, 2014). They have the potential to exert a disproportionate influence on the parameter estimates, leading to biased results and wrong conclusions on the nature of the relationship studied (Templ et al., 2020).

The outliers were identified using the “outlier labelling rule” called Mahalanobis Distance. The first step to identify multivariate outliers was calculating the Mahalanobis Distance values for the experientiality scale (Pacini & Epstein, 1999). The answers were then compared to the chi-square cumulative distribution for the same number of degrees of freedom using the formula

Probability_MD = 1-CDF.CHISQ (MAH_1,10).

The residual statistics showed that the maximum value of Mahalanobis Distances was 104.13485, showing the distance of that point relative to the centroid. To identify outliers, the formula below was used:

Probability_MD < 0.001.

Based on this formula, three outliers indicated in Table 5-1 were identified in the dataset.

Table 5-1: Outliers for the experientiality scale

RespondentID	MAH	Probability_MD	Outlier
11953104365.00	104.13485	.00000	1
11944931482.00	37.74797	.00004	1
11926268332.00	36.58030	.00007	1

5.4 Decision Points 9 and 10 - Data analysis

The study used different scales to collect data. Graphs, figures and tables were used to provide a good option for diligently presenting the results for some variables (Mutoko & Kapunda, 2017; Wennberg & Anderson, 2019). However, as per Nielsen's (2011) caution, the graphs, figures and tables used in this chapter have been presented in a manner that provides all the necessary information to show the relationship between variables being studied.

5.4.1 Descriptive statistics for demographic characteristics of the sample

This section discusses the data sample's descriptive statistics. As recommended by Akingbola and van den Berg (2019), after cleaning the data, it was checked for normality by running descriptive statistical tests for skewness and kurtosis. The descriptive statistics for the sample's demographic information confirmed that there were no errors in the data file. Thus the results can be generalised to the study population. The descriptive statistics presented in this section include percentages, histograms and normality distribution curves, a test of skewness and kurtosis, a test of normality and finally a Normal Q-Q plot for respondents' demographics.

(i) Respondents' gender

Gender is a categorical variable that had two indicators in this study, male and female. The descriptive statistics for this variable presented in this section include numbers and percentages only. The mean and standard deviation statistics for respondents' gender were not calculated because they did not apply to this variable. Table 5-2 presents the descriptive statistics for the respondents' gender.

Table 5-2: Descriptive statistics for respondents' gender

Gender	Frequency	Percent
Female	97	47.8
Male	106	52.2
Total	203	100.0

The statistics in Table 5-2 show that the sample was gender-balanced. It comprised 106 males and 97 females. The difference between the number of female and male respondents who participated in the study was small.

(ii) Respondents' age

The respondents in the study were of varying ages. The oldest respondent was born in 1956 while the two youngest ones were born in 1996. This means the age range for respondents was 40 years. An analysis of the data shows that most of the respondents for this study were born between 1979 and 1996. This may be attributed to having recruited and sourced most respondents from LinkedIn. Most young people, as compared to elderly people, use social media, including LinkedIn (Roulin & Bhatnagar, 2018). Figure 5-1 is a histogram and a normal distribution curve for the respondents' age in terms of the year they were born.

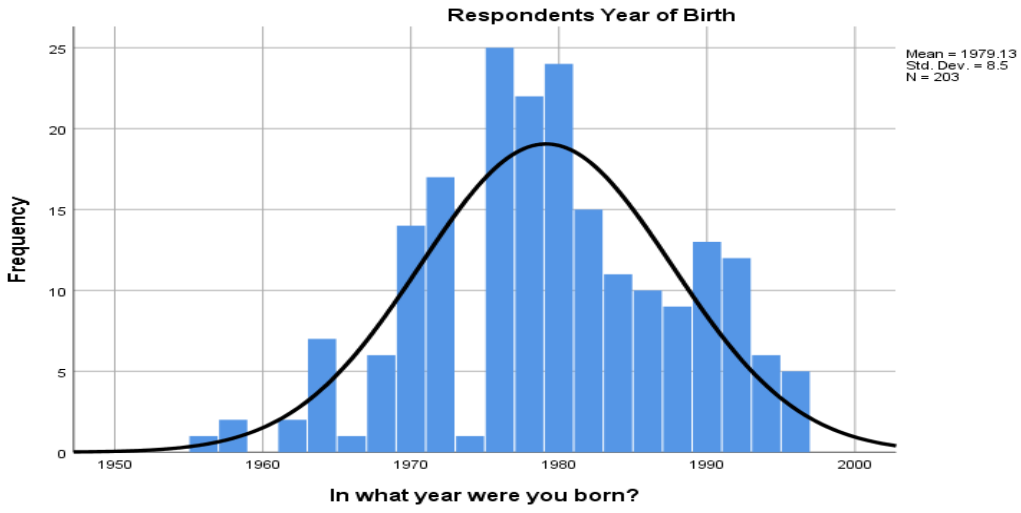

Figure 5-1: Normal distribution curve of the respondent's year of birth

Figure 5-1, the normal distribution curve for the respondents' age, shows that the sample is normally distributed. However, the curve is not perfectly distributed. It is negatively skewed towards the right. This skewness suggests that the study had many young people. The curve is also kurtotic. It shows that majority of the respondents were born between the late 1970s and 1980. To measure the extent of the level of skewness and kurtosis, statistical tests were run for the respondents' age; the results are shown in Table 5-3.

Table 5-3: Descriptive statistics for respondents' age

		Statistic	Std. Error
In what year were you born? (Enter the 4-digit birth year; for example, 1979)	Mean	1979	.597
	Median	1979	
	Variance	72.251	
	Std. Deviation	8.500	
	Minimum	1956	
	Maximum	1996	
	Range	40	
	Skewness	-.136	.171
	Kurtosis	-.378	.340

The results of an analysis of the respondents' age presented in Table 5-3 show a skewness measure of -.136 with a standard error of .171. The skewness test suggests that many respondents for the study were born after 1979. As indicated in Table 5-3, the mean is the year 1979. The results show that the average age for the respondents in this study was 42 years. The desired skewness for data is 0 (Pallant, 2016). The z value for the skewness of age of respondents is -.795 (-.136/.171). Since this value is close to 0, the skewness of the data on respondents' age did not pose any risk for data analysis, especially since the age of respondents is a control variable in the study.

The data collected for respondents' ages had a kurtosis measure of -.378 and a standard error of .340. Therefore, the z value for kurtosis is -1.11 (-.378/.340). The z measure of kurtosis is closer to 0. Thus no risks were anticipated with the variance of the respondents' age. This did not pose any risk for this study because it had 203 respondents. The risk of kurtosis on the data analysis is reduced with samples of over 200 respondents (Pallant, 2016). To rule out any risks associated with the age of respondents in the sample, a test of normality was run. The results of the normality tests are presented in Table 5-4.

Table 5-4: Tests of normality results for respondent's year of birth

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	**Df**	**Sig.**	**Statistic**	**df**	**Sig.**
In what year were you born? (Enter the 4-digit birth year; for example, 1979)	.062	203	.053	.984	203	.022

a. Lilliefors Significance Correction

A non-significant result of the Kolmogorov-Smirnov statistic is a significance value of more than.05 (Pallant, 2016). The Kolmogorov-Smirnov statistic test result for this survey is .053, within the range of the threshold. A Kolmogorov-Smirnov value indicates that the assumption of normality has been confirmed. To further confirm the normality of the sample, a Normal Q-Q plot for the respondents' year of birth is shown in Figure 5-2.

Figure 5-2: Normal Q-Q plot for respondents' age

The Q-Q plot shows that the data were approximately normally distributed, since there were very few cases falling outside the range. The distance of the outliers from the normal line is insignificant. Because of these results, there was no need for normality to be improved, especially since the prediction ability of respondents' age was controlled for in the study.

iii. Work-related socio-demographic characteristics of respondents

The study collected data on the type of organisations that respondents worked for. Figure 5-3 shows the number of respondents by type of organisation.

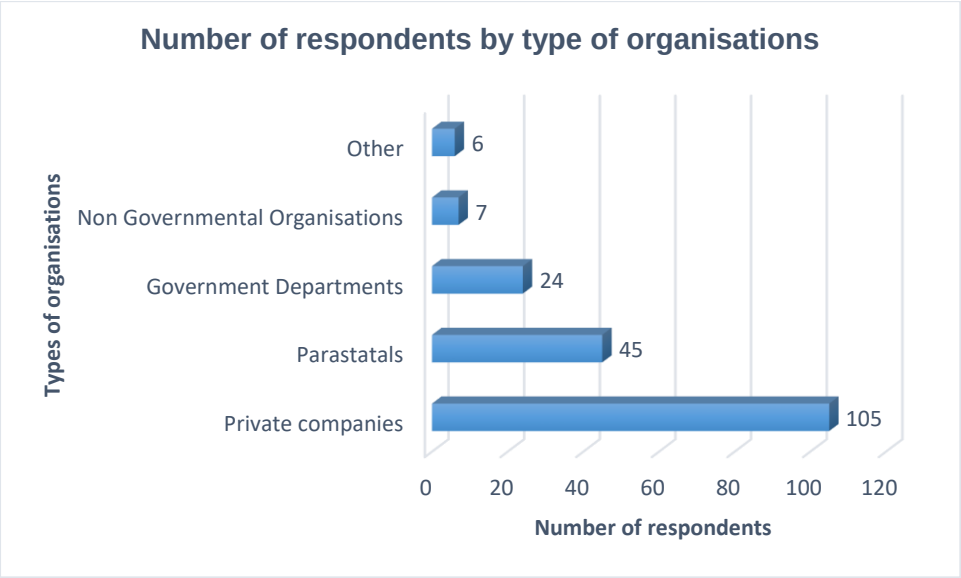

Figure 5-3: Number of respondents by type of organisation

Figure 5-4 shows that out of the 203 respondents, only 187 responded to an item that required data on the type of organisation they worked for. Most respondents worked in private companies (105; 56.15%). These were followed by those who worked in parastatals (45; 24.06%) and those who worked for the government (24; 12.83%). There were seven respondents (3.74%) who worked for NGOs. The remaining six respondents (2.21%) selected “Others” for this item. The distribution of respondents per experimental group, in which they made decisions for a single type of job, are depicted in Figure 5-4.

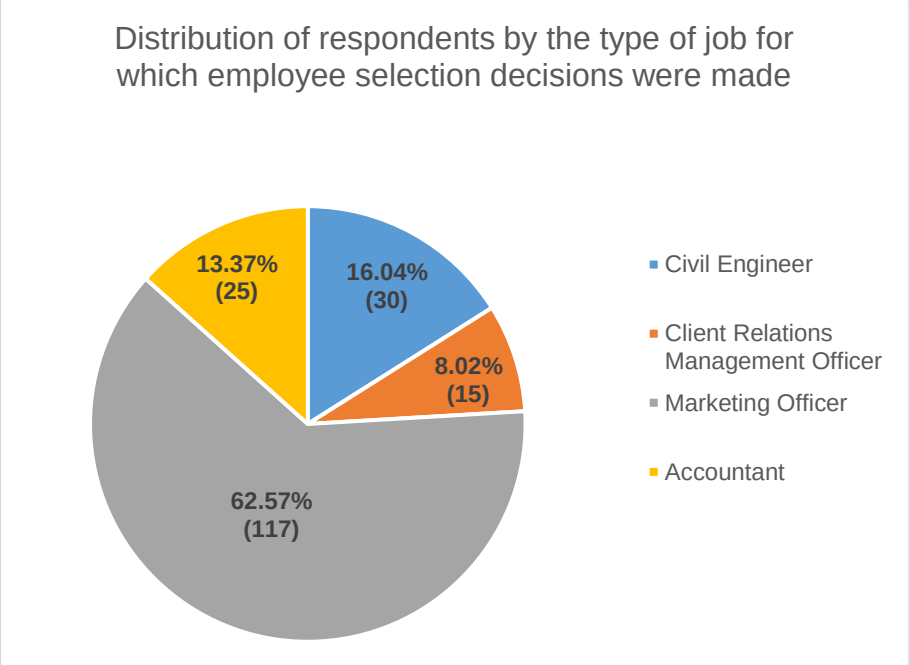

Figure 5-4: Distribution of respondents by type of jobs for which employee selection decisions were made

The numbers of respondents in the four experimental groups were not balanced. Most respondents were in the group that made employee selection decisions for a Marketing Officer position. The least represented group was those that made employee selection for a Client Relations Management Officer position. The low representation in this group does not affect the study results because this job type is in the same job family with marketing jobs.

The data on the number of times the respondents had made employee selection decisions were also collected. Table 5-5 shows the number of times the respondents had been involved in employee selection decision-making.

Table 5-5: Frequency of respondents' engagement in employee selection decision-making

		Frequency	Percent	Valid Percent
Valid	1 – 3	31	15.3	16.6
	4 – 12	62	30.5	33.2
	13 – 24	33	16.3	17.6
	25 – 35	16	7.9	8.6
	≥ 36	45	22.2	24.1
	Total	187	92.1	100.0
Missing	System	16	7.9	
Total		203	100.0	
Mean		2.90		
Std. Deviation		1.430		

Table 5-5 shows that 187 out of the 203 respondents responded to the questionnaire item on the number of times they had been involved in employee selection decisions. Most of the respondents (N=156; 83.4%) reported that they had made employee selection decisions at least four times. The sample characteristics also showed that respondents held different positions in their workplaces. Some were human resource practitioners, while others were employees who had a role in employee selection decision-making. These results show that the sample was heterogeneous.

The respondents were experienced in employee selection decision-making, and they held various positions at their workplaces. Table 5-6 shows the positions held by the study respondents.

Table 5-6: Respondents' positions at work

Respondent Position		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Managing Director/Chief Executive Officer	23	11.3	12.3	12.3
	Executive Director	20	9.9	10.7	23.0
	Senior Manager	36	17.7	19.3	42.2
	Middle Manager	58	28.6	31.0	73.3
	Senior Officer	12	5.9	6.4	79.7
	Executive Director in Human Resource Management	4	2.0	2.1	81.8
	Human Resource Manager	10	4.9	5.3	87.2
	Human Resource Officer	24	11.8	12.8	100.0
	Total	187	92.1	100.0	
Missing	System	16	7.9		
Total		203	100.0		
Mean		4.01			
Std. Deviation		2.106			

The results in Table 5-6 show that a majority (87%) of the respondents held senior positions. The results also show that the total number of those who worked in human resources was 38. The rest were executives and officers who had some responsibility in employee selection decision-making.

5.4.2 Measurement statistics

This section discusses the construct validity and internal consistency reliability of the experientiality scale (Pacini & Esptein, 1999) and the uncertainty avoidance scales that were used in the study. Construct validity is defined as "the extent to which a research instrument (or tool) measures the intended construct" (Heale & Twycross, 2015, p. 66). This section starts by discussing the psychometric properties of the experientiality scale (Pacini & Epstein, 1999) and then the reliability and validity of the uncertainty avoidance scale (Yoo et al., 2011).

(i) Construct validity of the experientiality scale

Table 5-7 shows descriptive statistics for all 10 items in the experientiality scale (Pacini & Epstein, 1999).

Table 5-7: Descriptive statistics for experientiality scale

Items	Mean	Std. Deviation	Analysis N
1. I like to rely on my intuitive impressions.	3.61	1.195	203
2. Using my gut feelings usually works well for me in figuring out problems in my life.	3.60	1.232	203
3. I believe in trusting my hunches.	3.48	1.228	203
4. Intuition can be a very useful way to solve problems.	3.46	1.232	203
5. I often go by my instincts when deciding on a course of action.	3.43	1.230	203
6. I trust my initial feelings about people.	3.16	1.311	203
7. When it comes to trusting people, I can usually rely on my gut feelings.	3.25	1.308	203
8. I think there are times when one should rely on one's intuition.	3.98	.997	203
9. I hardly ever go wrong when I listen to my deepest gut feelings to find an answer.	3.17	1.170	203
10. I tend to use my heart as a guide for my actions.	2.93	1.235	203

The results show that there were no missing values for items in the experientiality scale. Therefore, all cases were included in the analysis. The results also show that there are differences in the means and the standard deviation for these 10 items. The mean values in the scale ranged between 2.93 and 3.61. Nine out of 10 items had mean values above 3, and only one item had a mean value below 3 (Mean=2.93). These scores suggest that the levels of the respondents' intuitive decision-making styles were moderate.

Exploratory Factor Analysis was used to test the reliability and validity of the experientiality scale (Pacini & Epstein, 1999) and uncertainty avoidance scale (Yoo et al., 2011). This factor analysis technique is the most used in psychology research (Fabrigar et al., 1999; Flora & Flake, 2017; Ford et al, 1986), so this study followed suit. The correlation matrix for the experientiality scale (Pacini & Epstein, 1999) shows that all items have positive correlations. Factor analysis was conducted, and two factors were extracted. The two extracted factors of the scale explained 66.4% of the total variance in the data. The factors were rotated using Direct Oblimin with Kaiser Normalization to allow for correlation of factors (Fabrigar et al., 1999; Flora & Flake, 2017; Ford et al., 1986), resulting in oblique factor solutions.

Before performing factor analysis on the 10 items of the experientiality scale (Pacini & Epstein, 1999), the dataset was first assessed for suitability of that statistical technique. One of the determinants of the suitability of the dataset for factor analysis is the sample size. An adequate sample size to conduct factor analysis is at least 150 responses (Tabachnick & Fidell, 2013).

In addition, if the scale's Cronbach's alpha score is above.80, that suggests good intercorrelations among the scale's items. The Cronbach's alpha score of the experientiality scale (Pacini & Epstein, 1999) was.911. A ratio of five responses per item is considered adequate for conducting factor analysis (Tabachnick & Fidell, 2013). This assumption was met.

Another determinant of data suitability for factor analysis is a correlation between the scale's items. The dataset was tested for intercorrelation of the 10 items in the experientiality scale (Pacini & Epstein, 1999). The correlation matrix for the experientiality scale shows that all items have positive correlations. The results confirm that factor analysis needed to be conducted for this scale.

Kaiser-Meyer-Olkin (KMO) was used for determining sampling adequacy. The KMO and Barlett's Test scores for the experientiality scale (Pacini & Epstein, 1999) are shown in Table 5-8.

Table 5-8: KMO and Bartlett's Test for experientiality scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.899
Bartlett's Test of Sphericity	Approx. Chi-Square	1139.630
	Df	45
	Sig.	.000

The KMO value of the experientiality scale (Pacini & Epstein, 1999) was a .899 measure of sampling adequacy. A KMO value of .899 fell within the range of the threshold because it exceeded the recommended minimum value of .6 for running a factor analysis technique (Kaiser, 1970, 1974; Tabachnick & Fidell, 2013).

Bartlett's Test of Sphericity was also run to determine the adequacy of data for factorability (Bartlett, 1954). Bartlett's Test of Sphericity value was less than .05, suggesting that the data matrix was sufficiently correlated and thus was suitable for factor analysis (Pallant, 2016). The results of Bartlett's Test of Sphericity for the dataset based on the ten-item scale reflected (i) approx. chi-square: 1139.630; (ii) df: 45; (iii) p-value: .000, suggesting a statistically significant value for the ten-item scale; (iv) communalities of 1.0 for all the items and (v) total variance explained of cumulative 100%, since the eigenvalues of all the 10 items range between 1.990 and 55.684. These results show that the scale reached statistical significance. Thus the factorability of the correlation matrix was supported.

After determining sampling adequacy for factor analysis, the second step of conducting factor analysis was factor extraction. The results of factor extraction are presented in Table 5-9.

Table 5-9: Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
Factors	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.568	55.684	55.684	5.163	51.633	51.633	4.684
2	1.074	10.741	66.425	.682	6.825	58.458	4.362
3	.692	6.924	73.349				
4	.638	6.382	79.730				
5	.469	4.686	84.417				
6	.409	4.088	88.505				
7	.360	3.605	92.109				
8	.313	3.133	95.242				
9	.277	2.767	98.010				
10	.199	1.990	100.000				

Extraction Method: Principal Axis Factoring

As shown in Table 5-9, the two factors were extracted in the experientiality scale (Pacini & Epstein, 1999). The factors jointly explained 58.46% of the variance in the responses. A scree test was run to confirm the number of factors that contributed most to the variance in the dataset. The graphical representation of factor extraction is depicted in Figure 5-5.

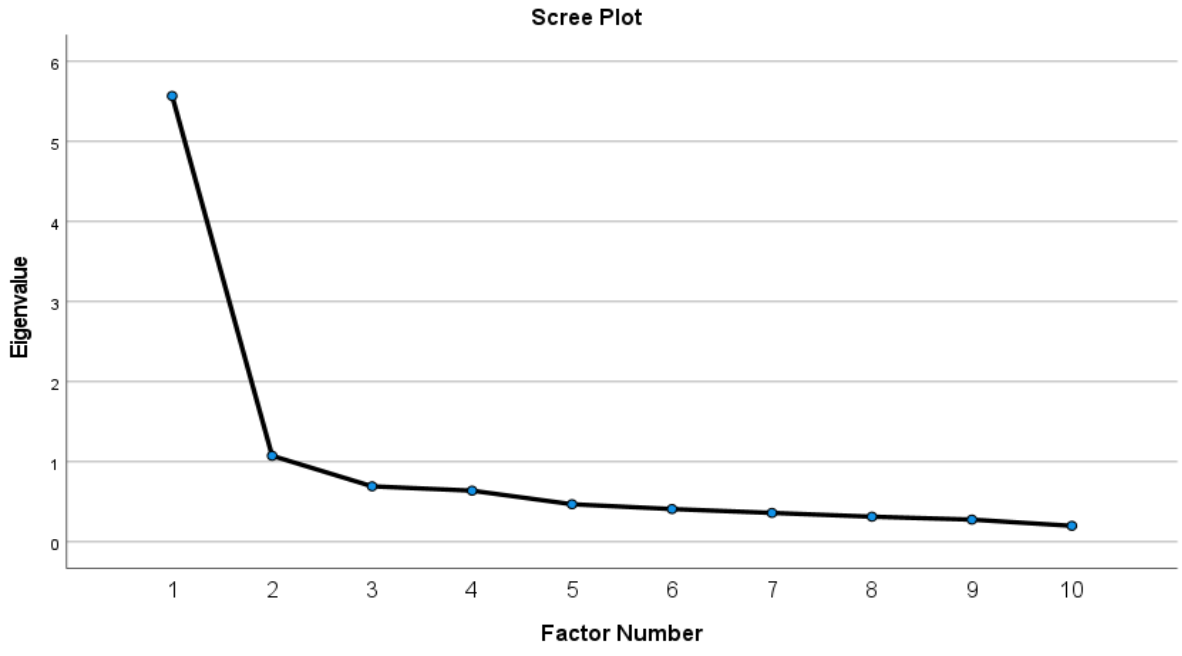

Figure 5-5: Scree plot for the experientiality scale

The scree plot shows that there were two factors above the graph's elbow. This confirms that the scale had two factors as shown in Table 5-9.

The results of this study are aligned with those of the pilot study as well as the results of previous studies, which showed that the experientiality scale has two factors. Pacini and Epstein (1999) identified the two factors as experientiality ability and experientiality engagement. Hodgkinson et al. (2009) also found that the experientiality scale has two factors, positive intuitive processes and negative intuitive processes.

After extracting the two factors, the third step of factor analysis was factor rotation and interpretation. To aid interpretation of the two extracted factors, Direct Oblimin with Kaiser Normalization was performed, resulting in oblique factor solutions. Table 5-10 is a structure matrix showing the loadings of all the item items on each of the two factors.

Table 5-10: Structure matrix for experientiality scale

Indicators	**Factors**	
	1	**2**
1. I like to rely on my intuitive impressions.	.785	.495
2. Using my gut feelings usually works well for me in figuring out problems in my life.	.791	.578
3. I believe in trusting my hunches.	.839	.607
4. Intuition can be a very useful way to solve problems.	.723	.563
5. I often go by my instincts when deciding on a course of action.	.763	.682
6. I trust my initial feelings about people.	.565	.808
7. When it comes to trusting people, I can usually rely on my gut feelings.	.616	.792
8. I think there are times when one should rely on one's intuition.	.592	.513
9. I hardly ever go wrong when I listen to my deepest gut feelings to find an answer.	.528	.750
10. I tend to use my heart as a guide for my actions.	.552	.726

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

The structure matrix shows that there are two distinct factors in the scale. Each item loaded substantially on one factor. The results show that items 1, 2, 3, 4, 5 and 8 load strongly on Factor 1, while items 6, 7, 9 and 10 load strongly on Factor 2. The items on the scale were correlated. Consequently, the factors in the structure were also correlated.

When using Glöckner and Witteman's (2010) classifications of the intuition cognitive process, the items that loaded on the first factor reflect the use of constructive intuition when solving problems, while those that loaded on the second factor reflect the use of associative intuition, using affection or feelings to make decisions. Conceptually, the structure matrix in Table 5-10 confirms Glöckner and Witteman's (2010) argument that intuition is not a homogenous concept. Empirically, the structure matrix implies that employers should be aware that when solving problems, especially where choices and trade-offs must be made during employee selection, one tends to rely on hunches and affection. Table 5-11 shows the factor correlation matrix.

Table 5-11: Factor correlation matrix

Factor 1	1.000	.718
Factor 2	.718	1.000

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

The results in the factor correlation matrix show that the factors in the structure were also correlated. The results of Table 5-10 and Table 5-11 show that the 10 items in the experientiality scale (Pacini & Epstein, 1999) have good construct validity for measuring intuitive decision-making style. This conclusion on the construct validity of this scale is supported by its Cronbach's alpha value of .911.

(ii) Validity of the uncertainty avoidance scale

As discussed in section 4.9.3, the uncertainty avoidance scale is a subscale of the Individual CVSCALE (Yoo et al., 2011). The same process that was followed to confirm the construct validity of the experientiality scale was followed for confirming the construct validity of the uncertainty avoidance scale (Yoo et al., 2011). Table 5-12 shows the descriptive statistics for items in the uncertainty avoidance scale.

Table 5-12: Descriptive statistics for uncertainty avoidance scale

Items	Mean	Std. Deviation	Analysis N
1. When making employee selection decisions, it is important to have instructions spelt out in detail so that I always know what I am expected to do.	4.20	1.051	192
2. It is important to closely follow instructions and procedures when making employee selection decisions.	4.15	.994	192
3. Rules and regulations for employment are important because they inform me of what is expected of me.	4.38	.871	192
4. Standardised work procedures are helpful in making employee selection decisions.	4.13	.943	192
5. Instructions for decision-makers are important in the employee selection process.	3.98	.912	192

The results presented in Table 5-12 show that all 192 respondents completed items on the uncertainty avoidance scale fully, and there were no missing values. Therefore, all cases were included in the analysis. The results also show that there were differences in the mean values and the standard deviation for the five items on this scale. The mean of four items in the uncertainty avoidance scale (Yoo et al., 2011) was above 4, and the mean for the remaining item was close to 4 (Mean = 3.98). These scores on the uncertainty avoidance scale (Yoo et al., 2011) suggested that the uncertainty avoidance levels of respondents in this study were high.

The correlation matrix showed that all the items were highly correlated. The correlation values for all items in the uncertainty avoidance scale (Yoo et al., 2011) fell within the range of -.8 and .8. The determinant value was .099. This determinant value is above .0001 and it is within the safe range (Pallant, 2016).

The KMO measure of sampling adequacy and Bartlett's Test of Sphericity were run to determine sampling adequacy for factor analysis. The results of these tests are presented in Table 5-13.

Table 5-13: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.831
Bartlett's Test of Sphericity	Approx. Chi-Square	435.638
	df	10
	Sig.	.000

The KMO value for this scale is .831. This value is above .05, which is the absolute minimum for the KMO test (Pallant, 2016). The results for the statistical significance level suggest a statistically significant value for the five-item scale, since the value is .000. The test for total variance explained was also run. The results are shown in Table 5-14

Table 5-14: Total variance explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	3.243	64.869	64.869	2.8.11	56.218	56.218
2	.641	12.812	77.681			
3	.493	9.865	87.546			
4	.325	6.502	94.049			
5	.298	5.951	100.000			

Extraction Method: Principal Axis Factoring.

The results of the factor analysis in Table 5-14 show that the scale has one factor explaining 56.22%. These results suggest that there is one distinct factor on this scale. This is further confirmed in the scree plot in Figure 5-6.

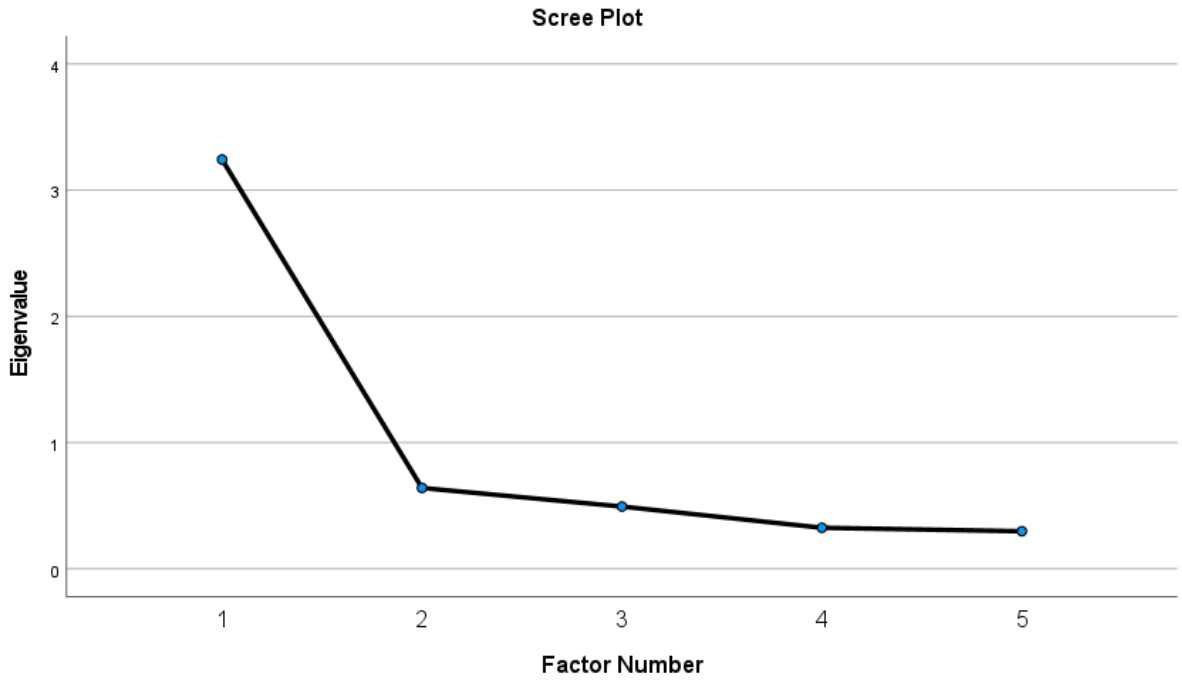

Figure 5-6: Scree plot for the uncertainty avoidance scale

The scree plot shows that there was one factor above the graph's elbow. This is aligned with the results in Table 5-14 on the total variance explained. The results in Table 5-15 show the results of the factor matrix. All items load together very well in the factor. Since only one component was extracted, the solution could not be rotated.

Table 5-15: Factor matrix

Items	Factor 1[a]
4. Standardised work procedures are helpful in making employee selection decisions.	.845
2. It is important to closely follow instructions and procedures when making employee selection decisions.	.821
3. Rules and regulations for employment are important because they inform me of what is expected of me.	.807
5. Instructions for decision-makers are important in the employee selection process.	.778
1. When making employee selection decisions, it is important to have instructions spelt out in detail so that I always know what I am expected to do.	.775

Extraction Method: Principal Component Analysis.

a. One factor extracted.

5.4.3 Evaluation ratings

This section starts by discussing the results of a conjoint analysis experimental vignette task that was conducted, and follows with a discussion of the data analysis tests. The results of the statistical tests performed to assess the model for the goodness of fit are presented.

i. Results of a conjoint analysis experimental vignette task on take-the-best heuristic use

The study's conjoint analysis experimental vignette task was a paired comparison decision-making scenario. The respondents were presented with six information cues about two job applicants. They had to select a job applicant with the most preferred attributes for a job offer or indicate why they would not select the job applicant with the most preferred attributes for the job. The probability of respondent *i* selecting a job applicant *k* in an employee selection task *j* is modelled as a function of the job applicant's age, previous work experience, level of education, field of study, structured interview score and candidate type (that is, either an internal or external applicant). The equation for the model is presented below.

$$Rs_{ikj} = \beta 1*Age_{ikj} + \beta 2*Previousworkexerience_{ikj} + \beta 3*Levelofeducation_{ikj} + \beta 4*Fieldofstudy_{ikj} + \beta 5*Structuredinterveiwscore_{ikj} + \beta 6*Candidatetype_{ikj}$$

According to the relative weight model, the respondents selected job applicants when they weighed some job applicant attributes more strongly than others. Respondents who used the take-the-best heuristic relied only on information cues they considered important to inform their employee selection decisions and traded others off. Consequently, the hypothesis that employee selection decision-makers use the take-the-best heuristic is supported if the decision-makers base their decisions on fewer information cues they perceive valid than if using all cues presented to them.

As respondents were randomly assigned the information cues in the experimental vignette task, the AMCEs of information cues were estimated by fitting a linear regression and clustering for respondents (Hainmueller & Hopkins, 2015). The AMCEs in Table 5-16 represent the marginal effects of changing a given job applicant's information cue on the employee selection decision-maker's probability of selecting a job applicant averaged over all possible values of the other cues.

Direct logistic regression was performed to assess the influence of the six job applicant attributes on the likelihood of one of the job applicants being selected for a job offer. As indicated above, the model contained six information cues. The full model containing all the six predictors for selecting a particular job applicant was statistically significant $F(6, 162)=67.3\%$, $p<.05$, indicating that the model was able to distinguish between respondents who selected Job applicant 1 and those who selected Job applicant 2. Table 5-16 shows the selection decisions made for each job applicant.

Table 5-16: Classification table for employee selection decisions

Job candidates	**Selected**	**Percentage (%)**
Job applicant 1	109	67.3
Job applicant 2	53	32.7
Total	162	100.0

The results in Table 5-16 show that the job applicant most preferred by respondents was Job applicant 1. The attributes of this job applicant were perceived as valuable for informing the selection decisions, compared to those of Job applicant 2. Table 5-17 shows statistics for a model summary.

Table 5-17: Model summary for logistic regression

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
	205.789[a]	.110	.146

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The model explained between 11% (Cox and Snell R^2) and 14% (Nagelkerke R^2) of variance in the selection decision for job applicants. As shown in Table 5-18, none of the variables in the equation made a unique statistical contribution to the model.

Table 5-18: Variables in the equation

		B	S.E.	Wald	df	Sig.	Odds Ratio	95% C.I. for Odds Ratio	
								Lower	Upper
Step 1[a]	Age	-.042	.238	.031	1	.860	.959	.602	1.528
	Previous work experience	-.021	.022	.915	1	.339	.979	.937	1.023
	Level of education	-.157	.274	.327	1	.567	.855	.499	1.463
	Field of study	-.216	.269	.644	1	.422	.806	.475	1.366
	Candidate type	-.476	.265	3.235	1	.072	.621	.370	1.044
	Structured interview scores	.195	.198	.972	1	.324	1.215	.825	1.791

a. Variable(s) entered in step 1: Age, Previous work experience, Level of education, Field of study, Candidate type, Structured interview scores.

The strongest predictor for selecting a job applicant was structured interview scores, recording an odds ratio of 1.215, and indicating that respondents who selected Job applicant 1 were over 1.2 times more likely to report that they would offer the job to Job applicant 1 than those who would report that they would offer the job to Job applicant 2, controlling for the decision-makers' age and gender.

Upon completing the experimental task, the respondents took a post-experiment test meant to check the effectiveness of the manipulation of the independent variable. The case processing summary shows that of 203 received cases, a total of 157 (77.3%) cases were valid for analysis. A total of 46 (22.7%) were excluded from the data analysis for this item because they did not respond to the manipulation check item. There was no right or wrong answer for the manipulation check item. Table 5-19 presents the descriptive statistics of the manipulation check.

Table 5-19: Descriptive statistics for the manipulation check item

			Statistic	Std. Error
Remembering the employee selection task, you have just completed, did you feel making employee selection decisions without being told which job applicant attributes are important for the advertised job affected the way you made employee selection decisions. (N=203)	Mean		3.78	.086
	95% Confidence Interval for Mean	Lower Bound	3.61	
		Upper Bound	3.95	
	5% Trimmed Mean		3.84	
	Median		4.00	
	Variance		1.162	
	Std. Deviation		1.078	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		2	
	Skewness		-.727	.194
	Kurtosis		-.167	.385

Most of the respondents reported that they felt that making employee selection decisions without being told which job applicant attributes are important for the advertised job affected the way they made employee selection decisions. Moreover, the results of the manipulation check item show that the 5% trimmed mean is 76%. These are good results. The results of the manipulation check show that the design of the experiment worked as desired and therefore the quality of results is enhanced. Conducting pre-study screening reduces manipulation check failures significantly (Hunt & Scheetz, 2019). Immediately after responding to the manipulation check item, the respondents were asked to rate the information cues on which they based their employee selection. Table 5-20 show the results of the information cue rating.

Table 5-20: Descriptive statistics on perceived information cue importance

		Age	Previous work experience	Level of education	Field of study	Interview scores	Candidate type
N	Valid	153	153	153	153	153	153
	Missing	36	36	36	36	36	36
Mean		2.74	4.12	3.90	3.90	3.64	3.37
Std. Deviation		1.075	.707	.718	.844	.840	.965
Sum		419	630	596	596	557	515

From the four target information cues, previous work experience was rated the most important in influencing employee selection decisions, with a mean score of 4.12. This was followed by ratings for level of education and field of study, which both had an equal mean score of 3.90. Furthermore, the results show that respondents preferred a field of education specified in the job advertisement to a cognate field of education when making employee selection decisions. Interview scores were also perceived as important in influencing the selection of employees for job offers (3.64).

The result of the experiment shows that a lower level of education reduces the chance of the job applicant being selected for the job. The respondents shared other job applicants' attributes, which were not within the scope of the experiment but were perceived as important in informing employee selection decisions. These included the applicants' attitudes, their versatility, and their ability to apply themselves beyond their qualifications. One participant put it as follows:

Respondent ID 11944931482.00

> *Applicant 1 would be a better candidate as they are already familiar with the products that the company has to offer already. The applicant has a rapport with the internal staff. They have a better understanding of the company and their clients and where there is a need for improvement, there would be a smoother transition to the role.*

The result of the experiment showed that a lower level of education reduces the chance of the job applicant being selected for the job. The respondents preferred bachelor's (honours) degrees to bachelor's degrees. Relevant work experience for the advertised job was considered the most important piece of information in employee selection decision-making.

One respondent identified other job applicant attributes that were not within the scope of the experiment but were perceived to be important in informing employee selection decisions. These included the applicants' attitude, their versatility and their ability to apply themselves beyond their qualifications. The respondent stated that

Respondent ID 12005865222.00

> *Qualifications and work experience may be relevant, but it is a candidate's attitude and versatility that matters most to me as a decision maker. I'm more interested in a candidate who is able to apply themselves beyond their qualifications.*

Even though structured interview scores were perceived to be important for informing the employee selection decisions, one respondent stated a need for using psychometric assessments to improve the quality of employee selection decisions. According to the respondents, psychometric assessments should be used with structured interviews. This shows that some employee selection decision-makers prefer multi-hurdle employee selection processes (Kausel et al., 2016).

Respondent ID 11971447928.00

> *Some psychometric assessments will still have to be done to further assess the individual.*

Overall, the results of the experiment show that not only did respondents care about person-job fit, but that there are other job applicant attributes that determine the likelihood of selecting job applicants for job offers. Further, the study confirmed that a certain combination of job applicant attributes increases the probability of being selected for job offers.

Moreover, the results show that respondents' average probability of selecting a job applicant with low structured interview scores (75%) compared to the applicant with a higher interview score (79%) and lower level of education (bachelor's degree) compared to a higher level of education (bachelor's degree, honours) was high if a field of study was relevant to the advertised job and the job applicant had the specified work experience. The results of this study also show that even though candidate type does not necessarily relate to person-job fit, some employee selection decision-makers prefer internal candidates to external ones.

ii. Results of the conceptual model tests

Table 5-21 shows a summary of descriptive statistics for data generated through the respondents' intuitive decision-making style scale, uncertainty avoidance scale and take-the-best heuristic use scale.

Table 5-21: Descriptive statistics for all the study constructs

	Mean	Std. Deviation	N
Take-the-best heuristic use	3.6089	.50412	153
Employee selection decision-maker's gender	1.50	.501	189
Employee selection decision-maker's age	40.85	8.421	189
Intuitive decision-making style	3.3683	.89207	189
Uncertainty avoidance	4.2159	.67474	189
Intuitive decision-making style x uncertainty avoidance	14.1586	4.46717	189

To test relationships in the hypothesised conceptual model, a hierarchical multiple regression with moderator analysis tests was run. This statistical technique is used for measuring the predictive ability of a predictor variable on a continuous outcome variable (Pallant, 2016). In this study, the predictor variables for take-the-best heuristic use included age and gender (control variables), intuitive decision-making style (independent variable) and uncertainty avoidance (moderating variable). The test was suited for the study because it allowed for assessing the interaction effect of the independent and moderating variables (intuitive decision-making style x uncertainty avoidance) on the prediction ability for take-the-best heuristic use when age and gender were controlled for. In summary, hierarchical multiple regression allowed for assessing four models at the same time, that is, the independent models and the interaction model.

Before assessing the model for the goodness of fit, the data were first checked for assumptions of sample size, multicollinearity and singularity, outliers, normality, linearity, homoscedasticity and independence of residuals, which are all assumptions of multiple regression. These assumptions are discussed in this section.

(a) Sample size

The study had an adequate sample size for running a multiple regression. Using the formula N>50+8m (where m=number of independent variables) (Pallant, 2016), the required sample size to meet this assumption with a model of 10 independent variables is more than 130 respondents (N>50+80). Although the study sample size is 203, the number of cases available for assessing the goodness of fit of the model is 153. This sample size was arrived at after excluding all cases with missing values for the variables in the model. Therefore, the assumption related to sample size was met.

(b) Multicollinearity and singularity

The data generated for the predictor variables, intuitive decision-making style and take-the-best heuristic use in the model, were checked for multicollinearity. The Pearson correlation coefficient for experiential decision-making and take-the-best heuristic use is -.054. This correlation coefficient is less than the recommended .3 (Pallant, 2016), suggesting a weak correlation between the predictor variable and the outcome. The correlation coefficients for age (.106) and gender (.056) as well as for the moderating variable uncertainty avoidance (.171) were also less than .3.

The collinearity diagnostics performed on the dataset as part of the hierarchical multiple regression show the following tolerance values for all the predictor variables: gender (.895), age (.937), intuitive decision-making style (.015), uncertainty avoidance (.041) and the interaction variable—intuitive decision-making style x uncertainty avoidance—(.012). None of these tolerance values is less than .01, and this shows that the assumption of multicollinearity has been met.

Furthermore, the multicollinearity and singularity assumption is also supported by all the Variance Inflation Factors (VIF) for all the predictor variables in the model, gender (.895), age (.937), intuitive decision-making style (.015), uncertainty avoidance (.041) and the interaction variable (.012). The values confirm that the assumption for multicollinearity is met.

(c) Treatment of multivariate outliers

As indicated in section 5.3.4, three outliers were detected in the dataset. These outliers were excluded from the analysis for three reasons. First, hierarchical multiple regression is sensitive to outliers (Pallant, 2016). Second, outliers could lead to false results and consequently making wrong conclusions that may lead to rejection or failure to reject the study hypotheses (Aguinis & Bradley, 2014). Third, previous organisational science studies in the fields of strategy, organisational behaviour and human resource management that used multiple regression have provided scientific support for the deletion of outliers to avoid false and biased regression results (Aguinis & Bradley, 2014; Templ et al., 2020). Table 5-22 shows the residual statistics for the regression model that was tested after removing outliers.

Table 5-22: Residuals statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.8254	3.9039	3.6089	.15153	189
Std. Predicted Value	-5.171	1.947	.000	1.000	189
Standard Error of Predicted Value	.058	.223	.092	.029	189
Adjusted Predicted Value	2.4743	3.9122	3.6035	.17198	153
Residual	-1.44468	1.34131	.00455	.48675	153
Std. Residual	-2.955	2.743	.009	.996	153
Stud. Residual	-2.996	3.082	.010	1.020	153
Deleted Residual	-1.48548	1.69235	.00542	.51190	153
Stud. Deleted Residual	-3.082	3.175	.010	1.029	153
Mahal. Distance	1.109	30.535	4.974	4.442	189
Cook's Distance	.000	.414	.009	.035	153
Centred Leverage Value	.007	.201	.033	.029	189

a. Dependent Variable: Take-the-best heuristic use

The independence of residuals presented in Table 5-22 shows that the assumption for the multiple regression test was met. The residuals statistics of the dataset show a Cook's Distance maximum value of .414 for take-the-best heuristic use (dependent variable). This suggests that the dataset did not have major problems since this value is less than 1, which is the cut-off point (Pallant, 2016).

(d) Normality, linearity, homoscedasticity, independence of residuals

Four other tests conducted to check if the assumptions for hierarchical regression were met included tests for normality, linearity, homoscedasticity and independence of residuals. These included running tests for normal distribution curve, normal probability plot (P-P plot) of the standardised residuals and scatterplot and inspecting if the results fell within the required values.

(i) Normality

The normal distribution curve in Figure 5-7 shows that the residuals are normally distributed about the dependent variable, which is take-the-best heuristic use.

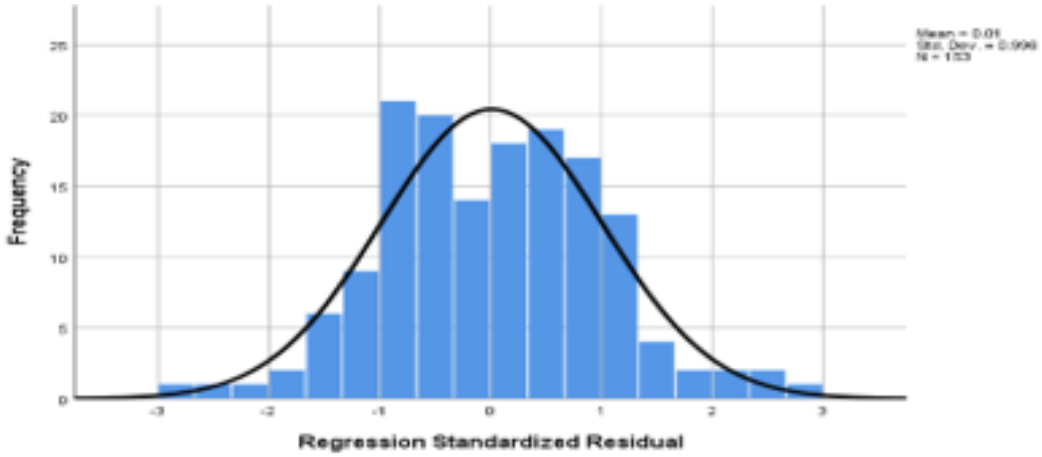

Figure 5-7: Normal distribution curve

(ii) Linearity

The P-P plot of regression standardised residuals in Figure 5-8 shows that the residuals fall within a reasonable distance and make a straight-line relationship with take-the-best heuristic use, from bottom left to top right. The graph shows that the data were normally distributed, and there are no deviations that may warrant a violation of the assumption that the data analysed by multiple regression should be normally distributed.

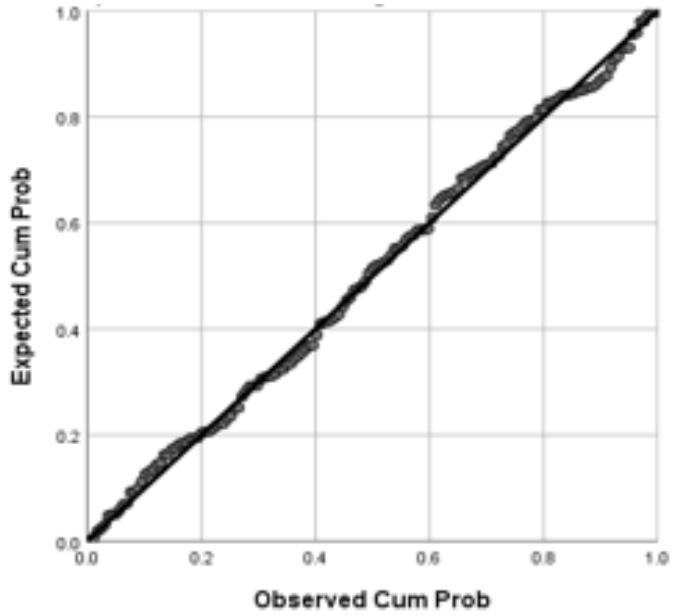

Figure 5-8: Normal P-P plot of regression standardised residuals

(iii) Homoscedasticity

The assumption of homoscedasticity was tested by checking if the variance of the residuals was equal across the whole continuum of take-the-best heuristic use. The tests that were used to confirm this assumption included correlations and a scatter plot.

A correlation test was used to check whether the prediction equation of intuitive decision-making style and take-the-best heuristic use is equal for the entire spectrum of the data. The results in Table 5-23 show that the Standard Error=.369 and the Sig value=.008. These values indicate that the assumption of homoscedasticity is not violated. Therefore we can be confident that this standard error is accurate for the whole spectrum of data, since $p<.05$, which is a statistically significant effect.

Table 5-23: Coefficients[a]

Model	Unstandardised Coefficients		Standardised Coefficients		
	B	Std. Error	Beta	t	Sig
Intuitive decision-making style	-.995	.369	-1.760	-2.698	.008

[a]Dependent Variable: Take-the-best heuristic use

Furthermore, a partial correlation was used to explore the relationship between standardised predicted values of intuitive decision-making style and absolute values of take-the-best heuristics use, while controlling for scores on scales for respondents' age and gender. All assumptions of normality, linearity and homoscedasticity between these two variables were met.

The correlation matrix shows that there was a strong negative correlation between standardised predicted values and absolute values of intuitive decision-making style and take-the-best heuristic use, controlling for employee selection decision-makers' age and gender variables, (r=-.059, N=153). In addition, high levels of intuitive decision-making style were associated with high levels of take-the-best heuristic use. According to Cohen (1988), the strength of the relationship is strong if r values range between .50 and 1, with a negative sign referring to the direction of the relationship. The results of the Pearson test show that the linear relationship between intuitive decision-making style and take-the-best heuristic use is statistically insignificant (p=.471).

The zero-order correlations (r=-.059) were inspected further. The results showed a large decrease (from -.059 to -.035) in the strength of the correlation, suggesting that the respondents' age and gender influenced the relationship between intuitive decision-making style and take-the-best heuristic use.

The last test to confirm the homoscedasticity of the data entailed transforming the standardised residuals into absolute values and creating a scatter plot shown in Figure 5-9. The plot shows that the residuals do not form any pattern. Therefore, this confirms that the assumption of homoscedasticity is met.

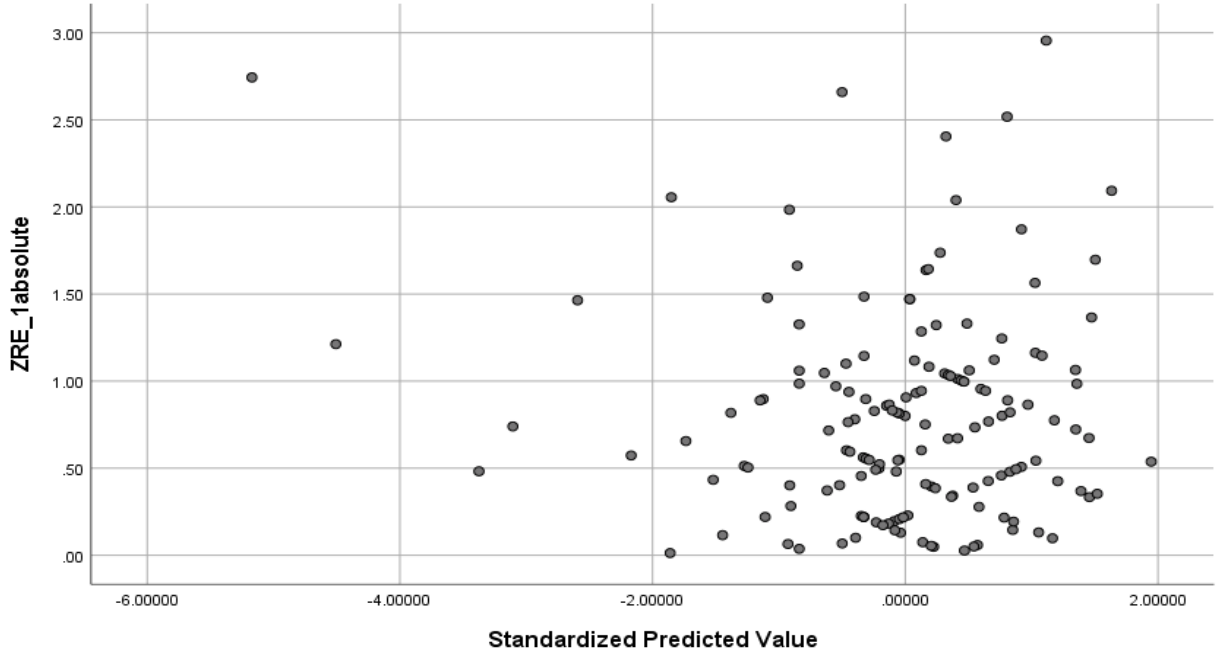

Figure 5-9: Scatter plot for standardised predicted values and absolute values

(iv) Independence of residuals

Figure 5-10 is a scatter plot showing the independence of residuals.

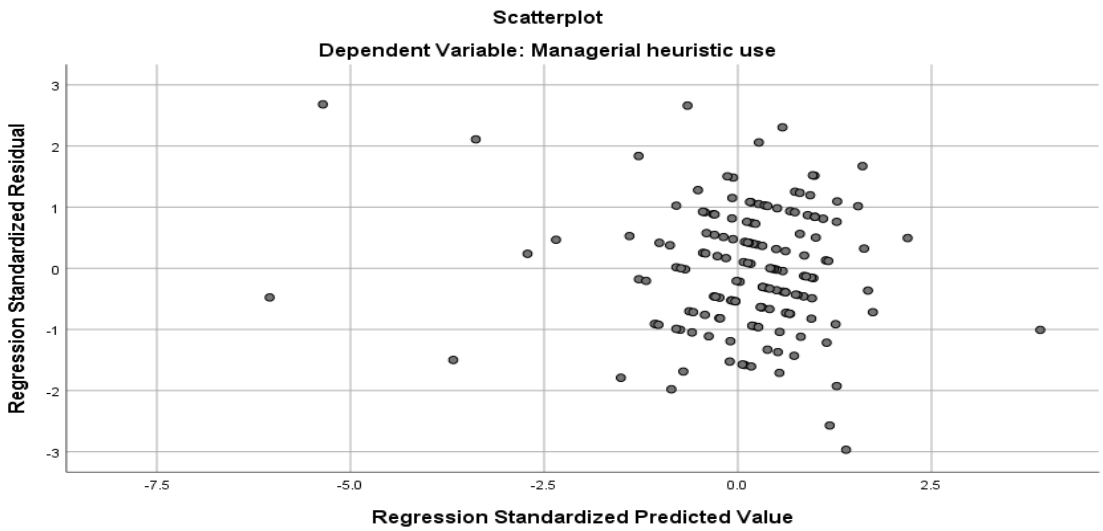

Figure 5-10: Scatter plot for the independence of residuals

The residuals in the scatter plot in Figure 5-10 show that they are rectangularly distributed. The residuals were all within the -3.3 to 3.3 range (Pallant, 2016) and were mostly concentrated around the 0.0 value. This shows that the assumption of the multiple regression is met.

After confirming that all the assumptions of hierarchical multiple regression were met, the conceptual model was evaluated for the goodness of fit. This section discusses variables in the model that contributed to the prediction of take-the-best heuristic use, that is, the ability of intuitive decision-making style to predict take-the-best heuristic use, after controlling for the influence of employee selection decision-maker's age and gender. The test also examined the moderation effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristics use.

The study followed a standard procedure for running hierarchical multiple regression (Pallant, 2016). The study variables were entered in blocks according to a predetermined order, where the continuous dependent variable was entered in the dependent variable's block, followed by control variables in the first block, then independent variables in the second block and finally, moderating variables in the third block (Pallant, 2016). Hierarchical regression allows one to calculate and explain the possible effects of control, independent and moderating variables on the dependent variable, as well as to determine the relationships on the entire regressed model (Pallant, 2016).

In this study, the two control variables, age and gender, were entered in the first block. After entering these two variables in the first block, the overall model explained 0.8% (R^2=.008, Adjusted R^2=-.005) of the variance. The independent variable, intuitive decision-making style, was entered in the second block. After entering this variable in the second block, the model explained 0.9% (R=.009, Adjusted R^2=-.011) of the variance.

Uncertainty avoidance, the moderating variable, was entered in the third block. After entering uncertainty avoidance in the third block, the model explained 4.5% (R=.045, Adjusted R^2=.020) of the variance. Lastly, all the independent variables in the third block, the moderating variable, and the interaction variable (intuitive decision-making style x uncertainty avoidance) were entered in the fourth block. After including all the variables in the fourth block, the model explains 9% (R=.090, Adjusted R^2=0.59).

An analysis of variance (ANOVA) test was run to see the differences between the three independent models and the regressed one (Model 4). The results of the ANOVA test are presented in Table 5-24.

Table 5-24: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.301	2	.150	.588	.557[b]
	Residual	38.328	150	.256		
	Total	38.629	152			
2	Regression	.339	3	.113	.439	.725[c]
	Residual	38.290	149	.257		
	Total	38.629	152			
3	Regression	1.751	4	.438	1.756	.141[d]
	Residual	36.878	148	.249		
	Total	38.629	152			
4	Regression	3.490	5	.698	2.920	.015[e]
	Residual	35.139	147	.239		
	Total	38.629	152			

a. Dependent Variable: Take-the-best heuristics use

b. Predictors: (Constant), Employee selection decision-maker's age, Employee selection decision-maker's gender

c. Predictors: (Constant), Employee selection decision-maker's age, Employee selection decision-maker's gender, Intuitive decision-making style

d. Predictors: (Constant), Employee selection decision-maker's age, Employee selection decision-maker's gender, Intuitive decision-making style, Uncertainty avoidance

e. Predictors: (Constant), Employee selection decision-maker's age, Employee selection decision-maker's gender, Intuitive decision-making style, Uncertainty avoidance, Experiential decision-making style x Uncertainty avoidance

Hypothesis 1 – Intuitive decision-making style predicts take-the-best heuristic use such that employee selection decisions will be based on fewer (versus all) information cues subjectively perceived to be valid for informing the decision.

Hypothesis 1 was not supported. The two control variables, age and gender, were entered in the first block of the hierarchical multiple regression model and the overall model explained 0.8% (R^2=.008, Adjusted R^2=-.005) of the variance. Thereafter, an intuitive decision-making style was entered in the second block. After entering this variable in the second block, the model explained 0.9% (R^2=.009, Adjusted R^2=-.011) of the variance based on the collective contribution of three variables (i.e., age, gender and intuitive decision-making style) (*F*(3, 149)=.439, p=.725).

Hypothesis 2 – Employee selection decision-maker's uncertainty avoidance positively moderates the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection such that the relationship between intuitive decision-making style and take-the-best heuristic use will be stronger when uncertainty avoidance is high than when it is low.

Hypothesis 2 was supported. Uncertainty avoidance was entered in the third block of the controlled hierarchical regression model, and the model explained 4.5% (R^2=.045, Adjusted R^2=.020) of the variance. Finally, all the control variables (age and gender), the predictor variable (intuitive decision-making style), the moderating variable (uncertainty avoidance), and the interaction variable (intuitive decision-making style x uncertainty avoidance) were entered in the fourth block. After adding all these variables in the fourth block, the model explained 9% (R^2=.090, Adjusted R^2=0.59) of the variance.

An evaluation of how much each of the predictor variables in the regression model contributes to the final regression equation was done. The results show that 9% (R^2=0.09, Adjusted R^2=.059) of the variance in the take-the-best heuristic use accounted for five predictors collectively (*F*(5, 147)=2.920, p=.015). Table 5-25 presents statistics for the regressed model summary.

Table 5-25: Model summary[e]

					Change Statistics				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**R Square Change**	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.088[a]	.008	-.005	.50549	.008	.588	2	150	.557
2	.094[b]	.009	-.011	.50693	.001	.148	1	149	.701
3	.213[c]	.045	.020	.49918	.037	5.666	1	148	.019
4	.301[d]	.090	.059	.48892	.045	7.277	1	147	.008

a. Predictors: (Constant), Respondent's age, Respondent's gender, Intuitive decision-making style
b. Predictors: (Constant), Respondent's age, Respondent's gender, Intuitive decision-making style, Uncertainty avoidance
c. Predictors: (Constant), Respondent's age, Respondent's gender, Intuitive decision-making style, Uncertainty avoidance, Intuitive decision-making style x Uncertainty avoidance
d. Dependent Variable: Take-the-best heuristic use

After the effects of employee selection decision-maker's age and gender have been removed, the R square change of the interaction effect of intuitive decision-making style and uncertainty avoidance was .045. This means that the interaction (intuitive decision-making style x uncertainty avoidance) predicts 4.5% of the variance in take-the-best heuristic use, even when the effects of employee selection decision-makers' age and gender, intuitive decision-making style and uncertainty avoidance are controlled for. This is a statistically significant contribution since the Sig. F change is .008 (p<.05).

The individual contribution of the two control variables, as well as of the three predictor variables—intuitive decision-making style, uncertainty avoidance and the interaction variable (intuitive decision-making style x uncertainty avoidance)— were assessed. Looking at the unique individual contribution of the predictors, the results show that intuitive decision-making style (β=-.1.760, t=-2.698, p=.008), uncertainty avoidance (β=-.827, t=-2.133, p=.035), and intuitive decision-making style x uncertainty avoidance (β=-.1.970, t=-2.698, p=.008) positively

predict take-the-best heuristic use in employee selection. The results show that the interaction variable makes the strongest unique contribution to explaining take-the-best heuristic use when all other variables in the model are controlled for. Figure 5-11 shows the simple slopes of the moderating effect of the different levels of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use.

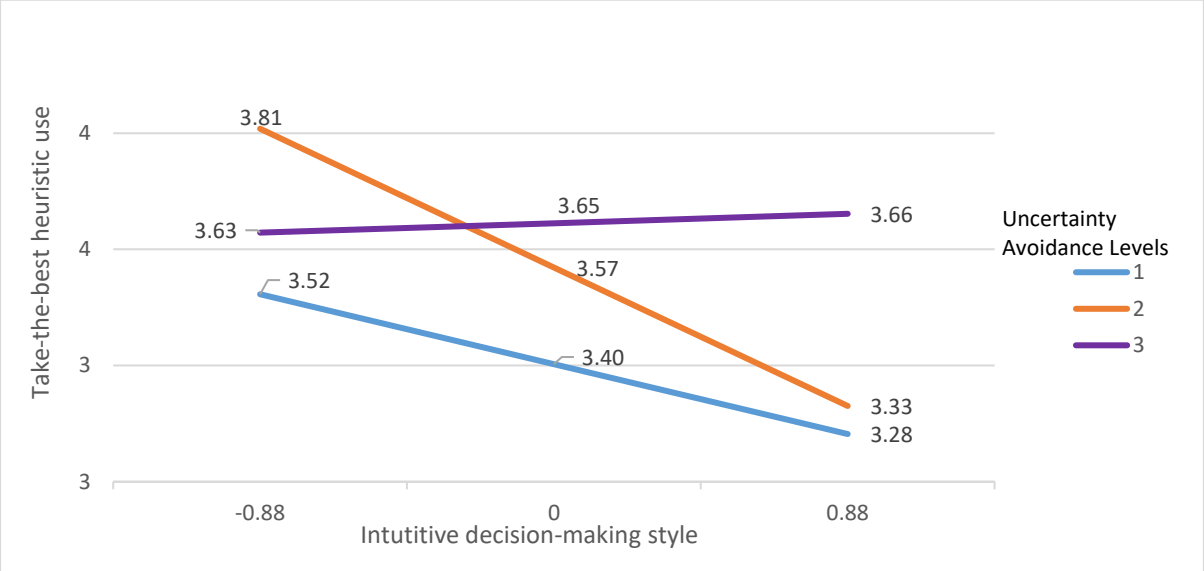

Figure 5-11: Interaction effect of intuitive decision-making style and uncertainty avoidance on take-the-best heuristic use

The simple slopes of the regression graph for respondents with low, medium and high levels of uncertainty avoidance were analysed. The graphs of the respondents with low (1 – uncertainty avoidance) and medium (2 – uncertainty avoidance) levels of uncertainty avoidance show negative gradients, suggesting that uncertainty avoidance has a negative moderation effect on the relationship between intuitive decision-making style and take-the-best heuristic use. However, the gradient of the graph for respondents with high levels of uncertainty avoidance is positive but less steep. These results suggest that higher levels of uncertainty avoidance have a positive moderation effect on the relationship between intuitive decision-making style and take-the-best heuristic use.

An evaluation of how much each of the predictor variables in the regression model contributes to the final regression equation was done. A summary of the results on the contribution of each variable is shown in Table 5-26.

Table 5-26: Coefficients[a] for Model[a]

Model		Unstandardized Coefficients		Standardised Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
4	(Constant)	6.239	1.343		4.645	.000					
	Employee selection decision-maker's gender	.043	.084	.043	.519	.604	.035	.043	.041	.895	1.117
	Employee selection decision-maker's age	.003	.005	.047	.574	.567	.087	.047	.045	.937	1.067
	Intuitive decision-making style	-.995	.369	-1.760	-2.698	.008	-.041	-.217	-.212	.015	68.772
	Uncertainty avoidance	-.618	.290	-.827	-2.133	.035	.189	-.173	-.168	.041	24.324
	Intuitive decision-making style x Uncertainty avoidance	.222	.082	1.970	2.698	.008	.086	.217	.212	.012	86.183

a. Dependent Variable: Take-the-best heuristic use

The results presented in Table 5-26 show that three variables, intuitive decision-making style (p=.008), uncertainty avoidance (p=0.35) and the interaction variable (intuitive decision-making style x uncertainty avoidance) (p=.008), all make a unique statistical contribution (p<.05). According to these results, the Beta value of the interaction variable (intuitive decision-making style x uncertainty avoidance) is the highest (1.970). This means that this variable makes the strongest unique contribution to explaining take-the-best heuristic use when all other variables in the model are controlled for.

The Beta value for the intuitive decision-making style was slightly lower (-1.760) than the one for the interaction variable (1.970). This suggests that the intuitive decision-making style made a lesser unique contribution. Despite these different Beta values, the statistical significance values of both intuitive decision-making style and the interaction variable (intuitive decision-making style x uncertainty avoidance) are .008.

The part correlation coefficients indicate that intuitive decision-making style and the interaction variable (intuitive decision-making style x uncertainty avoidance) contribute 4.49% each to the model's total R^2. This means that the unique contribution of each of these two variables explains variance in take-the-best heuristic use. This value is supported by the R^2 values shown in Table 5-24, which presents statistics on the model summary.

5.4.4 Post hoc analysis

An ANOVA test was conducted to explore whether the industry where respondents worked had an impact on the use of the take-the-best heuristic in employee selection. The post hoc comparisons using the Turkey HSD test indicated that the actual mean scores for the four experimental groups were small (Experimental group 1: Engineering (M=3.76, SD=.438), Experimental group 2: Hospitality and tourism (M=3.57, SD=.463), Experimental group 3: Business services (M=3.53, SD=.522), and Experimental group 4: Government (M=3.78, SD=.515)). An ANOVA test was also run, and the results show that there were no statistically significant differences in the scores of take-the-best heuristic use among the four experimental groups (F(6, 149) = 1.643, p=.139). These results suggest that the respondents' use of the take-the-best heuristic in employee selection was not affected by the industry they worked in.

On the other hand, the results show that the moderating effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use is affected by the experience of decision-makers. In this study, the decision-makers' experience was measured both by the level of operation (F(6, 149) = 3.014, p= .008) and number of times one has made employee selection (F(6,149) = 1.897, p= .085). These results demonstrate that only the decision-makers level of operation makes a significant contribution to the model.

5.4.5 Summary of the study results

This chapter presents an answer to the research question, "What is the effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection?" The results show that the decision-maker's uncertainty avoidance has a positive moderating effect on the relationship between an intuitive decision-making style and managerial heuristic use. A summary of the outcome of the two study hypotheses is presented in Table 5-27.

Table 5-27: Summary of Hypotheses 1 and 2

Hypothesis	Outcome
Hypothesis 1 – Intuitive decision-making style predicts take-the-best heuristic use such that employee selection decisions will be based on fewer (versus all) information cues subjectively perceived to be valid for informing the decision.	Not Supported
Hypothesis 2 – Employee selection decision-maker's uncertainty avoidance positively moderates the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection such that the relationship between intuitive decision-making style and take-the-best heuristic use will be stronger when levels of uncertainty avoidance are high than when they are low.	Supported

5.5 Research quality

Research quality for quantitative studies focuses on the psychometric properties of instruments used to collect data, a research question, the research design if the study is guided by a theoretical model and sampling procedures that fit the employed research design (Wester et al., 2013). Aspects of research quality discussed in this section are the reliability and validity of the questionnaire, the generalisability of study results to the study population and the objectivity of the data collection process that was used.

5.5.1 Reliability

Reliability means the capability of a scale to yield consistent results after repeating measurement using the same scale (Abowitz & Toole, 2010; Miles et al., 2019). The internal consistency reliability of each of the two scales that were used has been discussed in depth in section 4.8 on measures. The Cronbach's alpha value of the uncertainty avoidance scale (Yoo et al., 2011) was .846. The experientiality scale (Pacini & Epstein, 1999) showed Cronbach's alpha value of .911 in this study. The Cronbach's alpha values for these two scales are above .7, which is an acceptable Cronbach's alpha value (Bonett & Wright, 2015). Therefore the scales are considered reliable measures for an intuitive decision-making style and uncertainty avoidance.

5.5.2 Validity

Two validity tests were run to assess the following:

i. Content validity –"The extent to which a research instrument accurately measures all aspects of a construct" (Heale & Twycross, 2015, p. 66). Content validity is achieved when a data collection instrument focuses only on study constructs (Scott & Bruce, 1995). The results of the study showed that respondents clearly understood the items of the data collection instrument. This was achieved by piloting the data collection instrument, after which some items were modified to make them clear.

ii. External validity – Aspects of external validity have been discussed in detail in section 4.4.8 on maximising the external validity of the experiment. As discussed earlier, external validity was achieved by the inclusion of only experienced employee selection decision-makers in the study. External validity was also enhanced by allowing respondents to remotely participate in the study from their homes or work environments, as opposed to conducting the experiment in a controlled laboratory. Additionally, the study results have external validity because the respondents' level of immersion during data collection was increased using information technology, which reduced passiveness since the experiment was interactive. Finally, the external validity was also enhanced by using fictitious job advertisements that resembled real-life advertisements.

5.5.3 Generalisability

The study results can be generalised to the study population because the study used a quantitative research approach that is value-free (Wahyuni, 2012). Collecting data in the absence of the researcher ensured no interference with the results. In addition, the study achieved a good response rate. The study had an adequate sample size required for generalising the results to the population. A response rate of 52.73% was more than the recommended 35%–40% for studies with respondents who are top executive and organisational representatives (Baruch & Holtom, 2008; Shaw, 2012; Yilmaz, 2013).

Lastly, the results of this study can be generalised to the study population because the sample was heterogeneous and representative of a population of experienced employee selection decision-makers in the services industry (Verma et al., 2019). The results of this study indicate that the type of industry where the decision-maker works did not have any effect on the

relationship between an intuitive decision-making style, uncertainty avoidance and take-the-best heuristic use. However, West et al. (2020) warn that the generalisation of results that tested the nature of the relationship between decision-making styles and heuristic use should be made with caution. Therefore the results of this study are generalised to a population of decision-makers in the industries that were sampled for the study.

5.5.4 Objectivity

The ontological assumption of the positivist paradigm about reality is that social reality is objective, and it is external to the researcher (Wahyuni, 2012). The scientific research method that was used in the study yielded objective results because the researcher remained independent of the respondents. The absence of the researcher during data collection contributed to the objectivity of the results because she did not influence study results in any way. Hence, the study results are free from bias and aligned to the positivist philosophy.

5.6 Conclusion

The study was quantitatively oriented and collected quantitative data. Data were analysed using SPSS. Data analysis commenced with exporting data from SurveyMonkey to SPSS. Since these two applications are compatible, the data were automatically coded. The preparation of the codebook began with defining variables. The raw data were then prepared and cleaned by removing identifiers to promote respondents' anonymity and confidentiality.

Thereafter, the dataset was assessed for multivariate outliers, and three outliers were identified in the dataset. These outliers were deleted from the dataset because these would have reduced the study sample size and would have affected the statistical power of the results. To avoid spuriousness, these outliers were excluded from the analysis when running inferential statistics for the models.

A total of 252 potential respondents accepted the invitation to participate in the study. A total of 203 passed the pre-study screening and generated usable responses. The remaining 49 potential respondents were disqualified because the respondents either did not meet the screening criteria or voluntarily withdrew from the study after passing the pre-study screening. Of the 203 usable responses, 156 were complete while 47 were partial responses. The responses with fewer than 50% missing values for items in the two measures that were used were retained in the dataset (Hair et al., 2018). When running statistical tests, an "exclude

case pairwise" on the option module of statistical tests in SPSS was selected. This ensured that cases with missing values remained in the dataset to be included in other specific statistical tests where values were not missing for some variables.

The descriptive statistics of demographic variables show that the study was gender-balanced. Many respondents were young people, with a mean age of 42 years. The results of the study also show that the research method that was used to collect the data was valid because the measurement scales were reliable and valid. The study results have been reported transparently.

The inferential statistical test results have demonstrated that Hypothesis 1 is not supported by the data, but Hypothesis 2 is. Figure 5-12 shows the R^2 and p values for the two relationships in that conceptual model.

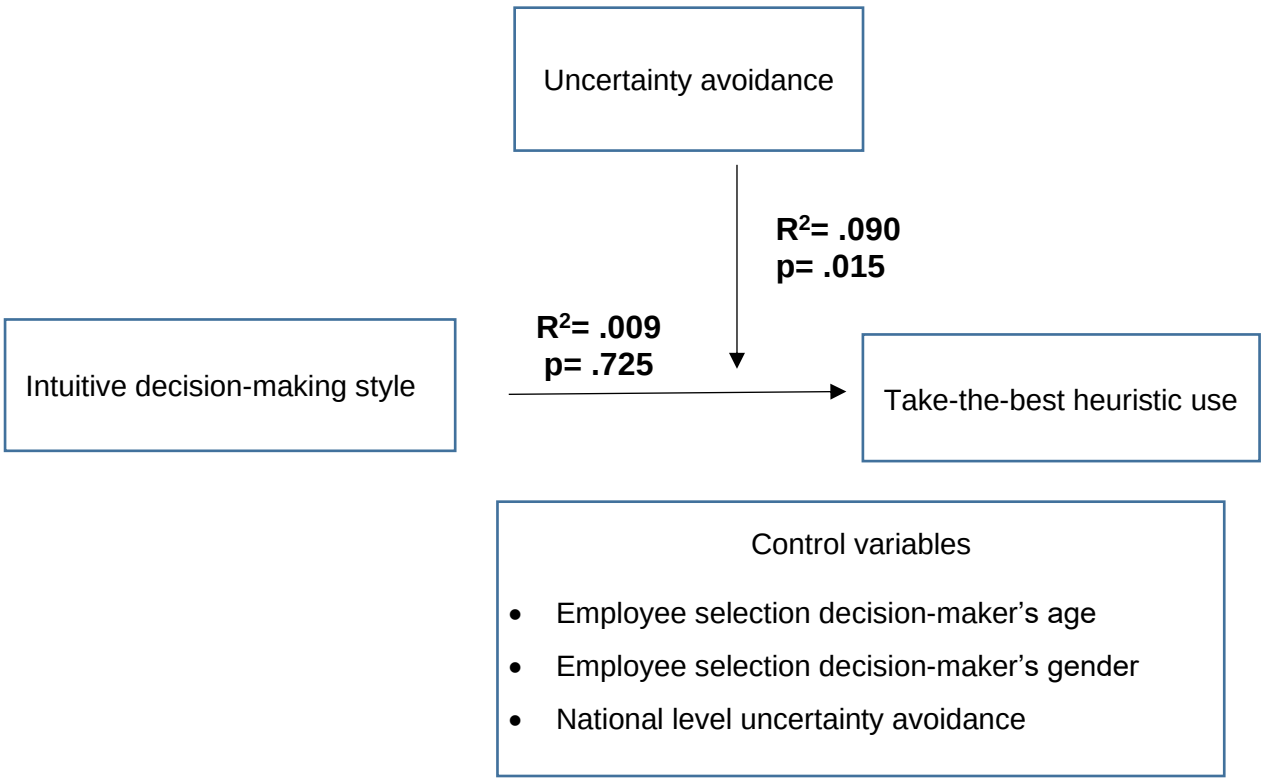

Figure 5-12: Conceptual model (Source: Author)

The following chapter discusses the results that were presented in this chapter. The discussion is in view of the literature reviewed and results of previous studies to show how the results of this study are consistent with or differ from those of previous studies.

Chapter 6: Discussion of Results and Conclusion

6.1 Introduction

The purpose of this study was to examine the effect of uncertainty avoidance on the relationship between an intuitive decision-making style and take-the-best heuristic use in employee selection. Findings from previous studies demonstrated that decision-making styles affect the use of heuristics, including the take-the-best heuristic, deflecting attention from the role that cultural values play in that relationship. This analysis leaves scholars to speculate about the extent of other factors that affect the use of heuristics.

This chapter provides a critical interpretation of the study results presented in the previous chapter. The chapter explains what was known and not known at the beginning of the study, to show the knowledge gaps that the study has reduced. The theoretical and practical contributions made by the study are also discussed in this chapter to highlight the significance of this present study to scholars and practitioners.

The framework for discussing the study results are the two hypotheses in the study's conceptual model. These are (i) Hypothesis 1 – Intuitive decision-making style predicts take-the-best heuristic use such that employee selection decisions will be based on fewer (versus all) information cues subjectively perceived to be valid for informing the decision and (ii) Hypothesis 2 – Employee selection decision-maker's uncertainty avoidance positively moderates the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection such that the relationship between intuitive decision-making style and take-the-best heuristic use will be stronger when levels of uncertainty avoidance are high than when they are low.

The interpretation of results shows the depth and clarity of scientific thinking in convincingly showing that the study conclusions arrived at in this study are plausible and defensible. A summary of the interpretation of the results is presented at the end of the chapter. The significance of the study results is explained by highlighting a new understanding of the research problem. Furthermore, to build the internal validity of the conceptual model that guided the data collection and analysis, the results of the study are compared with those of related previous studies to demonstrate how similar or conflicting the results are.

The chapter is structured as follows: First, the results for Hypothesis 1 are discussed and possible explanations for the results of Hypothesis 1 are outlined. Then follows a discussion of results for Hypothesis 2, which also presents key arguments and knowledge claims at the end. A conclusion based on the discussion of the results for both hypotheses is presented at the end of the chapter.

6.2 Intuitive decision-making style and take-the-best heuristic use

This section discusses the results of *Hypothesis 1 – Intuitive decision-making style predicts take-the-best heuristic use such that employee selection decisions will be based on fewer (versus all) information cues subjectively perceived to be valid for informing the decision.*

6.2.1 Statement of key results

The results of a regression test for the present study showed that in employee selection, the intuitive decision-making style does not make a unique statistical contribution to the use of the take-the-best heuristic. Therefore, Hypothesis 1 is not supported by the data.

Recent calls have been made within heuristics literature for research that investigates factors that influence the use of heuristics (Michalkiewicz & Erdfelder, 2016). Previous researchers provided the theoretical foundation and conceptual frameworks that explain the mechanisms of heuristic use, which demonstrated that decision-making styles are one of the predictors of heuristic use (del Campo et al., 2016; Lejarraga & Pindard-Lejarraga, 2020).

The value of this study is that it contributes to the literature a new theoretical perspective on the relationship between intuitive decision-making style and the take-the-best heuristic (Gioia et al., 2012; Whetten, 1989). Although the results of this study are not consistent with those of previous studies, they are new since the relationship has not previously been tested in the context of employee selection. Therefore, the results of this study are not surprising because this study is a first attempt to examine the relationship in the context of employee selection. Possible explanations for these results are given in the next section.

6.2.2 Possible explanations for the negative relationship between an intuitive decision-making style and take-the-best heuristic use

There are several possible explanations for results obtained after testing Hypothesis 1. These are presented below.

The study results are consistent with the assumptions of Cognitive Experiential Self Theory (Epstein et al., 1992), that one's use of a cognitive process depends on their experience. When a person makes decisions, they draw on a unique mental suite of their experienced past events (Maitland & Sammartino,2015). The researcher draws on the assumption of B.F Skinner's operant conditioning theory, which explains human behaviour on account of the positive reinforcement the decision-makers have previously received when relying on information cues they perceived as important for informing employee selection decisions. This argument is supported by the results of this study as indicated under section 5.4.4, which demonstrated that the employee selection decision-makers' level of operation affects their use of the take-the-best heuristic.

Cognitive Experiential Self Theory (Epstein et al., 1992) was a more appropriate model from which to derive the theoretical predictions when investigating the antecedents of take-the-best heuristic use. This same theory was used as a theoretical lens to demonstrate that the use influences the use of extralegal heuristics, rather than the use of rational decision-making mode intuition when making juror decisions (Lieberman, 2002). Furthermore, the results of this study are consistent with the underpinnings of a parallel-competition variant of dual process theory such as Cognitive Experiential Self Theory (Epstein et al., 1992), which assumes that intuition and rational cognitive processes may be inducted at the same time, and the two may not synchronise or synergise to cue a decision. In this study, employee selection decisions were made by using the take-the-best heuristic. Yet the intuitive decision-making style and the ecological rationality used when decisions are made by using heuristics operated in parallel.

On the contrary, the results of this study differ from those of del Campo et al. (2016) and West et al. (2020), who found a positive relationship between intuitive decision-making style and take-the-best heuristic use. One reason for the inconsistency might be due to differences in the research contexts in which the research was conducted. The study by del Campo et al. (2016) was on consumer decisions while West et al.'s (2020) was about innovation decisions in new product development projects. The present study was conducted in employee selection.

Previous scholars have found that contextual factors impact the effectiveness of heuristics use (del Campo et al., 2016; Galavotti et al., 2021; Lejarraga & Pindard-Lejarraga, 2020; Michalkiewicz & Erdfelder, 2016; West et al., 2020). Therefore, the results of this study suggest that the use of the take-the-best heuristic is not universal but contextual. As such, the hypothesised relationship between an intuitive decision-making style and take-the-best heuristic use in employee selection should be further tested by future researchers.

Another possible explanation for the inconsistent results for a negative relationship between an intuitive decision-making style and the take-the-best heuristic could be the influence of the national-level uncertainty avoidance. As indicated under the literature review chapter, del Campo et al. (2016) argued that there is a possibility that the use of the take-the-best heuristic may be affected by cultural factors. Data for this study were collected from Botswana only. With the kind of data collected in this study, the researcher was unable to examine the effect of cultural factors such as national uncertainty avoidance on the relationship that was tested.

Some cultural psychologists argue that decision-making is not influenced by the context that one operates in, but that decision-makers are influenced by how they interpret the cues presented to them for decision-making (Oyserman, 2017). A city-size experimental task frequently used in recognition heuristic studies demonstrated that the stability of the recognition heuristic depends on the formats used to present information cues (Michalkiewicz & Erdfelder, 2016). The inconsistency between the results of this study and those of previous ones could be due to the way the information cues were presented to the respondents in the experimental task.

The negative relationship between an intuitive decision-making style and the take-the-best heuristic in employee selection could also be due to the issue of time pressure. Michaelkiewicz and Erdfelder (2016) found that the use of the recognition heuristic was effective when decision-makers were under time pressure. The experiment for the present study did not expose respondents to different time limits to see whether time pressure would explain the nature of the relationship between intuitive decision-making style and take-the-best heuristic use. Therefore, time pressure is another research avenue that future researchers could explore.

6.3 Uncertainty avoidance as a moderator

This section discusses the results of *Hypothesis 2 – Employee selection decision-maker's uncertainty avoidance positively moderates the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection such that the relationship between intuitive decision-making style and take-the-best heuristic use will be stronger when levels of uncertainty avoidance are high than when they are low.*

6.3.1 Statement of the key finding

Empirical evidence for Hypothesis 2 shows that the influence of an intuitive decision-making style on take-the-best heuristic use is not the same for people with high and low levels of uncertainty avoidance. Therefore Hypothesis 2 is supported.

These results show that when uncertainty avoidance is added to the model comprising an intuitive decision-making style and take-the-best heuristic use, the causal effect of an intuitive decision-making style on take-the-best heuristic use is strengthened. When the decision-maker's uncertainty avoidance levels are high, the relationship between an intuitive decision-making style and the take-the-best heuristic is stronger than when one has low levels of uncertainty avoidance.

6.3.2 Strengths of the study

The results of this study are new since the relationship between an intuitive decision-making style, uncertainty avoidance and take-the-best heuristic use has not been explored by previous scholars. The new contribution made by this study to the body of knowledge is that in employee selection, the relationship between an intuitive decision-making style and the take-the-best heuristic is moderated by the decision-maker's uncertainty avoidance orientation. The results seem to suggest that an argument that an intuitive decision-making style affects take-the-best heuristic use is incomplete if the role that uncertainty avoidance plays in that relationship is not acknowledged. Therefore, the study contributes knowledge on another individual difference factor that influences heuristic use and thus reduces the gap identified by Michalkiewicz and Erdfelder (2016).

Another strength of this study is that the respondents held various positions from professional to executive levels. Most of the respondents held senior positions. The results of the moderator analysis showed that high levels of uncertainty avoidance have a positive moderating effect on the relationship between intuitive decision-making stye and take-the-best heuristic use. According to Sarafan et al. (2020), people with high levels of uncertainty avoidance cherish written rules. This supports why they would have a low preference for the use of the take-the-best heuristic because, with this decision-making strategy, the decision-makers base their decisions on the cues perceived to be valid and not on combining all the cues presented to decision-makers when making decisions.

6.3.3 Strengths of the present study in relation to previous studies

This study extends cultural studies that used Hofstede's framework to measure the effect of uncertainty avoidance on employee selection at organisational or national levels of analysis (Fell & König, 2016; Fell et al., 2016; Ryan et al., 1999; Ryan et al., 2017). In this study, uncertainty avoidance was measured at an individual level to avoid over-generalising the results on national-level uncertainty avoidance to the individual level of analysis (McSweeney, 2002; Sarafan et al., 2020; Sivakumar & Nakata, 2013; Yoo et al., 2011). This was important for the study because explaining individual behaviour using scores of national cultural values is seen as an "ecological fallacy" (Yoo et al., 2011).

The uncertainty in the decision-making environment is perceived by an individual, and it is up to an individual to decide to tolerate or mitigate the uncertainty (Astakhova et al., 2017). While intuitive decision-makers rely on their feelings to make decisions, those with high levels of uncertainty avoidance require written rules (Sarafan et al., 2020). The results of this study are consistent with previous studies, which demonstrate that individual-level uncertainty avoidance moderates risk-taking propensities (Astakhova et al., 2017). Future employee performance cannot be predicted during the selection process, and so the decision-maker selection decisions are informed only by cues perceived to be valid. The use of the take-the-best heuristic can be compared to an individual's risk-taking propensities.

The results of this study are also consistent with those observed in consumer decisions where subjective knowledge about products or the uncertain environment under which such decisions are made influences behavioural intentions or behaviours, and this is moderated by societal factors. Although those studies were conducted in marketing, uncertainty avoidance affected the relationship between the independent and dependent variables, where the relationship was strengthened under high uncertainty avoidance levels.

6.4 Conclusion

The study answers the research question, “What is the effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection?” The study shows that in employee selection, an intuitive decision-making style influences take-the-best heuristic use through a moderation mechanism of the decision-maker's uncertainty avoidance.

Two hypotheses were formulated from this question, and they were tested in this study. The first hypothesis was “Intuitive decision-making style predicts take-the-best heuristic use such that employee selection decisions will be based on fewer (versus all) information cues subjectively perceived to be valid for informing the decision.” This hypothesis is not supported.

The second hypothesis was “Employee selection decision-maker's uncertainty avoidance positively moderates the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection such that the relationship between intuitive decision-making style and take-the-best heuristic use will be stronger when levels of uncertainty avoidance are high than when they are low.” This hypothesis is supported.

We now know that in employee selection, take-the-best heuristic use is dependent on the interaction of the decision-maker’s decision-making style and uncertainty avoidance value orientation. These are important results because without knowing factors that influence take-the-best heuristic use when making employee selection decisions, it may be hard for scholars to refine decision-making theory, and for employers to know that the take-the-best heuristic can be a helpful decision-making strategy when decisions must be made under time pressure and with limited information (Sarafan et al., 2020).

The study has demonstrated that “human decision-making is not a uniform and straightforward process” (Phillips et al., 2016, p. 1). Therefore, managers should know that the application of decision-making strategies is contextual. They may work effectively for some organisational decisions and not others.

Chapter 7: Contributions, Limitations and Recommendations

7.1 Introduction

The study was situated at the intersection of selection and decision-making literature to explain the effect of the interaction between two psychological factors, an intuitive decision-making style and uncertainty avoidance, on the take-the-best heuristic in the context of employee selection. Heuristics literature records that decision-making styles affect the use of heuristics. The results of previous empirical studies provided a one-sided view that focused more on the effect of the decision-making style. Such studies ignored the role that uncertainty avoidance value has in that relationship.

This chapter summarises answers to the study's research question, "What is the effect of uncertainty avoidance on the relationship between intuitive decision-making style and take-the-best heuristic use in employee selection?" Because this relationship has not been explored by previous researchers, a conceptual framework for this study, which had two exploratory hypotheses, was formulated based on the results of related studies.

A quantitative study was conducted among 203 employee selection decision-makers working in four industries within Botswana's services sector. They held various positions at their workplace, and all of them had experience in making employee selection decisions. The experientiality scale (Pacini & Epstein, 1999), uncertainty scale (Yoo et al., 2011) and a measure for take-the-best heuristic use that was developed specifically for this study provided quantitative data for testing the two hypotheses.

The data were tested with controlled hierarchical regression with moderator analysis. The results of the study provide an answer to the research question. They reflect that in employee selection, the decision-maker's uncertainty avoidance moderates the relationship between intuitive decision-making style and take-the-best heuristic use. This relationship is positive when the decision-maker's levels of uncertainty avoidance are high, and it is negative when the decision-maker's levels of uncertainty avoidance are low. The effects of the decision-maker's age and gender and the effects of national-level uncertainty avoidance were controlled for. Therefore the results of the study are robust with respect to these three control variables.

The first hypothesis on the predictability of intuitive decision-making style for take-the-best heuristic use was not supported by the data. The second hypothesis on the moderating effect of uncertainty avoidance on the influence of an intuitive decision-making style and take-the-best heuristic use was supported. Therefore, this study has answered its primary research question and achieved its aim. The benefits of these results to scholars and practitioners are presented in the next section.

7.2 Contributions

The study made several theoretical, practical and methodological contributions. These are discussed in the following sub-sections.

7.2.1 Theoretical contributions

The study represents original scholarship that makes four theoretical contributions to the literature on heuristics and employee selection. First, it builds on previous studies that provided support for a link between the decision-making styles and heuristic use to improve the quality of decisions (del Campo et al., 2016; Gigerenzer & Gaissmaier, 2011; Jung & Kellaris, 2004; Lejarraga & Pindard-Lejarraga, 2020; Luan et al., 2019; Michalkiewicz & Erdfelder, 2016) Prior studies found a positive relationship between decision-making styles and heuristic use.

Second, the original contribution to knowledge is that the use of the take-the-best heuristic is context-dependent. This study is the first to examine the effect of uncertainty avoidance on the relationship between an intuitive decision-making style and take-the-best heuristic use in the context of employee selection. Therefore, it provides preliminary scientific evidence demonstrating that in the context of employee selection, the intuitive decision-making style does not independently affect take-the-best heuristic use. Therefore, the study did not support the theory that decision-making styles influence heuristic use without considering the context in which the heuristic is used. These are novel insights because prior researchers did not consider how context affects the take-the-best heuristic use.

A third theoretical contribution of this study is to demonstrate boundary conditions for the effects of intuition (or certain types of intuition) on take-the-best heuristic use. The new insight from this study is that although an intuitive decision-making style does not independently make a unique statistical contribution to take-the-best heuristic use, the interaction between an intuitive decision-making style and uncertainty avoidance makes the strongest unique

contribution to explaining take-the-best heuristic use in employee selection. Specifically, the study shows that in employee selection, the decision-maker's uncertainty avoidance orientation has a positive and significant moderating effect on the relationship between an intuitive decision-making style and take-the-best heuristic use.

The researcher hypothesised that higher levels of the decision-maker's uncertainty avoidance would have a positive and significant moderating effect on the relationship between intuitive decision-making style and take-the-best heuristic use, while low levels of the decision-maker's uncertainty avoidance would have a negative moderating effect on the relationship. The study has supported this.

Additionally, the study contributed not only to heuristic literature but also to research on employee selection. It advances employee selection literature that examined the effect of national- and organisational-level uncertainty avoidance on employee selection processes and found a positive relationship (Fell & König, 2016; Fell et al., 2016; Ryan et al., 1999; Ryan et al., 2017). The study showed that individual-level uncertainty avoidance, like national- or organisational-level uncertainty avoidance, plays a role in employee selection.

Finally, the study contributes to the intuition-rationality debate in employee selection. It represents a challenge to the research that has demonstrated the superiority of rational and mechanical approaches to decision-making over intuitive approaches. Although it will be important to replicate the results of this study using other research methods to assess the robustness of the results that were observed, the possibility that an intuitive decision-making style may be effective in situations such as when intuition interacts with uncertainty avoidance is interesting and warrants further research.

7.2.2 Practical contributions

The study has three benefits to practitioners. Firstly, it has generated knowledge demonstrating that take-the-best heuristic use is an intervention opportunity for optimising employee selection decisions. Since organisations invest heavily in organisational decision-making processes such as employee selection (Bromiley et al., 2015; Calabretta et al., 2017; Chen & Chancellor, 2019; Luan et al., 2019), employers will now know that they can rely on take-the-best heuristic use as one way of saving costs and time associated with multi-hurdle employee selection processes.

Secondly, the study has shown that the decision-maker's experience, in terms of the level of operation and not the number of times they have made employee selection decisions, also contributes to the effectiveness of take-the-best heuristic use. Therefore, the use of the take-the-best heuristic should be promoted among decision-makers holding high positions, as opposed to junior or inexperienced officers.

Thirdly, the study has shown that employee selection decision-makers in Botswana consider work experience and qualifications as vital information cues for informing employee selection decisions.

The study results have shown that work experience and academic qualifications are strong determinants of employee selection decisions. The study provides compelling initial evidence that employee selection decision-makers in Botswana care about using information cues that are relevant to person-job fit. However, the study has also shown that employee selection decision-makers are willing to trade some cues related to person-job fit for cues related to person-organisation fit (Cable & DeRue, 2002) or even other valued job applicant attributes that may not necessarily relate to the person-job fit or to the person-organisation fit (Jackson et al., 2018; Luan et al., 2019; van Esch et al., 2018).

7.2.3 Methodological contributions

First, the study did not use a real-life task but adopted a simulated employee selection task to test the moderating effect of uncertainty avoidance on the predictive ability of an intuitive decision-making style on take-the-best heuristic use. The methodological benefit of using a conjoint analysis experimental vignette research design allowed for accurately measuring the use of the take-the-best heuristic in a paired comparison employee selection experimental task, while controlling for confounding variables that also influence the use of this heuristic.

The conjoint analysis technique that was used in this study generated both quantitative and qualitative data that were used to enrich the decision-making theory by showing that the micro-foundations of employee selection decision-making are the decision-maker's intuitive decision-making style and uncertainty avoidance value orientation. The research demonstrated that triangulating qualitative and quantitative data when using a conjoint analysis technique in paired comparison studies enriches the decision theory development since there was no confounding of variables.

The second methodological benefit of the study is that the experimental vignette methodology elucidated the job attributes that employee selection decision-makers perceive as important for informing their employee selection decisions. The study has confirmed some researchers' arguments that one of the benefits of paired comparison conjoint experiments is that even though the design uses hypothetical scenarios or simulations, this type of experiment successfully replicates the decision-making process that takes place in real-life settings (Hainmueller & Hopkins, 2015; Toplak et al., 2017; Winch & Maytorena, 2009).

Thirdly, the study extends research showing that web-based experimental studies are effective when researching managers (West et al., 2020). This study showed that when people are social distancing, as was the case with this study, conducted during the COVID-19 pandemic, online research designs such as experimental vignette designs set up on electronic platforms, sourcing respondents from social media and using self-administered questionnaires are effective in testing decision-making theories among professionals.

The last methodological contribution made by the study shows that collecting data using web-based questionnaires improves the response rate, versus sending questionnaires to respondents by email. Previous research has shown that dispatching questionnaires by email is a more efficient methodology than the traditional way of sending them in the post (Baruch & Holtom, 2008). The study also showed that accessing the questionnaire through a web link is more effective than sending questionnaires by email. In this present study, the web link proved to be the most effective and efficient way of saving time for data collection. The next section discusses the limitations of this study.

7.3 Limitations of the study

Even though the study has several strengths, it has some limitations. They are discussed in this section.

i. The respondents for this study included employee selection decision-makers who work in four industries of Botswana's services sector and who had access to the internet, since the data collection instrument was web-based. The study sample excludes employee selection decision-makers who did not have internet access. Although the sample of the study is adequate, the restriction has contributed to the realised sample size.

ii. The data for the study were collected at a specific time. Even though the cross-sectional data collection approach saves time and costs, the data has excluded granular evidence on the influence of an intuitive decision-making style and uncertainty avoidance on the use of the take-the-best heuristic that would have been obtained had longitudinal data been used.

iii. According to Miles et al. (2019), forced-choice measures are not good measures of automatic cognition. The experientiality scale (Pacini & Epstein, 1999) that was used in the study depends on respondents self-reporting their levels of intuition. Therefore, this poses a limitation that may have affected the integrity of the results.

iv. All three measures that were used in this study, the experientiality scale (Pacini & Epstein, 1999), the uncertainty avoidance scale (Yoo et al., 2011) and the take-the-best heuristic measure were self-reported. There is a possibility that there was some social and unconscious bias, which could have affected the integrity of the data.

v. Although the manipulation check item was piloted to test the effectiveness of the manipulation of experimental factors, it is possible that the wording of that item may have been confusing for the respondents. For realism purposes, the experimental scenarios were manipulated by presenting a decision about a job that exists in each industry. Therefore, it is possible that the wording of the manipulated check item may have been confusing to respondents, especially since it is not linked to the manipulation in the vignettes.

vi. The world was hit by a COVID-19 pandemic at the end of 2019, and this pandemic created a health crisis across the world (Zhu et al., 2021). The disease spread to Africa, including Botswana, in the first months of 2020. The ambiguity and uncertainty brought by the COVID-19 pandemic had to do with how the disease could be eliminated and its impact on communities reduced (Shockley et al., 2021; Yuan et al., 2021).

The pandemic presented an unprecedented context, affecting organisations and altering work life. The disease had a negative impact on Botswana's economy since some people lost their jobs and businesses; the hardest-hit sectors were the mineral and tourism sectors (Republic of Botswana, 2021a). This situation posed challenges for the research and could be a reason the number of respondents from the hospitality and tourism industry is low.

7.4 Recommendations for future studies

7.4.1 Theory

i. The study has shown that in employee selection, an intuitive decision-making style predicts the use of the take-the-best heuristic through the decision-maker's uncertainty avoidance orientation. A question that arises is whether the conceptual model that was tested in this study would still be supported if the moderating effect of other personality traits or individual-level cultural values on the relationship between an intuitive decision-making style and take-the-best heuristic use is tested. Future studies should extend the conceptual model by investigating whether other personality traits will affect the relationship between an intuitive decision-making style and take-the-best heuristic use in employee selection.

ii. Although the research design and methodology that were used in this study have strengths, it is recommended that future researchers should further explore the relationship between an intuitive decision-making style and the take-the-best heuristic in employee selection using other research methods. This will enhance knowledge emergence in real-world employee selection decision-making.

7.4.2 Methodology

i. The present study focused on employee selection decisions for positions at a professional level. Future studies should test the model for positions below the professional level and at the executive level to determine if the model will be supported for positions at those levels.

ii. Since the measure for an intuitive decision-making style was self-reporting, future researchers should use innovative tools that will accurately measure intuitive decision-making styles.

7.4.3 Research setting

i. Future studies should consider replicating this study in countries whose uncertainty avoidance national scores are known. Doing so would allow for capturing whether the results would be different for countries with low uncertainty avoidance and those with high uncertainty avoidance levels.

ii. To advance this study, future studies are necessary to reduce the paucity of research on uncertainty avoidance in Botswana, which has been identified by Phatshwane et al. (2014), by conducting studies on the effect of individual-level uncertainty avoidance on the use of other heuristics when making other organisational decisions.

iii. Since the results of this study are limited to the population of decision-makers working in engineering, government, hospitality and tourism and business industries of Botswana's services sector, the researcher calls for this study to be replicated in other sectors of the economy to assess whether the results would be the same or different from those of this study.

7.5 Summary

This researcher agrees with Phillips et al. (2016), who argue that the process of decision-making is not straightforward. The results of this study have shown that the conclusions are plausible and defensible (Gioia et al., 2012). There is a need to modify the conceptual model presented in the literature review, which was tested in this study. A summary of the established relationships in that model is presented in Figure 7-1.

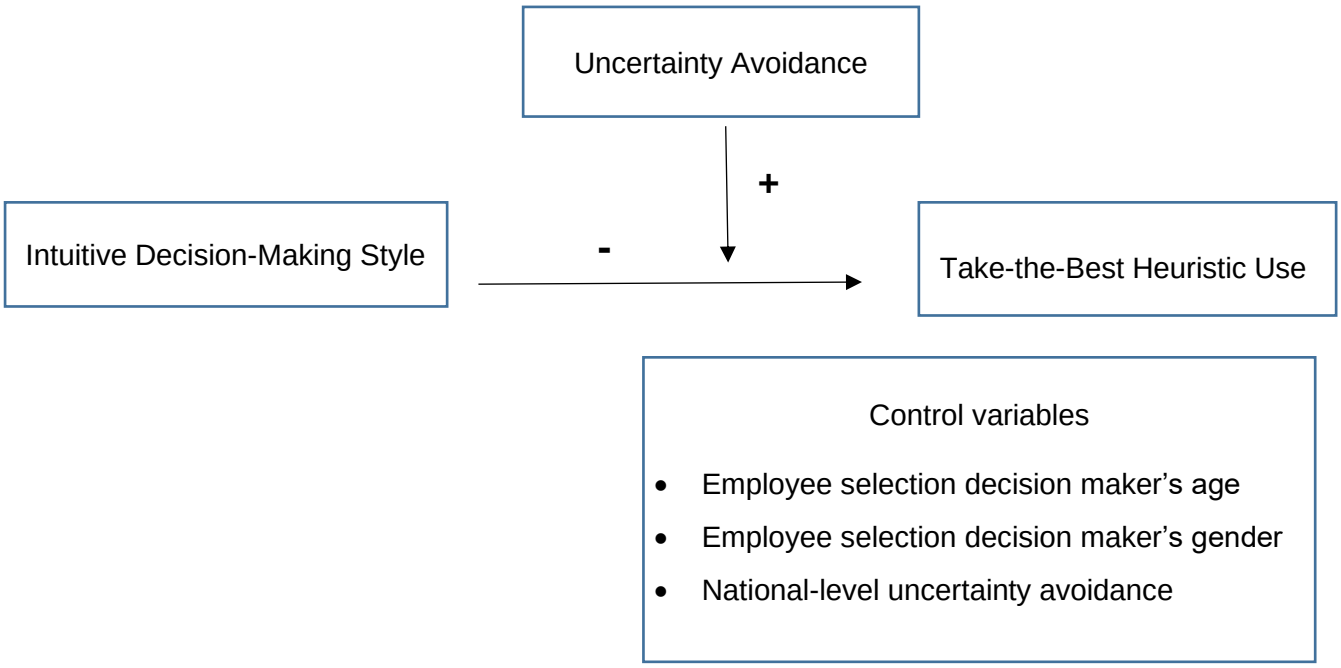

Figure 7-1: Conceptual model (Source: Author)

References

Ababneh, K. I., Hackett, R. D., & Schat, A. C. H. (2014). The role of attributions and fairness in understanding job applicant reactions to selection procedures and decisions. *Journal of Business and Psychology*, *29*(1), 111–129. https://doi.org/10.1007/s10869-013-9304-y

Abowitz, D. A., & Toole, T. M. (2010). Mixed method research: Fundamental issues of design, validity, and reliability in construction research. *Journal of Construction Engineering and Management*, *136*(1), 108–117. https://doi.org/DOI: 10.1061/(ASCE)CO.1943-7862.0000026

Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods*, *17*(4), 351–371. https://doi.org/10.1177/1094428114547952

Akinci, C., & Sadler-Smith, E. (2018). Collective intuition: Implications for improved decision-making and organizational learning. *British Journal of Management*, *30*, 558–577. https://doi.org/10.1111/1467-8551.12269

Akingbola, K., & van den Berg, H. A. (2019). Antecedents, consequences, and context of employee engagement in nonprofit organizations. *Review of Public Personnel Administration*, *39*(1), 46–74. https://doi.org/10.1177/0734371X16684910

Al-Habil, W. I. (2011). Positivist and phenomenological research in American public administration. *International Journal of Public Administration*, *34*(14), 946–953. https://doi.org/10.1080/01900692.2011.615554

Alvesson, M., & Kärreman, D. (2007). Constructing mystery: Empirical matters in theory development. *Academy of Management Review*, *32*(4), 1265–1281. http://www.jstor.org/stable/20159366

Alvesson, M., & Sandberg, J. (2011). General research questions through problematization. *Academy of Management Review*, *36*(2), 247–271.

Antwi, S. K., & Hamza, K. (2015). Qualitative and quantitative research paradigms in business research: A philosophical reflection. *European Journal of Business and Management*, *7*(3), 217–225.

Arena, M., Arnaboldi, M., & Azzone, G. (2010). The organizational dynamics of enterprise risk management. *Accounting, Organizations and Society*, *35*(7), 659–675. https://doi.org/10.1016/j.aos.2010.07.003

Artinger, F., Petersen, M., & Gigerenzer, G. (2015). Heuristics as adaptive decision strategies in management. *Journal of Organizational Behavior*, *52*(January 2013), 33–52. https://doi.org/10.1002/job

Astakhova, M. N., Beal, B. D., & Camp, K. M. (2017). A cross-cultural examination of the curvilinear relationship between perceived demands-abilities fit and risk-taking propensity. *Journal of Business Research*, *79*, 41–51. https://doi.org/10.1016/j.jbusres.2017.05.030

Atzmüller, C., & Steiner, P. M. (2010). Experimental vignette studies in survey research. *Methodology*, *6*(3), 128–138. https://doi.org/10.1027/1614-2241/a000014

Barnard, H., Cuervo-Cazurra, A., & Manning, S. (2017). Africa business research as a laboratory for theory-building: Extreme conditions, new phenomena, and alternative paradigms of social relationships. *Management and Organisation Review*, *13*(3), 467–495. https://doi.org/10.1017/mor.2017.34

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, *61*(8), 1139–1160. https://doi.org/10.1177/0018726708094863

Baudot, L., Demek, K. C., & Huang, Z. (2018). The accounting profession's engagement with accounting standards: Conceptualizing accounting complexity through Big 4 Comment Letters. *Auditing: A Journal of Practice & Theory. 37*(2), 175–196. https://doi.org/10.2308/ajpt-51898.

Baudot, L., Roberts, R. W., & Wallace, D. M. (2017). An examination of the U.S. Public Accounting profession's public interest discourse and actions in Federal policy. *Journal of Business Ethics, 142,* 203–220. https://doi.org/10.1007/s10551-016-3158-y

Bazerman, M. H., & Chugh, D. (2006). Decisions without blinders. *Harvard Business Review*, *84(1)*, 88–97.

Benitez, J., Ray, G., & Henseler, J. (2018). Impact of information technology infrastructure flexibility on mergers and acquisitions. *MIS Quarterly*, *42*(1), 25–43. https://doi.org/10.25300/misq/2018/13245

Bernerth, J. B., Cole, M. S., Taylor, E. C., & Walker, H. (2018).Control variables in leadership research: A qualitative and quantitative review. *Journal of Management. 44*(1), 131–160. DOI: 10.1177/0149206317690586.

Besedeš, T., Deck, C., Sarangi, S., & Shor, M. (2015). Reducing choice overload without reducing choices. *The Review of Economics and Statistics*, *97*(4), 793–802. https://doi.org/10.1162/REST

Bolander, P., & Sandberg, J. (2013). How employee selection decisions are made in practice. *Organization Studies*, *34*(3), 285–311. https://doi.org/10.1177/0170840612464757

Bolt, J.; & Hillbom, E. (2016). Long-term trends in economic inequality: lessons from colonial Botswana, 1921–74. *Economic History Review, 69*(4), 1255–1284. https://doi.org/10.1111/ehr.12326

Bonett, D. G., & Wright, T. A. (2015). Cronbach's alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of Organizational Behavior*, *36*, 3–15. https://doi.org/10.1002/job

Boscari, S.; Bortolotti, T.; Netland, T. H., & Rich, N. (2018). National culture and operations management: A structured literature review. *International Journal of Production Research, 56*(18), 6314–6331. DOI: 10.1080/00207543.2018.1461275.

Broekhuizen, T. L. J., Giarratana, M. S., & Torres, A. (2017). Uncertainty avoidance and the exploration-exploitation trade-off. *European Journal of Marketing*, *51*(11/12), 2080–2100. https://doi.org/10.1108/EJM-05-2016-0264

Bromiley, P., McShane, M., Nair, A., & Rustambekov, E. (2015). Enterprise risk management: Review, critique, and research. *Long Range Planning*, *48*(4), 265–276. https://doi.org/10.1016/j.lrp.2014.07.005

Brown, S. G., & Daus, C. S. (2015). The influence of police officers' decision-making style and anger control on responses to work scenarios. *Journal of Applied Research in Memory and Cognition*, *4*(3), 294–302. https://doi.org/10.1016/j.jarmac.2015.04.001

Browning, H. L. & Singelmann, J. (1975). The emergence of services society: Demographic and sociological aspects of the transformation of the labour force in the U.S.A. Springfield, VA: National Technical Information Service.

Bhurmester, M., Kwang, T., & Gosling, S. D. (2016). Amazon's Mechanical Turk: A new source of inexpensive, yet high quality data? In A.E Kazdin (Ed), Methodological issues and strategies in clinical research. 133-139. American Psychological Association. http://doi.org/10.1037/14805-009

Byrne, K. A., & Worthy, D. A. (2015). Gender differences in reward sensitivity and information processing during decision-making. *Journal of Risk and Uncertainty*, *50*(1), 55–71. https://doi.org/10.1007/s11166-015-9206-7

Cable, D. M., & DeRue, D. S. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of Applied Psychology*, *87*(5), 875–884. https://doi.org/10.1037/0021-9010.87.5.875

Calabretta, G., Gemser, G., & Wijnberg, N. M. (2017). The interplay between intuition and rationality in strategic decision-making: A paradox perspective. *Organization Studies*, *38*(3–4), 365–401. https://doi.org/10.1177/0170840616655483

Carnes, A. M., Knotts, K. G., Munyon, T. P., Heames, J. T., & Houghton, J. D. (2019). Think fast: The role of thin slices of behavior in employee selection decisions. *International Journal of Selection and Assessment*, *27*(4), 357–370. https://doi.org/10.1111/ijsa.12257

Carpenter, S. (2018). Ten steps in scale development and reporting: A guide for researchers. *Communication Methods and Measures*, *12*(1), 25–44.

https://doi.org/10.1080/19312458.2017.1396583

Chen, L. (2016). Local institutions, audit quality and corporate scandals of US-Listed foreign firms. *Journal of Business Ethics, 133,* 351–737. https://doi.org/10.1007/510551-0142370-x

Chen, L.-H., & Chancellor, H. C. (2019). Examining attitudes toward bicycle-share program use: A dual-process theory approach. *Transportation Research Part F: Psychology and Behaviour*, *62*, 769–781. https://doi.org/10.1016/j.trf.2019.03.007

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, *16*(1), 64–73. https://doi.org/10.1177/002224377901600110

Clarke, D. (2003). Descartes's theory of mind. Oxford University Press. DOI:10.1093/0199261237.001.0001

Crowhurst, I. (2013). The fallacy of instrumental gates? Contextualising the process of gaining access through gatekeepers. *International Journal of Social Research Methodology, 16(6),* 463–475. DOI: 10.1080/13645579.2013.823282.

Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Cole, C. A., & Balasubramanian, S. K. (1993). Age differences in consumers' search for information: Public policy implications. *Journal of Consumer Research*, *20*(1), 157–169. https://doi.org/10.1086/209341

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management*, *37*(1), 39–67.

Cycyota, C. S., & Harrison, D. A. (2006). What (not) to expect when surveying executives: A meta-analysis of top manager response rates and techniques over time. *Organizational Research Methods*, *9*(2), 133–160. https://doi.org/10.1177/1094428105280770

Dabić, M., Tipurić, D., & Podrug, N. (2015). Cultural differences affecting decision-making style: a comparative study between four countries. *Journal of Business Economics and Management*, *16*(2), 275–289. https://doi.org/10.3846/16111699.2013.859172

DeCarlo, T., Roy, T., & Barone, M. (2015). How sales manager experience and historical data trends affect decision-making. *European Journal of Marketing*, *49*(9–10), 1484–1504. https://doi.org/10.1108/EJM-05-2014-0301

del Campo, C., Pauser, S., Steiner, E., & Vetschera, R. (2016). Decision-making styles and the use of heuristics in decision-making. *Journal of Business Economics, 86,* 389–412. https:/doi.org/10.1007/s11573-016-0811-y

DeOrtentiis, P. S., Ployhart, R. E., van Iddekinge, C. H., & Heetderks, T. D. (2018). Build or buy? The individual and unit-level performance of internally versus externally selected managers over time. *Journal of Applied Psychology, 103*(8)*,* 916–928.

https://doi.org/10.1037/apl0000312

Derfler-Rozin, R., Baker, B., & Gino, F. (2018). Compromised ethics in hiring processes? How referrers' power affects employees' reactions to referral practices. *Academy of Management Journal*, *61*(2), 615–636. https://doi.org/10.5465/amj.2015.1355

Diamantopoulos, A., & Winklhofer, H. M. (2001). Index construction with formative indicators: An alternative to scale development. *Journal of Marketing Research*, *38*(2), 269–277. https://doi.org/10.1509/jmkr.38.2.269.18845

Donovan, J. J., Dwight, S. A., & Schneider, D. (2014). The impact of applicant faking on selection measures, hiring decisions, and employee performance. *Journal of Business and Psychology*, *29*, 479–493. https://doi.org/10.1007/s10869-013-9318-5

Dutwin, D., & Buskirk, T. D. (2017). Apples to oranges or gala versus golden delicious? Comparing data quality of nonprobability internet samples to low response rate probability samples. *Public Opinion Quarterly. 81,* 213–239. DOI: 10.1093/poq/nfw061.

Epstein, S., Lipson, A., Holstein, C. & Huh, E. (1992). Irrational reactions to negative outcome: Evidence for two conceptual systems, *Journal of Personality and Social Psychology, 62*, 328–339.

Evans, J. S. B. T. (2003). In two minds: Dual-process accounts of reasoning. *Trends in Cognitive Science*, *7*(10), 454–459. https://doi.org/10.1016/j.tics.2003.08.012

Evans, J. S. B. T. (2007). On the resolution of conflict in dual process theories of reasoning. *Thinking & Reasoning*, *13*(4), 321–339. https://doi.org/10.1080/13546780601008825

Evans, J. S. B. T. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology*, *59*, 255–278. https://doi.org/10.1146/annurev.psych.59.103006.093629

Evans, J. S. B. T., & Stanovich, K. E. (2013). Dual process theories of higher cognition: Advancing the debate. *Perspectives on Psychological Science*, *8*(3), 223–241. https://doi.org/10.1177/1745691612460685

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of Exploratory Factor Analysis in psychological research. *Psychological Methods, 4*(3), 272–299. https://doi.org/10.1037/1082-989X.4.3.272

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social and behavioral, biomedical sciences. *Behavior Research Methods, 39*(2), 175–191

Fell, C. B., & Konig, C. J. (2016). Cross-cultural differences in applicant faking on personality tests: A 43-nation study. *Applied Psychology: An International Review*, *65*(4), 671–717. https://doi.org/10.1111/apps.12078

Fell, C. B., König, C. J., & Kammerhoff, J. (2016). Cross-cultural differences in the attitude towards applicants' faking job interviews. *Journal of Business and Psychology*, *31*(1),

65–85. http://dx.doi.org/10.1007/s10869-015-9407-8

Fini, R., Jourdan, J., & Perkmann, M. (2018).Social valuation across multiple audiences: The interplay of ability and identity judgments. *Academy of Management Journal, 61*(6), 2230–2264. https://doi.org/10.5465/amj.2016.0661

Fiorini, M. & Hoekman, B. (2018). Services trade policy and sustainable development. *World Development, 112,* 1–12.

Fischer, R., & Schwatz, S. (2011). Whence differences in value priorities? Individual, cultural, or artifactual sources. *Journal of Cross-Cultural Psychology, 42*(7), 1127–1144. http://doi.org/10.1177/0022110381429

Flora, D. B., & Flake, J. K (2017). The purpose and practice of Exploratory and Confirmatory Factor Analysis in psychological research: Decisions for scale development and validation. *Canadian Journal of Behavioural Science, 49*(2), 78–88. https://dx.doi.org/10.1037/cbs0000069

Ford, J. K., MacCallum, R. C., & Tait, M. (1986). The application of Exploratory Factor Analysis in applied psychology: A critical review and analysis. *Personnel Psychology, 39,* 291–314. https://doi.org/10.1111/j.1744-6570.1986.tb00583.x

Galavotti, I., Lippi, A., & Cerrato, D. (2021). The representativeness heuristic at work in decision-making: Building blocks and individual cognitive and behavioral factors. *Management Decision, 59*(7), 1664–1683. https://doi.org/101108MD-10-2019-1464

Gavetti, G. (2012). Toward a behavioral theory of strategy. *Organization Science*, *23*(1), 267–285. https://doi.org/10.1287/orsc.1110.0644

Gawronski, B., & Creighton, L. A. (2013). Dual process theories. In D. Carlston (Ed.), *The Oxford handbook of social cognition* (pp. 282–312). Oxford University Press.

Georgen, M. & Tonks, I. (2019). Introduction to special issue on sustainable corporate governance. *British Journal of Management, 30,* 3–9. https://doi.org/10.1111/1467-8551.12325

Gerbing, D. W., & Anderson, J. C. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, *25*(2), 186–192. https://doi.org/10.2307/3172650

Ghantous, N., & Maher, A. A. (2019). When does uncertainty avoidance promote customer-to-customer intercultural service encounters? *International Marketing Review*, *36*(3), 445–463. https://doi.org/10.1108/IMR-09-2017-0178

Gigerenzer, G. and Gaissmaier, W. (2011). Heuristic decision-making. *The Annual Review of Psychology, 62,* 451–482.

Gilboa, I., Rouziou, M., & Sibony, O. (2018). Decision theory made relevant: Between the software and the shrink. *Research in Economics*, *72*(2), 240–250. https://doi.org/10.1016/j.rie.2018.01.001

Gilovich, T., Griffn, D., & Kahneman, D. (2012). Heuristics and biases in application - The psychology of intuitive judgment. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and Biases*. https://doi.org/10.1017/cbo9780511808098.043

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2012). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, *16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Glöckner, A., & Witteman, C. (2010). Beyond dual-process models: A categorisation of processes underlying intuitive judgement and decision-making. *Thinking & Reasoning*, *16*(1), 1–25. https://doi.org/10.1080/13546780903395748

Guion, R. M. (2011). *Assessment, measurement, and prediction for personnel decisions* (Second). Routledge, London.

Gumaelius, O. E., & Kamenou-Aigbekaen, N. (2015). The adoption of HIV/AIDS policies and practices in business in Botswana: an exploratory study. *International Journal of Human Resource Management, 26(22)*, 2833-2852. DOI: 10.1080/09585192.2014.1003079

Hainmueller, J & Hopkins, D. J. (2015). The hidden American immigration consensus: A conjoint analysis of attitudes toward immigrants. *American Journal of Political Science 59*(3), 529–548*.* DOI: 10.1111/ajps.12138.

Hair, J. F., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8th ed.). Pearson Education Limited.

Hayes, A. F. (2013). *Introduction to mediation, moderation and conditional process analysis. A regression-based approach*. Guilford Press.

Hayes, A. F. (2022). *Introduction to mediation, moderation and conditional process analysis*. (3rd ed.). Guildford Press. http://www.guildford.com/p/hayes3

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative research. *Evidence Based Nursing*, *18*(3), 66–67.

Hein, M., Kurz, P., & Steiner, W. J. (2020). Analysing the capabilities of the HB logit model for choice-based conjoint analysis: A simulation study. *Journal of Business Economics, 90*, 1–36

Henard, D. H., & McFadyen, M. A. (2005). The complementary roles of applied and basic research: A knowledge-based perspective. *The Journal of Product Innovation Management*, *22*, 503–514.

Hensvik, L., & Skans, O. N. (2016). Social networks, employee selection, and labor market outcomes. *Journal of Labor Economics, 34*(4), 825–867. https://doi.org/10.1086/686253

Hjort, J. (2010). Pre-colonial culture, post-colonial economic success? The Tswana and the African economic miracle. *Economic History Review. 63*(3), 688–709. DOI: 10.1111/j.1468-0289.2009.00495.x

Hodgkinson, G. P., & Sadler-Smith, E. (2018). Managerial and organizational decision-

making. *Academy of Management Perspectives*, *32*(4), 473–492. https://doi.org/10.5465/amp.2016.0140

Hodgkinson, G. P., Sadler-Smith, E., Sinclair, M., & Ashkanasy, N. M. (2009). More than meets the eye? Intuition and analysis revisited. *Personality and Individual Differences*, *47*(4), 342–346. https://doi.org/10.1016/j.paid.2009.03.025

Hofstede, G. (1980). Motivation, leadership, and organization: Do American theories apply abroad? *Organizational Dynamics*. *American Management Associations. 9(1),* 42-63. DOI: 10.1016/0090-2616(80)90013-3.

Hofstede, G. (1984). *Culture's consequences: International differences in work-related values*. SAGE Publications.

Hofstede, G., & Minkov, M. (2010). Long-versus short-term orientation: New perspectives. *Asia Pacific Business Review*, *16*(4), 493–504. https://doi.org/10.1080/13602381003637609

Hunt, N. C., & Scheetz, A. M. (2019). Using MTurk to distribute a survey or experiment: Methodological considerations. *Journal of Information Systems*, *33*(1), 43–65. https://doi.org/10.2308/isys-52021

Ingold, P. V., Dönni, M., & Lievens, F. (2018). A dual-process theory perspective to better understand judgments in assessment centers: The role of initial impressions for dimension ratings and validity. *Journal of Applied Psychology*, *103*(12), 1367–1378.

International Labour Organisation (2020). ILOSTAT database. http://ilostat.ilo.org

Jackson, D. J. R., Dewberry, C., Gallagher, J., & Close, L. (2018). A comparative study of practitioner perceptions of selection methods in the United Kingdom. *Journal of Occupational Psychology*, *91*, 33–56. https://doi.org/10.1111/joop.12187

Jackson, S. E., Brett, J. F., Sessa, V. I., Cooper, D. M., Julin**,** J. A., & Peyronnin, K. (1991). Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates of recruitment, promotions, and turnover. *Journal of Applied Psychology, 76*(5), 675–689. https://doi.org/10.1037/0021-9010.76.5.675

Jang, S., Shen, W., & Allen, T. D., Zhang, H. (2018). Societal individualism-collectivism and uncertainty avoidance as cultural moderators of relationships between job resources and strain. *Journal of Organisational Behavior*, *39*, 507–524. https://doi.org/10.1002/job.2253

Javidan, M., & Dastmalchian, A. (2009). Managerial implications of the GLOBE Project: A study of 62 societies. *Asia Pacific Journal of Human Resources*, *47*(1), 41–58. https://doi.org/10.1177/1038411108099289

Jung, J. M., Kellaris, J. J. (2004). Cross-national differences in proneness to scarcity effects: The moderating roles of familiarity, uncertainty avoidance, and need for cognitive

closure. *Psychology & Marketing. 21(9),* 739-753. 15p. 2 DOI: 10.1002/mar.20027

Kahneman, D., & Frederick, S. (2014). *Representativeness revisited: Attribute substitution in intuitive judgment*. https://doi.org/10.1017/CBO9780511808098.004

Kaiser, H. (1970). A second generation Little Jiffy. *Psychometrika, 35*, 401–415.

Kaiser, H. (1974) An index of factorial simplicity. *Psychometrika, 39*, 31–36.

Karhu, P., & Ritala, P. (2018). Dilemmas and paradoxes: How managers make the toughest decisions. *Journal of Business Strategy*, *39*(1), 24–31. https://doi.org/10.1108/JBS-11-2016-0140

Kashima, Y., Bain, P. G., & Perfors, A. (2019). The psychology of cultural dynamics: What is it, what do we know, and what is yet to be known ? *Annual Review of Psychology*, *70*, 499–529. https://doi.org/10.1146/annurev-psych-010418- 103112

Kausel, E. E., Culbertson, S. S., & Madrid, H. P. (2016). Overconfidence in personnel selection: When and why unstructured interview information can hurt hiring decisions. *Organisational Behavior and Human Decision Process, 137*, 27–44.

Keller, J. R. (2018). Posting and slotting: How hiring processes shape the quality of hire and compensation in internal labor markets. *Administrative Science Quarterly, 63*(4), 848–878. https://doi.org/10.1177/0001839217736045

Khatri, V., Samuel, B. M., & Dennis, A. R. (2018). System 1 and System 2 cognition in the decision to adopt and use a new technology, *Information & Management, 55*(6), 709–724. DOI: 10.1016/j.im.2018.03.002

Kirkman, B. L., Lowe, K. B., & Gibson, C. B. (2006). A quarter century of culture's consequences : A review of empirical research incorporating Hofstede's cultural values framework. *Journal of International Business Studies*, *37*, 285–320. https://doi.org/10.1057/palgrave.jibs.8400202

Klotz, A. C., Veiga, S. P. D. M., Buckley, R. M., & Gavin, M. B. (2013). The role of trustworthiness in recruitment and selection: A review and guide for future research. *Journal of Organizational Behavior*, *34*, S104–S119. https://doi.org/10.1002/job.l891

Knudsen, E., & Johannesson, M. P. (2019). Beyond the limit of survey experiments: How conjoint designs advance causal inference in political communication research. *Political Communication, 36*(2), 259–271. https://doi.org/1080/10584609.2018.1493009

Koch, A. J., D'Mello, S. D., & Sackett, P. R. (2015). A meta-analysis of gender stereotypes and bias in experimental simulations of employment decision-making. *Journal of Applied Psychology, 100*(1), 128–161. https://doi.org/10.1037/a0036734

Koch, T., Gerber, C., & De Klerk, J. J. (2018). The impact of social media on recruitment: Are you Linkedin? *SA Journal of Human Resource Management*, *16(1)*, 1–15. https://doi.org/10.4102/sajhrm.v16i0.861

Kruglanski, A. W. (2013). Only one? The default interventionist perspective as a unimodel —

Commentary on Evans & Stanovich. *Perspectives on Psychological Science*, *8*(3), 242–247. https://doi.org/10.1177/1745691613483477

Kruglanski, A. W., & Gigerenzer, G. (2011). Intuitive and deliberate judgements are based on common principles. *Psychological Review, 118*, 97–109.

Kuhn, K. M. (2015). Selecting the good vs. rejecting the bad: Regulatory focus effects on staffing decision-making. *Human Resource Management*, *54*(1), 131–150. https://doi.org/10.1002/hrm.21625

Kuncel, N. R., Klieger, D. M., Connelly, B. S., & Ones, D. S. (2013). Mechanical versus clinical data combination in selection and admissions decisions: A meta-analysis. *Journal of Applied Psychology*, *98*(6), 1060–1072. https://doi.org/10.1037/a0034156

Kuo, Y. C., & Lu, S. T. (2013). Using fuzzy multiple criteria decision-making approach to enhance risk assessment for metropolitan construction projects. *International Journal of Project Management*, *31*(4), 602–614. https://doi.org/10.1016/j.ijproman.2012.10.003

Lejarraga, J., & Pindard-Lejarraga, M. (2020). Bounded rationality: Cognitive limitations or adaptation to the environment? The implications of ecological rationality for management learning. *Academy of Management Learning & Education, 19*(3), 289–306. https://doi.org/10.5465/amle.2019.0189

Lieberman, J. D. (2002). Head over the heart or heart over the head? Cognitive Experiential Self-Theory and extra-legal heuristics in juror decision-making. *Journal of Applied Social Psychology. 32*(12), 2526–2553. DOI: 10.1111/j.1559-1816.2002.tb02755.x

Liu, S. X., Lu, Y. X., Liang, Q. P., & Wei, E. Y. (2010). Moderating effect of cultural values on decision-making of gift-giving from a perspective of self-congruity theory: An empirical study from Chinese context. *Journal of Consumer Marketing*, *27*(7), 604–614. https://doi.org/10.1108/07363761011086353

Lodato, M. A., Highhouse, S., & Brooks, M. E. (2011). Predicting professional preferences for intuition-based hiring. *Journal of Managerial Psychology*, *26*(5), 352–365. https://doi.org/10.1108/02683941111138985

Lu, S., Bartol, K. M., Venkataramani, V., Zheng, X., & Liu, X. (2019). Pitching novel ideas to the boss: The interactive effects of employees' idea enactment and influence tactics on creativity assessment and implementation. *Academy of Management Journal, 62*(2), 579–606. https://doi.org/10.5465/amj.2016.0942

Luan, S., Reb, J., & Gigerenzer, G. (2019). Ecological rationality: Fast-and-frugal heuristics for managerial decision-making under uncertainty. *Academy of Management Journal*, *62*(6), 1735–1759. https://doi.org/10.5465/amj.2018.0172

Maitland, E., & Sammartino, A. (2015). Decision-making and uncertainty: The role of heuristics and experience in assessing a politically hazardous environment. *Strategic Management*

Journal, 36(10*),* 1554–1578. DOI: 10.1002/smj.2297

Makoni, L. P. (2015). Foreign direct investment - The case of Botswana. *Acta Universitatis Danubius: Oeconomics, 11*(4), 160–173.

Mariani, P., Marletta, A., & Zenga, M. (2019). A new relative importance index of evaluation for conjoint analysis: Some findings for CRM Assistant. *Social Indicators Research.146*(1/2), 135–148. 10.1007/s11205-018-1980-6

Masale, R., Barkhuizen, E. N., Schutte, N. E., & van der Sluis, L. (2021). Relating job satisfaction and organisational commitment: The moderating and mediating roles of positive individual strengths. *South African Journal of Industrial Psychology*, 47(0), 1-12. DOI: 10.4102/sajip.v47i0.1832.

McDowell, W. C., Peake, W. O., Coder, L., & Harris, M. L. (2018). Building small firm performance through intellectual capital development: Exploring innovation as the "black box." *Journal of Business Research, 88,* 321–327. DOI: 10.1016/j.jbusres.2018.01.025

McSweeney, B. (2002). Hofstede's model of national cultural differences: A triumph of faith - a failure of analysis. *Human Relations*, *55*(1), 89–118. https://doi.org/10.1177/0018726702551004

Merendino, A., Dibb, S., Meadows, M., Quinn, L., Wilson, D., Simkin, L., & Canhoto, A. (2018). Big data, big decisions: The impact of big data on board level decision-making. *Journal of Business Research*, *93*, 67–78. https://doi.org/10.1016/j.jbusres.2018.08.029

Michalkiewicz, M., & Erdfelder, E. (2016). Individual differences in use of the recognition heuristic are stable across time, choice objects, domains, and presentation formats. *Memory & Cognition, 44*(3), 454–468. https://doi.org/10.3758/s13421-015-0567-6

Miles, A., & Sadler-Smith, E. (2014). "With recruitment I always feel I need to listen to my gut": The role of intuition in employee selection. *Personnel Review*, *43*(4), 606–627. https://doi.org/10.1108/PR-04-2013-0065

Miles, A., Charron-Chénier, R., & Schleifer, C. (2019). Measuring automatic cognition: Advancing dual process research in sociology. *American Sociological Review, 84*(2), 308–333. https://doi.org/10.1177/0003122419832497

Mogae, F. G. (24 March 2005). Natural resources: Resourcing development: The Botswana experience. Speech given at the Christian Michelsen Institute. Norway.

Moore, C., Lee, S. Y., Kim, K., & Cable, D. M. (2017). The advantage of being oneself: The role of applicant self-verification in organizational hiring decisions. *Journal of Applied Psychology*, *102*(11), 1493–1513. https://doi.org/10.1037/apl0000223

Mupimpila, C., & Moalosi, M. (2016). Determinants of non-mining output growth in Botswana: Does trade openness matter? *International Journal of Economics, 9*(2), 107–117.

Mustafa, G., Glavee-Geo, R., & Rice, P. M. (2017). Teamwork orientation and personal

learning: The role of individual level cultural values and value congruence. *SA Journal of Industrial Psychology, 43*(0), a1446. http://doi.org/10.4102/sajip.v43i0.1446

Mutoko, W. R., & Kapunda, S. M. (2017). Factors influencing small, medium and micro-sized enterprises' borrowing from banks: The case of the Botswana manufacturing sector. *Acta Commercii, 17*(1), 1–9. https://doi.org/10.4102/ac.v17i1.426

Nielsen, R. B. (2011). Cues to quality in quantitative research papers. *Family and Consumer Sciences Research Journal*, *40*(1), 85–89. https://doi.org/10.1111/j.1552-3934.2011.02090.x

Nolan, K. P., & Highhouse, S. (2014). Need for autonomy and resistance to standardized employee selection practices. *Human Performance*, *27*(4), 328–346. https://doi.org/10.1080/08959285.2014.929691

Oaksford, M., & Chater, N. (2014). Probabilistic single function dual process theory and logic programming as approaches to non-monotonicity in human vs artificial reasoning. *Thinking & Reasoning*, *20*(2), 269–295. https://doi.org/http://dx.doi.org/10.1080/13546783.2013.877401 Probabilistic

Olsen, J. E., & Martins, L. L. (2016). Racioethnicity, community makeup, and potential employees' reactions to organizational diversity management approaches. *Journal of Applied Psychology*, *101*(5), 657–672. https://doi.org/10.1037/apl0000080

Owens, J., & Hawkins, E. M. (2019). Using online labor market respondents for nonprofessional investor research: A comparison of mturk and qualtrics samples. *Journal of Information Systems*, *33*(1), 113–128. https://doi.org/10.2308/isys-52036

Oyserman, D. (2017). Culture three ways: Culture and subcultures within countries. *Annual Review of Psychology*, *63*, 435–463. https://doi.org/10.1146/annurev-psych-122414-033617

Pacini, R., & Epstein, S. (1999). The relation of rational and experiential information processing styles to personality, basic beliefs, and the ratio-bias phenomenon. *Journal of Personality and Social Psychology*, *76*(6), 972–987. https://doi.org/10.1037/0022-3514.76.6.972

Pallant, J. (2016). *SPSS survival manual* (6th ed.). McGraw-Hill.

Pande, S. M., Papamichail, K. N., & Kawalek, P. (2021). Compatibility effects in the perspective application of psychological heuristics: Inhibition, integration and selection. *European Journal of Operational Research, 295*(2021), 982–995. https://doi.org/10.106/j.ejor.2021.03.046

Petzer, D., Mostert, P., Kruger, L.-M., & Kuhn, S. (2014). The dimensions of brand romance as predictors of brand loyalty among mobile phone users. *South African Journal of Economics & Management Sciences, 17*(4), 457–470. DOI: 10.4102/sajems.v17i4.721

Phatshwane, P. M. D., Mapharing, M., & Basuhi, E. J. (2014). Attitudes towards business

ethics held by accountancy and finance students in the University of Botswana. *International Journal of Business and Management*, *9*(2), 17–29. https://doi.org/10.5539/ijbm.v9n2p17

Phillips, W. J., Fletcher, J. M., Marks, A. D. G., & Hine, D. W. (2016). Thinking styles and decision-making: A meta-analysis. *Psychological Bulletin*, *142*(3), 260–290. https://doi.org/10.1037/bul0000027

Priem, R. L., Walters, B. A., & Li, S. (2011). Decisions, decisions! How judgment policy studies can integrate macro and microdomains in management research. *Journal of Management, 37,* 553–580.

Raboloko, M. (2019). Services sector and economic growth in Botswana. *E3 Journal of Business Management and Economics, 10*(1), 001–008. http:www.e3journals.org

Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, *6*(2), 1–5. https://doi.org/10.4172/2162-6359.1000403

Rashid, Z. A., Sambasivan, M., & Johari, J. (2003). The influence of corporate culture and organisational commitment on performance. *Journal of Management Development*, *22*(8), 708–728. https://doi.org/10.1108/02621710310487873

Republic of Botswana (March 2121). Statement by His Excellency Dr Mokgweetsi E.K Masisi, President of the Republic of Botswana on the occasion of the Parliament meeting.

Republic of Botswana (26 February 2121). Address by His Excellency Dr Mokgweetsi E.K Masisi, President of the Republic of Botswana on the update of COVID-19 pandemic in Botswana.

Republic of Botswana. 2020 Budget Speech by Honourable Dr Thapelo Matsheka, Minister of Finance and Economic Development. Delivered to the National Assembly on the 3rd February 2020. Government Printing and Publishing Services. Gaborone. www.finance.gov.bw

Republic of Botswana. (2004). *Guidelines for Application for Research Permit*, *Draft*.

Rhodes, N., & Pivik, K. (2011). Age and gender differences in risky driving: The roles of positive affect and risk perception. *Accident Analysis and Prevention*, *43*(3), 923–931. https://doi.org/10.1016/j.aap.2010.11.015

Rodrigues, U. R. (2018). Tournament of managers: Lessons from the academic leadership market. *Journal of Corporation Law. 43*(3), 537–579.

Rogelberg, S. G., & Stanton, J. M. (2007). Introduction: Understanding and dealing with organizational survey nonresponse. *Organizational Research Methods*, *10*(2), 195–209. https://doi.org/10.1177/1094428106294693

Roulin, N., & Bhatnagar, N. (2018). Smoking as a job killer: Reactions to smokers in

personnel selection. *Journal of Business Ethics*, *149*(4), 959–972. https://doi.org/10.1007/s10551-016-3101-2

Roulin, N., Levashina, J. (2019). LinkedIn as a new selection method: Psychometric properties and assessment approach. *Personnel Psychology, 72(2),* 187-211. DOI: 10.1111/peps.12296

Ryan, A. M., McFarland, L., Baron, H., & Page, R. (1999). An international look at selection practices : Nation and culture as explanations for variability in practice. *Personnel Psychology*, *52*, 359–390.

Ryan, A. M., Reeder, M. C., Golubovich, J., Grand, J., Inceoglu, I., Bartram, D., … Yao, X. (2017). Culture and testing practices: Is the world flat? *Applied Psychology: An International Review*, *66*(3), 434–467. https://doi.org/10.1111/apps.12095

Sabiote, C. M., Frías, D. M., & Castañeda, A. J. (2012). The moderating effect of uncertainty avoidance on overall perceived value of a service purchased online. *Internet Research*, *22*(2), 180–198. https://doi.org/10.1108/10662241211214557

Sagiv, L., & Schwartz, S. H. (2007). Cultural values in organisations: Insights for Europe. *European Journal of International Management*, *1*(3), 176–190.

Salas, E., Rosen, M. A., & DiazGranados, D. (2010). Expertise-based intuition and decision-making in organizations. *Journal of Management*, *36*(4), 941–973. https://doi.org/10.1177/0149206309350084

Sandberg, J., & Alvesson, M. (2011). Ways of constructing research questions: Gap-spotting or problematization. *Organization*, *18*(1), 23–44. https://doi.org/10.1177/1350508410372151

Sarafan, M., Squire, B. & Brandon–Jones, E. (2020). The effect of cultural value orientations on responses to supply-side disruption. *International Journal of Operations & Production Management, 40*(11), 1723–1747. https://doi.org/10.1108/IJOPM-11-2019-0724

Schramm-Nielsen, J. (2001). Cultural dimensions of decision-making : Denmark and France compared. *Journal of Managerial Psychology*, *16*(6), 404–423.

Schwatz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology, 25,* 1–65. New York: Academic Press.

Scott, S. G., & Bruce, R. A. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement*, *55*(5), 817–831.

Seo, S., Kim, K., & Jang, J. (2017). Uncertainty avoidance as a moderator for influences on foreign resident dining out behaviors. *International Journal of Contemporary Tourism Management*, *30*(2), 900–918. https://doi.org/10.1108/IJCHM-03-2016-0152

Shaw, J. D. (2012). From the editors responding to reviewers. *Academy of Management Journal*, *55*(6), 1261–1263. https://doi.org/10.1080/14766080409518552

Shields, B., & Levashina, J. (2016). Comparing the social media in the United States and BRIC nations, and the challenges faced in international selection. In R. N. Landers & G. B. Schimdt (Eds.), S*ocial media in employee selection and recruitment - Theory, practice, and current challenges* (157-174)*.* Springer. https://doi.org/10.1007/978-3-319-29989-1

Shockley, K. M., Clark, M. A., Dodd, H., & King, E. B. (2021). Work-family strategies during COVID-19: Examining gender dynamics among dual-earner couples with young children. *Journal of Applied Psychology, 106*(1), 15–28, https://doi.org/10.1037/apl0000857

Simon, H. A. (2006). A behavioral model of rational choice. *The Quarterly Journal of Economics*, *69*(1), 99–118. https://doi.org/10.2307/1884852

Singh, S., & Wassenaar, D. R. (2016). Contextualising the role of gatekeepers. *South African Journal of Bioethics and Law, 9*(1), 42–46.

Sivakumar, K., & Nakata, C. (2013). The stampede toward Hofstede's framework: Avoiding the sample design pit in cross-cultural research. *Journal of International Business Studies*, *32*(3), 555–574.

Skarlicki, D. P., & Turner, R. A. (2014). Unfairness begets unfairness: Victim derogation bias in employee ratings. *Organizational Behavior and Human Decision Processes, 124,* 34–46.

Slaughter, J., & Kausel, E. E. (2014). Employee selection decisions. *Judgment & Decision-making*. 57-79.

Sloman, S. A. (1996). The empirical case for two systems of reasoning. *Psychological Bulletin*, *119*(1), 3–22.

Sowden, P. T., Pringle, A., & Gabora, L. (2015). The shifting sands of creative thinking: Connections to dual-process theory. *Thinking & Reasoning*, *21*(1), 40–60. https://doi.org/http://dx.doi.org/10.1080/13546783.2014.885464

Ssegawa-Kaggwa, J., Ngowi, A. B., & Ntshwene, K. (2013). Using a situation analysis to identify the construction industry deficiencies in Botswana. *Journal of Construction Industry, 18*(11), 1–18.

Stanovich, K. E. (2014). Who is rational? Studies of individual differences in reasoning who is rational. *Informal Logic*, *20*(3), 291–301.

Stanovich, K. E. (2018). Miserliness in human cognition: The interaction of detection, override and mindware. *Thinking & Reasoning*, *24*(4), 423–444. https://doi.org/10.1080/13546783.2018.1459314

Statistics Botswana. (2016). *Botswana multi-topic household survey 2015/2016*. Economic Activity Stats Brief, pp. 1–14.http://statsbotswana.org.bw

Steiner, P. M., Atzmüller, C., & Su, D. (2017). Designing valid and reliable vignette

experiments for survey research: A case study on the fair gender income gap. *Journal of Methods and Measurement in the Social Sciences*, *7*(2), 52–94. https://doi.org/10.2458/v7i2.20321

Stone, D. L., & Stone, E. F. (1987). Effects of missing application-blank information on personnel selection decisions: Do privacy protection strategies bias the outcome? *Journal of Applied Psychology*, *72*(3), 452–456. https://doi.org/10.1037/0021-9010.72.3.452

Svensson, G. (2015). Contemporary process to test the theory of a research model through covariance-based structural equation modeling in business research: Is it science, quasi-science or just non-science...? *European Business Review*, *27*(4), 447–458. https://doi.org/10.1108/EBR-08-2013-0104

Svensson, G. (2018). A toolkit to examine multi-item measures – Avoiding pitfalls and flaws. *European Business Review*, *30*(1), 82–92. https://doi.org/10.1108/EBR-09-2017-0166

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson Education.

Taras, V., Kirkman, B. L., & Steel, P. (2010). Examining the impact of culture's consequences: A three decade, multi-level meta-analytic review of Hofstede's cultural dimensions. *Journal of Applied Psychology, 95*(3), 405–439. http:// doi.org/10.1037/a0018938

Templ, M., Gussenbauer, J., & Filzmoser, P. (2020). Evaluation of robust outlier detection methods for zero-inflated complex data. *Journal of Applied Statistics*, *47*(7), 1144–1167. DOI: 10.1080/02664763.2019.1671961

Toplak, M. E., West, R. F., & Stanovich, K. E. (2017). Real-world correlates of performance on heuristics and biases tasks in a community sample. *Journal of Behavioral Decision-making, 30,* 541–554. http://doi.org/10.1002/bdm.1973

Triandis, H. C. (2006). Cultural aspects of globalization. *Journal of International Management, 12*(2), 208–217. http://doi.org/10.1016/j.intman.2006.02.010

Tüselmann, H.-J., Allen, M. M.C., Barrett, S., & McDonald, F. (2008). Varieties and variability of employee relations approaches in US subsidiaries: Country-of-origin effects and the level and type of industry internationalisation. *International Journal of Human Resource Management, 19*(9), 1622–1635. DOI: 10.1080/09585190802295041.

Tversky, A., & Kahneman, D. (2002). Rational choice and the framing of decisions. *The Journal of Business*, *59*(S4), S251. https://doi.org/10.1086/296365

United Nations (2020). Botswana Common Country Analysis. http://botswana.un.org

United Nations Conference on Trade and Development. (2004). *World investment report 2004: The shift towards services*. United Nations

van Esch, C., Hopkins, M. M., O'Neil, D. A., & Bilimoria, D. (2018). How perceived riskiness influences the selection of women and men as senior leaders. *Human Resource*

Management, 57(4), 915–930.https://doi.org/10.1002/hrm.21902

Verma, V. K., Chandra, B., & Kumar, S. (2019). Values and ascribed responsibility to predict consumers' attitude and concern towards green hotel visit intention. *Journal of Business Research*, *96*, 206–216. https://doi.org/10.1016/j.jbusres.2018.11.021

Wahid, N. A., Rahbar, E., & Shyan, T. S. (2011). Factors influencing the green purchase behavior of Penang environmental volunteers. *International Business Management*, *5*(1), 38–49.

Wahyuni, D. (2012). The research design maze: understanding paradigms, cases, methods and methodologies. *Journal of Applied Management and Advanced Research*, *10*(1), 69–80.

Wang, Q., Weng, Q., McElroy, J. C., Ashkanasy, N. M., & Lievens, F. (2014). Organizational career growth and subsequent voice behavior: The role of affective commitment and gender. *Journal of Vocational Behavior*, *84*(3), 431–441. https://doi.org/10.1016/j.jvb.2014.03.004

Weisshaar, K. (2018). From opt out to blocked out: The challenges for labor market re-entry after family-related employment lapses. *American Sociological Review*, *83*(1), 34–60. https://doi.org/10.1177/0003122417752355

Wennberg, K., & Anderson, B. S. (2019). Editorial: Enhancing the exploration and communication of quantitative entrepreneurship research. *Journal of Business Venturing*, *35*(3), 1–11. https://doi.org/10.1016/j.jbusvent.2019.05.002

West, D. C., Acar, O. A., & Caruana, A. (2020). Choosing among alternative new product development projects: The role of heuristics. *Psychology & Marketing, 37,* 1511–1524. wileyonlinelibrary.com/journal/mar

Wester, K. L., Borders, L. D., Boul, S., & Horton, E. (2013). Research quality: Critique of quantitative articles in the *Journal of Counseling and Development*. *Journal of Counseling and Development*, *91*(3), 280–290. https://doi.org/10.1002/j.1556-6676.2013.00096.x

Whetten, D. A. (1989). What contributes a theoretical contribution? *Academy of Management Review*, *14*(4), 490–495.

Winch, G. M., & Maytorena, E. (2009). Making good sense: Assessing the quality of risky decision-making. *Organization Studies*, *30*(2–3), 181–203. https://doi.org/10.1177/0170840608101476

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: {Epistemological}, theoretical, and methodological differences. *European Journal of Education*, *48*(2), 311–325.

Yilmaz, A. K., & Flouris, T. (2010). Managing corporate sustainability: Risk management process based perspective. *African Journal of Business Management, 4*(2), 162–171.

Yoo, B., Donthu, N., & Lenartowicz, T. (2011). Measuring Hofstede's five dimensions of cultural values at the individual level: Development and validation of CVSCALE. *Journal of International Consumer Marketing*, *23*(3–4), 193–210. https://doi.org/10.1080/08961530.2011.578059

Yuan, Z., Ye, Z. & Zhong, M. (2021). Plug back into work, safely: Job reattachment, leader safety commitment, and job engagement in the COVID-19 pandemic. *Journal of Applied Psychology, 106*(1), 62–70. https://doi.org/10.1037/apl0000860

Zhu, Y., Chen, T., Wang, J., Wang, M., Johnson, R. E., & Jin, Y. (2021). How critical activities within COVID-19 intensive care units increase nurses daily occupational calling. *Journal of Applied Psychology.106*(1), 4–14. https://doi.org/10.1037/apl0000853

Zikmund, W. G. (2013). *Business research methods* (9th ed.). Cengage Learning.

Appendix 1: Questionnaire

SECTION 1: INSTRUCTIONS

Thank you for expressing interest to participate in a study that examines the effect of employee selection decision makers' uncertainty avoidance on the relationship between their intuitive decision-making style and take-the-best heuristic use in employee selection.

This questionnaire has 21 questions, and it should take about 20 minutes to complete. You are encouraged to respond to all questions.

Be assured that all the responses that you give will be kept strictly confidential and will be used for research purposes only. For anonymity, you are not required to write your name on this questionnaire. Participation in the study is voluntary. If when reading questionnaire items, you feel you want to withdraw your participation, please feel free to do so. There will be no penalty for withdrawing from the study.

Should you have any questions about the study, please feel free to contact the researcher, Gillian Keneilwe Mmolotsa (PhD Candidate), on the contact details below:
Telephone: (+267) 71629695 Email: 18378898@mygibs.co.za / gkmmolotsa@gmail.com

Alternatively, you can contact any of her supervisors whose contact details are stated below:

Lead Supervisor: Prof. Johan L. Olivier
Main Tel: +27 11 771 4000
Cell: +27-83-452-5539
Email: olivierjo@gibs.co.za

Co-Supervisor: Dr Dorothy Ndletyana
Main Tel: +27 11 771 4000
Direct Tel: +27 11 771 4155
Email: NdletyanaD@gibs.co.za

Please indicate your responses to each question by clicking the corresponding button. After indicating your response to a question, click the 'OK' button for you to move to another question. To move to the next page, click the 'NEXT' button at the end of a page. To return to the previous page, click the 'PREV' button at the end of a page.

To start the survey, click the 'OK' then the 'NEXT' buttons below

SECTION 2: PRE-STUDY SCREENING

The purpose of this section is to obtain your informed consent to participate in the study. In addition, the section is meant to obtain information that will determine your eligibility to participate in the study based on your work experience relevant to employee selection. Giving consent to participate in the study and responding to the screening questions is voluntary. As such, you can withdraw at any time without penalty. However, you are encouraged to respond to the questions in this section.

* 1. Do you voluntarily give consent to participate in the study and confirm that you have not been coerced to do so?

- ○ Yes
- ○ No

* 2. Have you participated in employee selection decision-making before?

- ○ Yes
- ○ No

SECTION 3: RESPONDENTS DEMOGRAPHIC INFORMATION

* 3. What is your gender?

- ○ Female
- ○ Male
- ○ Prefer not to say

* 4. In what year were you born? (Enter 4-digit birth year; for example, 1979)

SECTION 4: INTUITIVE DECISION-MAKING STYLE

* 5. Please use the following rating scale to answer all 10 questions below meant to assess your Intuitive Decision-Making Style.

1 – Not true of myself,
2 – Somewhat not true of myself,
3 – Neither true nor untrue of myself,
4 – Somewhat true of myself and
5 – Definitely true of myself

	Not true of myself	Somewhat not true of myself	Neither true nor untrue of myself	Somewhat true of myself	Definitely true of myself
1. I like to rely on my intuitive impressions	○	○	○	○	○
2. Using my gut feelings usually works well for me in figuring out problems in my life.	○	○	○	○	○
3. I believe in trusting my hunches.	○	○	○	○	○
4. Intuition can be a very useful way to solve problems.	○	○	○	○	○
5. I often go by my instincts when deciding on a course of action.	○	○	○	○	○
6. I trust my initial feelings about people.	○	○	○	○	○
7. When it comes to trusting people, I can usually rely on my gut feelings.	○	○	○	○	○
8. I think there are times when one should rely on one's intuition.	○	○	○	○	○
9. I hardly ever go wrong when I listen to my deepest gut feelings to find an answer	○	○	○	○	○
10. I tend to use my heart as a guide for my actions.	○	○	○	○	○

Adopted from Pacini & Epstein (1999)

SECTION 5: UNCERTAINTY AVOIDANCE

* 6. Please use the following rating scale to answer all 5 questions below meant to assess your level of uncertainty avoidance:

1 - Strongly disagree
2 - Disagree
3 - Neutral
4 - Agree
5 - Strongly agree

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. When making employee selection decisions, it is important to have instructions spelled out in detail so that I always know what I am expected to do.	○	○	○	○	○
2. It is important to closely follow instructions and selection decisions procedures when making employee	○	○	○	○	○
3. Rules and regulations for employment are important because they inform me of what is expected of me.	○	○	○	○	○
4. Standardized work procedures are helpful in making employee selection decisions.	○	○	○	○	○
5. Instructions for decision makers are important in the employee selection process.	○	○	○	○	○

Adapted from Yoo, Donthu & Lenartowicz (2011)

SECTION 6: INFORMATION ON RESPONDENT'S ORGANISATION AND EXPERIENCE IN EMPLOYEE SELECTION

* 7. Please indicate the type of organisation you work for

- ○ Government (Ministry, Government Department or Unit)
- ○ Parastatal
- ○ Private company
- ○ Non-Governmental Organisation
- ○ Other (please specify)

* 8. What is your level of operation?

- ○ Managing Director/Chief Executive Officer
- ○ Executive Director
- ○ Senior Manager
- ○ Middle Manager
- ○ Senior Officer
- ○ Executive Director in Human Resource Management
- ○ Human Resource Manager
- ○ Human Resource Officer

* 9. How many times have you been involved in employee selection decision-making?

- ○ 1 – 3
- ○ 4 – 12
- ○ 13 – 24
- ○ 25 – 35
- ○ ≥ 36

10. Please indicate the industry within the services sector in which your organisation operates

- ○ Engineering (Private companies, Parastatals and Government Departments dealing with Engineering activities)
- ○ Hospitality and Tourism
- ○ Business services (Non-Governmental Organisations, Parastatals and Private companies)
- ○ Government (Ministry, Government Department or Unit)

SECTION 7: INSTRUCTIONS FOR THE EMPLOYEE

SELECTION DECISION-MAKING SCENARIO 1

The purpose of this scenario is to determine how fast people can evaluate job applicants' information when making employee selection decisions. Please assume that you are responsible for making employee selection decisions on one pair of job applicants who have applied for an open Civil Engineer position in your organisation and have scored comparatively in almost all the requirements of the advertised job and the preceding employee selection stages.

There are six (6) job applicants' attributes, which you are expected to evaluate as you make the selection decision. Once you get information about the job applicants on the screen, you are requested to click the button below the job applicant you want to select. Immediately after indicating your choice for a specific attribute, another cue will be displayed on the screen until you have made a choice for all the six (6) attributes. You are requested to respond to all items 'as fast as you can' because your reaction time will be recorded to determine how fast you are able to respond to snap judgements or make decisions quickly.

To start the employee selection task, click the OK button on the screen, which will lead you to the job advertisement. After reading the job advertisement for the open job position, click the NEXT button on the screen.

Job Advertisement - Civil Engineer

REF: ENG123456

Are you a Civil Engineer registered with Engineers Registration Board who is interested in working on world-class construction projects in a reputable and well-established organisation? Do you want professional training and development that will equip you with the skills of modern civil engineering technologies? We welcome applications from exceptional engineers to work on engineering projects in our organisation. The organisation offers an exceptional package. Ideally, you will have demonstrated experience in civil or structural engineering projects such as sewer and water reticulation, road works or earthworks. You will need to have a working knowledge of using engineering software.

The successful applicant should be a self-motivated individual with:
· A relevant Bachelor's degree
· At least 5 years of work experience
· Good communication skills
· Leadership and people management skills
· A focus on time management ·
Solid computer skills

To apply for this role, submit your application online at the address below:
The Human Resource Manager
ABC Pty (Ltd)
P O Box 45678, Gaborone
Email: recruitment@abc.org.bw

For further information, please contact the Human Resources Department at Telephone number: (+267) 3123456

EMPLOYEE SELECTION - CIVIL ENGINEER

* 11. Which Job applicant would you select?

	Job Applicant 1 30 years old	Job Applicant 2 27 years old	Age - not important
Age	○	○	○

* 12. Which Job applicant would you select?

	Job Applicant 1 Six years' work experience as a Civil Engineer Technical Assistant in construction	Job Applicant 2 Six years' work experience as an Assistant Project Manager in construction industry	Previous work experience - not important
Previous work experience	○	○	○

* 13. Which Job applicant would you select?

	Job Applicant 1 Bachelor's Degree	Job Applicant 2 Bachelor's Honours Degree	Level of education - not important
Level of education	○	○	○

* 14. Which Job applicant would you select?

	Job Applicant 1 Relevant – Bachelor of Engineering (Civil Engineering)	Job Applicant 2 Relevant – Bachelor of Science (Honours) in Construction Studies	Field of study - not important
Field of study	○	○	○

* 15. Which Job applicant would you select?

	Job Applicant 1 Internal	Job Applicant 2 External	Candidate type - not important
Candidate type	○	○	○

* 16. Which Job applicant would you select?

	Job Applicant 1 75%	Job Applicant 2 79%	Structured Interview scores - not important
Structured Interview scores	○	○	○

* 17. Please select the job applicant with attributes that closely fit the requirements of the job as stated in the job advertisement.

- ○ Job applicant 1
- ○ Job applicant 2

* 18. Would you like to offer the job to the job applicant that you have selected in Question 17?

- ○ Yes
- ○ No

* 19. If No, please give reason(s) why you would not like to offer the job to the job applicant with attributes that closely fit the job as stated in the job advertisement.

SECTION 7: INSTRUCTIONS FOR THE EMPLOYEE SELECTION DECISION-MAKING SCENARIO 2

The purpose of this scenario is to determine how fast people can evaluate job applicants' information when making employee selection decisions. Please assume that you are responsible for making employee selection decisions on one pair of job applicants who have applied for an open Client Relations Management Officer position in your organisation and have scored comparatively in almost all the requirements of the advertised job and the preceding employee selection stages.

There are six (6) job applicants' attributes, which you are expected to evaluate as you make the selection decision. Once you get information about the job applicants on the screen, you are requested to click the button below the job applicant you want to select. Immediately after indicating your choice for a specific attribute, another cue will be displayed on the screen until you have made a choice for all the six (6) attributes. You are requested to respond to all items 'as fast as you can' because your reaction time will be recorded to determine how fast you are able to respond to snap judgements or make decisions quickly.

To start the employee selection task, click the OK button on the screen, which will lead you to the job advertisement. After reading the job advertisement for the open job position, click the NEXT button on the screen.

Job Advertisement - Client Relations Management Officer Position

REF: CRMO123456

Are you a Customer Service professional interested in working at a world-class, reputable, and well established tourism establishment? Do you want professional training and development that will equip you with the requisite competences and modern standards for hoteliers? We welcome applications from exceptional professionals to work at the Front Office Section in our organisation. Your responsibilities will include registering guests upon check-in, managing reservations, handling inquiries and providing information about room types, rates, and available guest amenities. If you have a knack for customer service and work experience in the hospitality and tourism industry, we would like to meet you.

The successful applicant should be a self-motivated individual with:

· A relevant Bachelor's degree
· At least 5 years of work experience
· Good communication skills
· Leadership and people management skills
· A focus on time management
· Solid computer skills

To apply for this role, submit your application online at the address below:
The Human Resource Manager
ABC Pty (Ltd)
P O Box 45678, Gaborone
Email: recruitment@abc.org.bw

For further information, please contact the Human Resources Department at Telephone number:
(+267) 3123456

EMPLOYEE SELECTION - CLIENT RELATIONS MANAGEMENT OFFICER

* 11. Which Job applicant would you select?

	Job Applicant 1 30 years old	Job Applicant 2 27 years old	Age - not important
Age	○	○	○

* 12. Which Job applicant would you select?

	Job Applicant 1 Six years' work experience as a Client Relations Management in Conference Centre	Job Applicant 2 Six years' work experience as Front Office Assistant in a Lodge	Previous work experience - not important
Previous work experience	○	○	○

* 13. Which Job applicant would you select?

	Job Applicant 1 Bachelor's Degree	Job Applicant 2 Bachelor's Honours Degree	Level of education - not important
Level of education	○	○	○

* 14. Which Job applicant would you select?

	Job Applicant 1 Relevant - Bachelor of Hospitality Management	Job Applicant 2 Relevant – Bachelor's Honours and Degree in Business Administration	Field of study - not important
Field of study	○	○	○

* 15. Which Job applicant would you select?

	Job Applicant 1 Internal	Job Applicant 2 External	Candidate type - not important
Candidate type	○	○	○

* 16. Which Job applicant would you select?

	Job Applicant 1 75%	Job Applicant 2 79%	Structured Interview scores - not important
Structured Interview scores	○	○	○

* 17. Please select the job applicant with attributes that closely fit the requirements of the job as stated in the job advertisement.

○ Job applicant 1

○ Job applicant 2

* 18. Would you like to offer the job to the job applicant that you have selected in Question 17?

- ○ Yes
- ○ No

* 19. If No, please give reason(s) why you would not like to offer the job to the job applicant with attributes that closely fit the job as stated in the job advertisement.

SECTION 7: INSTRUCTIONS FOR THE EMPLOYEE SELECTION DECISION-MAKING SCENARIO 3

The purpose of this scenario is to determine how fast people can evaluate job applicants' information when making employee selection decisions. Please assume that you are responsible for making employee selection decisions on one pair of job applicants who have applied for an open Marketing Officer position in your organisation and have scored comparatively in almost all the requirements of the advertised job and the preceding employee selection stages.

There are six (6) job applicants' attributes, which you are expected to evaluate as you make the selection decision. Once you get information about the job applicants on the screen, you are requested to click the button below the job applicant you want to select. Immediately after indicating your choice for a specific attribute, another cue will be displayed on the screen until you have made a choice for all the six (6) attributes. You are requested to respond to all items 'as fast as you can' because your reaction time will be recorded to determine how fast you are able to respond to snap judgements or make decisions quickly.

To start the employee selection task, click the OK button on the screen, which will lead you to the job advertisement. After reading the job advertisement for the open job position, click the NEXT button on the screen.

Job Advertisement - Marketing Officer Position

REF: MO123456

Are you a seasoned Marketer interested in working at a world-class, reputable, and well-established multinational organisation? Do you want professional training and development that will equip you with the requisite competences, modern ways of doing business including e-commerce? We welcome applications from exceptional professionals for a Marketing Officer position in our organisation. Your responsibilities will be identifying customer needs, segmenting the marketing, determining affordable prices for our goods and services for each market segment, and developing advertisements for our goods and services to increase our customer base.

The successful applicant should be self-motivated individuals with:

· A relevant Bachelor's degree
· At least 5 years of work experience
· Good communication skills
· Leadership and people management skills
· A focus on time management
· Solid computer skills

To apply for this role, submit your application online at the address below:
The Human Resource Manager
ABC Pty (Ltd)
P O Box 45678, Gaborone
Email: recruitment@abc.org.bw

For further information, please contact the Human Resources Department at Telephone number: (+267) 3123456

EMPLOYEE SELECTION - MARKETING OFFICER

* 11. Which Job applicant would you select?

	Job Applicant 1 30 years old	Job Applicant 27 years old	Age - not important
Age	◯	◯	◯

* 12. Which Job applicant would you select?

	Job Applicant 1 Six years' work experience as a Sales Assistant.	Job Applicant 2 Six years' work experience as Food and Beverage Supervisor in a local chain store	Previous work experience - not important
Previous work experience	◯	◯	◯

* 13. Which Job applicant would you select?

	Job Applicant 1 Bachelor's Degree	Job Applicant 2 Bachelor's Honours Degree	Level of education - not important
Level of education	◯	◯	◯

* 14. Which Job applicant would you select?

	Job Applicant 1 Relevant - Bachelor of Communications and Public Relations	Job Applicant 2 Relevant – Bachelor's Honours Degree in Business Administration	Field of study - not important
Field of study	◯	◯	◯

* 15. Which Job applicant would you select?

	Job Applicant 1 Internal	Job Applicant 2 External	
Candidate type	◯	◯	◯

* 16. Which Job applicant would you select?

	Job Applicant 1 75%	Job Applicant 2 79%	Structured Interview scores - not important
Structured Interview scores	◯	◯	◯

* 17. Please select the job applicant with attributes that closely fit the requirements of the job as stated in the job advertisement.

◯ Job applicant 1

◯ Job applicant 2

* 18. Would you like to offer the job to the job applicant that you have selected in Question 17?

- ○ Yes
- ○ No

* 19. If No, please give reason(s) why you would not like to offer the job to the job applicant with attributes that closely fit the job as stated in the job advertisement.

SECTION 7: INSTRUCTIONS FOR THE EMPLOYEE SELECTION DECISION-MAKING SCENARIO 4

The purpose of this scenario is to determine how fast people can evaluate job applicants' information when making employee selection decisions. Please assume that you are responsible for making employee selection decisions on one pair of job applicants who have applied for an open Accountant position in your organisation and have scored comparatively in almost all the requirements of the advertised job and the preceding employee selection stages.

There are six (6) job applicants' attributes, which you are expected to evaluate as you make the selection decision. Once you get information about the job applicants on the screen, you are requested to click the button below the job applicant you want to select. Immediately after indicating your choice for a specific attribute, another cue will be displayed on the screen until you have made a choice for all the six (6) attributes. You are requested to respond to all items 'as fast as you can' because your reaction time will be recorded to determine how fast you are able to respond to snap judgements or make decisions quickly.

To start the employee selection task, click the OK button on the screen, which will lead you to the job advertisement. After reading the job advertisement for the open job position, click the NEXT button on the screen.

Job Advertisement - Accountant

REF: ACC123456

Are you an Accountant registered with the Botswana Institute of Chartered Accountants (BICA)? Our organisation is looking for an Accountant to manage all financial transactions, from fixed payments and variable expenses to bank deposits and budgets. Your responsibilities will include auditing financial documents and procedures, reconciling bank statements and calculating tax payments and returns. To be successful in this role, you should have previous experience with books of accounts and a flair for spotting numerical errors. Ultimately, you will provide us with accurate quantitative information on the financial position, liquidity, and cash flows of our business, while ensuring we are compliant with International Finance Reporting Standards and Botswana's tax legislative requirements.

The successful applicant should be a self-motivated individual with:

· A relevant Bachelor's degree
· At least 5 years of work experience
· Good communication skills
· Leadership and people management skills
· A focus on time management
· Solid computer skills

To apply for this role, submit your application online at the address below:

The Human Resource Manager
ABC Pty (Ltd)
P O Box 45678, Gaborone
Email: recruitment@abc.org.bw

For further information, please contact the Human Resources Department at Telephone number: (+267) 3123456

EMPLOYEE SELECTION – ACCOUNTANT

* 11. Which Job applicant would you select?

	Job Applicant 1 30 years old	Job Applicant 2 27 years old	Age - not important
Age	◯	◯	◯

* 12. Which Job applicant would you select?

	Job Applicant 1 Six years' work experience as a Bank Teller in a local bank	Job Applicant 2 Six years' work experience as Accountants Assistant in a Parastatal organisation	Previous work experience - not important
Previous work experience	◯	◯	◯

* 13. Which Job applicant would you select?

	Job Applicant 1 Bachelor's Degree	Job Applicant 2 Bachelor's Honours Degree	Level of education - not important
Level of education	◯	◯	◯

* 14. Which Job applicant would you select?

	Job Applicant 1 Relevant - Bachelor of Accountancy	Job Applicant 2 Relevant – Bachelor's Honours Degree in Finance	Field of study - not important
Field of study	◯	◯	◯

* 15. Which Job applicant would you select?

	Job Applicant 1 Internal	Job Applicant 2 External	Candidate type - not important
Candidate type	◯	◯	◯

* 16. Which Job applicant would you select?

	Job Applicant 1 75%	Job Applicant 2 79%	Structured Interview scores - not important
Structured Interview scores	◯	◯	◯

* 17. Please select the job applicant with attributes that closely fit the requirements of the job as stated in the job advertisement.

◯ Job applicant 1

◯ Job applicant 2

* 18. Would you like to offer the job to the job applicant that you have selected in Question 17?

- ○ Yes
- ○ No

* 19. If No, please give reason(s) why you would not like to offer the job to the job applicant with attributes that closely fit the job as stated in the job advertisement.

SECTION 8: POST-EXPERIMENT TEST

* 20. Please use the following rating scale to answer the question below meant to assess your preference for take-the-best heuristic use:

1 - Strongly disagree
2 - Disagree
3 - Neutral
4 - Agree
5 - Strongly agree

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Remembering the employee selection task you have just completed, did you feel making employee selection decisions without being told which job applicants attributes are important for the advertised job affected the employee selection decisions you made on each job applicant?	○	○	○	○	○

SECTION 9: RATING INFORMATION CUES ACCORDING TO IMPORTANCE

* 21. How important were the following information cues in informing the employee selection decision you have made in the employee selection scenario?

Please rate the six (6) information cues using the rating scale where:

1 - Not at all important
2 - Not so important
3 - Somewhat important
4 - Very important
5 - Extremely important

	Not at all important	Not so important	Somewhat important	Very important	Extremely important
1. Age	○	○	○	○	○
2. Previous work experience	○	○	○	○	○
3. Level of education	○	○	○	○	○
4. Field of study	○	○	○	○	○
5. Interview scores	○	○	○	○	○
6. Candidate type	○	○	○	○	○

Appendix 2: Field report

Gordon Institute of Business Science

University of Pretoria

Doctor of Philosophy

Research Title

The Effect of Uncertainty Avoidance on the Relationship between Intuitive Decision-Making Style and Take-the-best Heuristic Use in employee selection: A field report on the research method and respondents' behaviour

Student name: Gillian Keneilwe Mmolotsa

Student number: 18378898

Lead supervisor: Professor Johan L. Olivier

Co-supervisor: Dr Dorothy Ndletyana

Abstract

This field report describes the data collection effort of the study on the effect of Uncertainty Avoidance on the relationship between Intuitive decision-making style and Take-the-best Heuristic Use in employee selection. The study setting is Botswana, and the data were collected between August and October 2020. The broad goal of the study was to deepen our understanding of the relationship between cultural values and cognition when making organisational decisions under uncertainties. Specifically, the study examines the moderating effect of Uncertainty Avoidance on the relationship between Intuitive decision-making style and Take-the-best Heuristic Use. This field report presents observations that were made when implementing the selected research method to collect the data. It also discusses challenges and mitigating measures that were encountered with the data collection instrument. Additionally, the field report discusses a sampling strategy that was used to recruit and source a sample of 252 respondents, which participated in the study. Furthermore, the field report presents an analysis of the response behaviour and the response burden observed from the data. Lastly, this field report presents descriptive statistics of the sample to determine the sufficiency of the collected data for answering the research question 'What is the effect of Uncertainty Avoidance on the relationship between Intuitive decision-making style and Take-the-best Heuristic Use.'

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1. Introduction

1.1 Background

Employee selection decisions contribute to the strategic performance of organisations (Bromiley, Mcshane, Nair, & Rustambekov, 2015; Calabretta, Gemser, & Wijnberg, 2017; Luan Reb & Gigerenzer, 2019). However, literature records that employee selection decisions are complex (Moore, Lee, Kim, & Cable, 2017; Rashid Sambasivan, & Johari, 2003) because they are made through an inherently complex process (Hodgkinson & Sadler-Smith, 2018; Rashid et al., 2003). Part of the complexity of employee selection decisions emanates from the fact that they are made under uncertainty (Artinger et al., 2015; Connelly, Certo, Ireland, & Reutzel, 2011; Klotz et al., 2013; Luan et al., 2019). Therefore, we do not know yet how they are made in real life (Bolander & Sandberg, 2013).

Previous employee selection studies focused more on testing input-output models, which mostly researched the validity of employee selection tools on the quality of employee selection decisions (Glöckner & Witteman, 2010; Kausel, Culbertson & Madrid, 2016; Luan et al., 2019). Such studies did not give processes that take place in the throughput stage of the employee selection decision-making process much attention.

Since employee selection decisions are made under uncertainty (Artinger et al., 2015; Connelly, Certo, Ireland, & Reutzel, 2011; Klotz et al., 2013; Luan et al., 2019), employee selection decision makers tend to make them through using Managerial Heuristics (Luan et al., 2019; Gigerenzer & Gaissmaier, 2011; Michalkiewiz & Erdfelder, 2016). It is reported that the use of Managerial Heuristics, improves the accuracy of decisions compared to the use of rationality approaches (Luan et al., 2019).

While studies have revealed a positive relationship between Intuitive Decision-Making Style and Heuristics Use (Brown & Duos, 2015; Lodato, Highhouse, & Brooks, 2011; Salas, Rosen, DiazGranados, 2010), the role that cultural values play in the decision-making process has been under-researched. This research gap exists despite the existence of knowledge that culture influences all steps of the decision-making process (Dabić, Tipurić & Podrug, 2015). Therefore, this study builds on previous studies to broaden our understanding of the role that Uncertainty Avoidance cultural value play in the use of the Take-the-best heuristic in employee selection.

The study aimed at theoretically and experimentally examining the moderating effect of Uncertainty Avoidance on the relationship between Intuitive decision-making style and Take-the-best Heuristic Use in employee selection. It will answer the research question “What is the effect of uncertainty avoidance on the relationship between Intuitive Decision-Making and Take-the-best Heuristic Use?” The effort that was made to collect data for answering this research question is described in this field report.

The theoretical lens that was used is Cognitive Experiential Self Theory (Epstein, Lipston, Holstein & Huh,1992). This theory is a parallel-competition variant of dual process theory, which assumes that the decision maker’s experience influences the use of cognitive processes of decision-making (Epstein et al., 1992). Cognitive Experiential Self Theory also forms a foundation for interpreting the observations that the researcher made in the field.

Documenting evidence of observations made at the field is meant to deduce what those observations mean for theory. This field report demonstrates an understanding of the relationship between theory and practice of the research design and methodology that were used. It is hoped that the lessons learned during data collection will contribute knowledge that will refine existing theories on research design and methodologies for online experimental vignette design studies.

The technique that was used to record structured observations in the field was note-taking. The focus when making the observations in the field was to observe any aspect of the research procedure or criteria that could harm the success of collecting quality data that were required for answering the research question. Interventions and solutions that were adapted to address the challenges that were experienced along the data collection process are also discussed in this report.

1.2 Objectives of the field report

The specific objectives of this field report are to:

i. Describe how the research protocols for accessing the study setting contributed to understanding the theoretical framework of the study.
ii. Assess how the time of data collection impacted the data collection research milestone and discuss the time-saving strategies that were adopted to mitigate research project time overruns.
iii. Analyse the effectiveness of the research method and the instrument that was used for data collection.
iv. Explain the challenges associated with the sampling strategy that was used to recruit potential respondents and how they were addressed.
v. Discuss the response behaviour of the respondents.
vi. Outlined the sample descriptive statistics to determine the sufficiency of the collected data for analysis.

The remainder of this field report discusses observations made in the study setting, data collection period, research method and data collection instrument, as well as recruitment of the study respondents and their response behaviour. The structure of the field report follows the order in which these aspects have been listed here. At the end of the field report, a conclusion and outlook for the next steps are discussed.

2. The study setting

The setting of the study is Botswana. Barnard, Cuervo-Cazurra and Manning (2017) argued that Africa has not attracted a lot of interest from management researchers to find solutions for the unique problems faced by organisations on this continent. Botswana was selected as a study setting because the country has an economic success story based on its remarkable long-term economic growth (Bolt & Hillbom, 2016). Additionally, research priority in Botswana is given to development-oriented research (Republic of Botswana, 2004), which contributes practical solutions to workplace problems (Henard & McFadyen, 2005).

The study is aligned with the country's research priority areas. It is hoped that the results of the study will contribute practical knowledge that will be useful for improving the quality of employee selection decisions made by decision makers in that country. Granting of the research priority by the Government of Botswana confirms that it has been assured that the study will add value to the country's economy.

Botswana provided a useful context for the study because the country has adopted and is implementing economic diversification strategies that will facilitate its transformation from being a resource-based economy to a knowledge-based economy (Republic of Botswana, 2020). A move towards a knowledge-based economy is a strategy that countries are using to counteract the negative phenomena that cause uncertainties in the business environment (Jackson, Dewberry, Gallagher, Close & Let, 2018). Since uncertainties associated with transitions should be managed, it is therefore important that a study on uncertainty avoidance be conducted in Botswana. Furthermore, there is a paucity of research focusing on Uncertainty Avoidance in Botswana (Phatshwane, Mapharing, & Basuhi, 2014). Hence, the study will reduce this research neglect gap.

Before any research is conducted in Botswana, the researchers must apply for a research permit from the Government. It is only after being granted a research permit that accesses to potential respondents can be negotiated with organisations. According to the Republic of Botswana guidelines for applying for a research permit, the researcher had to submit a letter of endorsement from the training institution (in this case Gordon Institute of Business Science of the University of Pretoria), a certified copy of her national identity card, the researcher's curriculum vitae, a completed application form, approval letter or ethical clearance letter from the training institution, an approved research proposal and questionnaires that will be used for data collection (Republic of Botswana, 2004). All these documents were required for vetting if the research could be conducted in that country or not. The documents also were used to provide information on who the researcher is, including her professional and academic background.

The researcher used an example on page 24 of the '20181218_Blue Book PhD Doctoral Editing Standards applied' to develop the consent note for the study questionnaire. The observations made on the questionnaire by the Government Officials at the Ministry of Tertiary Education, Research, Science, and Technology who were processing the application for research permit was that they confirmed that the questionnaire had an item for obtaining informed consent from respondents for them to participate in the study.

They also indicated that the questionnaire indicated that participation was voluntary, and respondents could withdraw anytime if they wish to do so. However, the Government Officials highlighted that the limitation on the instruction section of the questionnaire was that while it was stated that respondents could withdraw from the study, the ethical consideration statement did not state that there will be no penalty imposed on respondents who withdraw from the study.

They suggested that the instruction section of the questionnaire could be modified to include the missing information about withdrawal from the study without penalty or have a separate respondents' consent note from the questionnaire, which had to include the missing statement. The researcher adopted the first suggested option because the respondents would not be required to complete any documentation before responding to the questionnaire. This improvement of the ethical consideration about withdrawal from the study without penalty has also been made on the latest version of the GIBS Doctoral Blue Book (GIBS, 2020).

The observation made in the Botswana Government's ethical clearance process is that the process is rigorous and the Government Officials who were processing the researcher's application were thorough. This shows that Botswana's ethical clearance process is effective in protecting the respondents from any potential harm that could be posed to them by the research process (Singh & Wassenaar, 2016; Walker & Read, 2011). Furthermore, the ethical clearance process gives confidence and assurance that the data collected for the study were collected from respondents whose participation in the study was voluntary as they were not coerced to participate, and they were informed of their right to withdraw from the study without any penalty.

Moreover, the Botswana ethical clearance process for research showed that the vetting process of research applications is done rationally. The decision to grant a research permit followed a controlled process and it took some time to process the application and make a decision on it.

3. Data collection period

The world was hit by a COVID-19 pandemic at the end of 2019. The disease spread to Africa in the first months of the year 2020. The first case of COVID 19 was reported in Botswana in March 2020. The country went on a community lockdown in April and May 2020, which was the country's response strategy for mitigating the spread of COVID-19 in Botswana. A community lockdown was a health mitigation measure for the spread of COVID-19 where places such as schools, malls, and workplaces, which gather many people were closed completely or movement get restricted to only those providing essential services, and it included restricting and preventing travel within or outside the country (Republic of Botswana, 2020).

The community lockdown due to COVID-19 affected the study because during that period the research could not visit Government offices to request research permits. This had implications for the time that was needed for requesting access from organisations and for conducting the pilot study. One of the time-saving strategies that were used was compiling the sampling frame during the lockdown period.

When the lockdown measures were lifted in the first week of June 2020, the researcher applied for research permits. Some organisations gave her the permits in that same month. The country went on another lockdown in July 2020. However, this lockdown did not affect the research project plan because the data collection instrument was already designed in SurveyMonkey, and the researcher was granted permits by some organisations. Therefore, a four-week pilot study was conducted in July 2020.

This pilot study was one of the important stages of the planned research project because assessed the feasibility of the study. The pilot study designed a research protocol that is realistic and workable to achieve the purpose of the main study. The pilot study evaluated the efficiency of the main study's research design and methodology by identifying potential problem areas or deficiencies that might have a negative impact on its success. These included determining the appropriateness of the selected research procedures and identifying practical modifications in the procedures so that the procedures that would generate the data for answering the research question.

The first two weeks of August 2020 were spent on modifying the questionnaire based on the pilot study results. This period was also spent requesting access from organisations and recruiting potential respondents. Requesting for access from organisations and the study respondents as well as making modifications to the data collection instruments delayed commencements of the data collection milestone, which only began in the third week of August 2020. The data was collected over two months. That is, from the 21st of August to the 20th of October 2020. Data collection had to be completed within a fixed time to be able to meet the Doctoral programme timelines for Year 2.

Other time-saving strategies that were used to achieve data collection on time include sending the questionnaire to potential respondents by email because the use of emails is more efficient than the use of traditional postal methodologies (Baruch & Holtom, 2008). Another strategy that was used was sharing a web link to the study questionnaire with potential respondents through social media. This proved to be the most effective and efficient time-saving strategy for data collection. A detailed discussion of this approach is in section 5.1 of this field report.

4. Research method and data collection instrument

This section describes the research method that was used in the study. The research method was evaluated through a pilot study. It also describes the format and layout of the data collection instrument that was used and the sources of the questions that were included in that data collection instrument.

4.1 Research method

The study was conducted using a web script that was hosted by SurveyMonkey, which is cloud-based research software. The research method that was used for collecting the data is an online experimental vignette design. This research method was adapted for use in the study because it is said to be a promising methodology in examining the way people make judgements (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010; Steiner, Atzmüller, & Su, 2017).

An experimental vignette methodology gave the researcher the control to manipulate the independent variable, the Intuitive decision-making style. This facilitated the collection of data that is unbiased to provide an estimate measure of the independent variable's prediction ability for the dependent variable (Aguinis & Bradley, 2014; Mariani, Marletta, & Zenga, 2019).

The researcher did not have any challenges with designing a questionnaire and setting up an experiment in SurveyMonkey as this was pilot tested and challenges with the design of the questionnaire were fixed during the pilot study. The questionnaire had a split-logic questionnaire item that required respondents to indicate the sector they worked in. The responses to this questionnaire item assigned respondents to one of the four experimental scenarios. It was observed that randomisation worked fine in the main study.

There were no challenges with the experientiality scale (Pacini and Epstein, 1999) which is a measurement scale for the Intuitive decision-making style. A selection of ten items out of the twenty items of the experientiality scale was informed by the pilot study results. No challenges were experienced with the uncertainty avoidance scale (Yoo, Dinthu & Lenartowicz, 2011) that was used to measure Uncertainty Avoidance. These two scales were pilot tested to validate their internal consistency reliability.

One limitation associated with SurveyMonkeywas its incapability to capture response time per item. Instead, it captures the time one spends when responding to all questionnaire items, from start to end. The original plan was to time respondents when undertaking an employee selection experimental task. This was meant to determine how fast they can make a snap judgement in an employee selection task. However, due to SurveyMonkey's limitation in this aspect, the study recorded the completion time for the questionnaire. This time will be used as a measure of Managerial Heuristic Use.

4.2 Data collection instrument

The instrument that was used for collecting data was an online self-administered questionnaire. Ten items for measuring Intuitive decision-making style in that questionnaire were from the experientiality scale (Pacini and Epstein, 1999) and five items for measuring Uncertainty Avoidance were from the uncertainty avoidance scale (Yoo et al., 2011). Other items were generated by the researcher based on the data required for measuring Managerial Heuristic Use and control variables (age and gender). Some items that were developed by the researcher included the data that would show evidence of the study’s internal and external validity such as respondents work experience in employee selection decision-making, their level of operation and the economic sector they worked.

All the questionnaire items save for one, generated quantitative data. The only question that generated qualitative data was an optional question that required respondents to justify their choice between the two job applicants being considered for the job opening. Since the questionnaire was short and data were collected in one session, this did not pose any response burden to the respondents.

The questionnaire had nine sections. The first section contained information about the study. That is information on what the study was about, the number of questionnaire items, estimated completion time, ethical consideration statements, contact details of the researcher and her supervisors. The first section of the questionnaire also had instructions on how to respond to questionnaire items and move between pages in the questionnaire. Figure 1 shows the estimated completion rate and the time to complete the questionnaire.

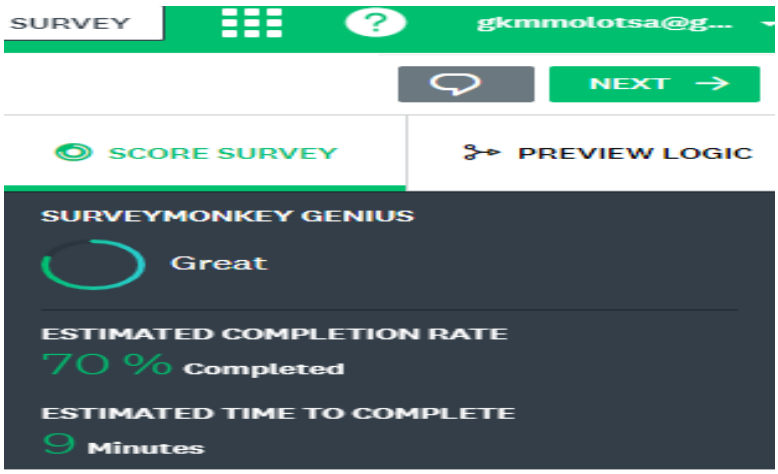

Figure 1: Completion rate and time to complete the questionnaire estimated by SurveyMonkey

Figure 1 shows the feedback from SurveyMonkey that the estimated completion rate is 70%. The estimated time to complete the survey is 9 minutes. Even though SurveyMonkey estimated that the completion time was 9 minutes, the researcher estimated the completion time as 20 minutes for responding to all the 21 questionnaire items. This was based on 45 seconds per questionnaire item. The remaining five minutes was for reading the job advertisement. The researcher estimated a longer completion time because, in addition to responding to questionnaire items from the two measurement scales, there was an experimental task. This experiment required respondents to read the job advertisement and answer questions based on the job advertisement.

The study generated 252 responses. Out of the 252 responses, 197 were complete responses and 56 were partially complete. The 197 complete questionnaires are classified into 41 screening questionnaires and 156 complete questionnaires for the main study. Figure 2 show insights into the responses collected.

Figure 2: Response collected, completion rate and typical time taken by respondents to generate responses.

The data show that for the 252 responses, the completion rate was 78%, and the typical time spent on completing the questionnaire was 12 minutes 23 seconds. It was observed that the typical time respondents who completed the questionnaire fully were an average of the time that was suggested by SurveyMonkey and the time that was estimated by the researcher. Some of the potential respondents might have not participated in the study because they were deterred by the estimated time.

The study results show that the response rate is 80.6%, which is higher than the 70% that was predicted by SurveyMonkey, as shown in Figure 1. This shows that respondents' fatigue was effectively managed by having a reasonable number of items in the questionnaire (Paetz, Hein, Kurz & Steiner, 2019; Knudsen & Johannesson, 2019).

The second section of the questionnaire had two pre-study screening items. The first item asked respondents to indicate whether they consented to participate in the study and whether they were coerced (or not) to participate. For the other item, potential respondents had to indicate whether they had participated in employee selection decision-making before.

According to Hunt and Scheetz (2019), the researcher needs to know upfront, the violations that will result in the respondents being rejected. The violations in the study were negative responses for the two questionnaire items that were identified during the pre-study screening. The benefit of screening respondents before allowing them to participate in the study is that determining their eligibility increased the quality of data for testing the theory (Hunt & Scheetz, 2019). Therefore, only respondents who eventually participated in the study were those who were eligible to do so.

The third section of the questionnaire collected information about the respondents' demographic characteristics. The information on respondents' demographic characteristics was collected. This included respondents' age and gender, which were the study's control variables. Previous studies reveal that the age of the decision maker has effects on the decision-making process (Besedeš, Deck, Sarangi, & Shor, 2015; Cole & Balasubramanian, 1993; Rhodes & Pivik, 2011). Literature also shows that there are differences in how males and females process information when making decisions (Byrne & Worthy, 2015; Carnes et al., 2019; Lodato et al., 2011; Rhodes & Pivik, 2011). The data collected from this section were used to profile the sample and to determine the normality of data before conducting data analysis.

The fourth section of the questionnaire had ten items from the experientiality scale (Pacini & Epstein, 1999). The original 20-item experientiality scale was piloted in Botswana. The pilot results showed that the scale had a.350 Cronbach's Alpha value suggesting a lower score than the recommended.7 benchmark (Bonett & Wright, 2015). According to Churchill (1979), the internal consistency reliability of a scale can be improved by eliminating items with low coefficient values. Therefore, the coefficient alpha value of the 20-items experientiality scale's internal consistency reliability was improved to.846 by eliminating 10 items with low coefficient values from the scale.

The pilot study report attached as Appendix 3 shows how 10 out of the 20 items from the experientiality scale (Pacini & Epstein, 1999) were selected for use in the study. The 10-items experientiality scale that was used in the main study showed a Cronbach's Alpha of.911, which shows that the scale had good internal consistency reliability.

The fifth section of the questionnaire had five items from the uncertainty avoidance scale (Yoo et al., 2011). The internal consistency reliability of the measurement scale was also validated through a pilot study, and it showed a Cronbach's alpha value of.805. In the main study, the 5-items uncertainty avoidance scale (Yoo et al., 2011) showed a Cronbach's alpha of.864, which shows that the scale had good internal consistency reliability. For this study, the five items in the scale were adapted by making them specific to employee selection.

The construct validity and internal consistency reliability of the experientiality and the uncertainty avoidance scales were good because their Cronbach's alpha values were above the recommended.7 benchmark (Bonett & Wright, 2015). This has contributed to the quality of data that has been collected for the study.

The sixth section contained information about the industries and the type of organisations the respondents worked for. This data was collected to show the representability and heterogeneity of the sample. Since the sample was representative of the study population, the results of the study will be transferred to the study population (Verma, Chandra, & Kumar, 2019). In addition, section six of the questionnaire collected respondents' experience in terms of the positions they hold at their workplaces and the number of times they have participated in employee selection. These data will be used to show how variances in respondents experience and level of operation affects their decision-making styles and the use of Managerial Heuristics.

The seventh section of the questionnaire was an online experimental vignette task. This was a paired comparison experimental task in employee selection. The online experimental vignette design followed a conjoint analysis technique. The type of conjoint analysis technique used required respondents to rate all the six experimental cues independently. Managerial Heuristic Use was measured by recording the respondents time that was taken to complete the questionnaire as well as the number of information cues that were used to inform the employee selection decisions.

The experimental task was set up such that the respondents would base their decisions on either the experimental cues relating to person-job fit such as job applicants' knowledge, skills, and abilities (Cable & Rue, 2002) or on information that was meant to prime respondents by triggering their feelings of liking or disliking job applicants. Primes were Job applicants' attributes that were considered by the decision makers were varied for both respondents.

After the employee selection simulation, the respondents responded to three items that were based on the scenario. The first question asked respondents whether they would offer the job applicants with the most attributes they preferred compared to those of the job applicant's counterpart. The second item was an open-ended question that required respondents to explain why they would offer the job applicant with the most preferred attributes if their answer for the preceding question was a 'No.'

The eighth section of the questionnaire was the post-experimental test. This section had one manipulation check item, which was included in the questionnaire to collect data that would show whether the manipulation test item that was used in an experimental task, worked as desired. The item is, "Remembering employee selection task you just completed, did you feel making employee selection decisions without being told which job applicants attributes are important for the advertised job affected the employee selection decisions you made on each job applicant?" The data in Table 1 show that the manipulation that was used was effective.

Table 1: Responses for a manipulation check

STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	TOTAL
3.18%	11.46%	17.83%	39.49%	28.03%	
5	18	28	62	44	157

Conducting pre-study screening reduces manipulation check failures significantly (Hunt & Scheetz, 2019). No questionnaire was discarded based on the responses provided for the manipulation check question because it was introduced to check if the treatments that were used in the experiment worked as desired since the respondents did not have information on the job applicant selection criteria or data combination methods, which respondents could use to guide their decision-making. They had to make employee selection decisions intuitively in an unaided decision-making task. Therefore, there was no right or wrong answer for this questionnaire item.

The ninth section of the questionnaire was a rating item where information cues that were included in the experimental task were rated in order of the cue's perceived importance in informing employee selection decisions. The data generated by this rating questionnaire item would be used for conjoint analysis to determine whether employee selection decision makers are rational or intuitive decision makers. It would be determined from the type of information they consider important, whether the respondents are rational or intuitive decision makers and whether they used the Take-the-best Heuristic to make employee selection decisions using. Table 2 provides a summary of the sections of the questionnaire.

Table 2: Questionnaire design

Section Number	Section Title
Section 1	Information about the study and instructions
Section 2	Pre-study screening items
Section 3	Respondents' demographic information
Section 4	Intuitive decision-making style items
Section 5	Uncertainty Avoidance items
Section 6	Information on respondents' organisations and their experience in employee selection
Section 7	Employee selection decision-making experimental task
Section 8	Post-experiment test
Section 9	Rating of Information cues that inform employee selection decisions

Providing answers to most of the questionnaire items were mandatory. This contributed to the high completion rate. The questionnaire also had some skip logic questions which directed respondents to specific pages related to the responses they provided. For example, there was a skip logic questionnaire item, which was a randomisation item that assigned respondents to one of the four experimental scenarios. After participating in the experimental scenarios, all respondents were directed to a common post-experiment test item which was a manipulation check item. All respondents were expected to respond to this item.

There were limited challenges experienced during data collection because the research procedure and criteria were tested through a pilot study that was conducted between 23rd June and 8th July 2020. The study questionnaire was pretested among 28 pilot study respondents. Based on the pilot study results, several questionnaire items in the main study's questionnaire had to be reworded after the pilot study results showed that the respondents did not well understand the items. The pilot study also showed that there was a need to remove some items, make some more understandable, and make some minor adaptions in the electronic questionnaire to ensure that the design works as desired.

5. Sampling strategy and respondents' behaviour

5.1 Sampling Strategy

This section discusses challenges that were encountered with the strategy that was used to recruit and source potential respondents for the study, and how those were mitigated. It also discusses the sampling technique that was used to select respondents who were eligible to participate in the study. Lastly, the section discusses the behaviour of respondents associated with how they answered the questionnaire items.

5.1.1 Sampling frame

Four industries within the services sector were selected for the study. These included engineering, hospitality and tourism, government, and business services. All organisations in the sample were stratified by the industry they operated in. The organisation's email addresses were randomly drawn from the phonebook of Botswana Telephone Cooperation Limited and the website of Hospitality and Tourism Association of Botswana to develop a sampling frame.

5.1.2 Sampling technique

The study used disproportionate stratified sampling to select respondents. This sampling technique ensured that the sample design was heterogeneous and representative of the study population (Mutoko & Kapunda, 2017; Rahi, 2017; Sabiote et al., 2012). When using disproportionate stratification, the sampling fractions from one stratum to another were varied (Mutoko & Kapunda, 2017).

The disproportionate stratified sampling technique that was used was interlocking. First, a simple random sampling technique, which is a probability sampling technique, was used to select organisations from the sampling frame. A simple random sampling technique was used because probability sampling performs better in yielding a sample that is representative of the study population when compared to other sampling techniques (Dutwin & Buskirk, 2017). Table 3 shows the distribution of respondents by type of organisation they worked in.

Table 3: Number of respondents by type of organisation

Type of organisation	Number of respondents	Percentage
Government (Ministry, Department or Unit)	24	12.83%
Parastatal	45	24.06%
Private company	105	56.15%
Non-governmental organisation	7	3.74%
Other (please specify)	6	3.21%
Total	187	

After selecting organisations, a purposive sampling technique was used to select experienced employee selection decision makers to participate in the study. This sampling technique was used for relevance because respondents needed to be experienced employee selection decision makers. The purposive sampling technique was relevant for testing the study's theory, Cognitive Experiential Self Theory (Epstein et al., 1992), which assumes that the decision maker's experience influences the use of cognitive processes of decision-making.

Not all organisations in the sampling frame participated in the study. Some organisations that were sent invitations by email opted out and did not allow the researcher access to respondents. This affected representation of organisations in the engineering, government as well as hospitality and tourism sectors. The data will have to be tested for skewness, to assess how non-random and low response for those sectors will have any effect on the study results.

5.1.3 Sample size

The study's realised sample is 203 respondents. Even though the planned sample size of 385 respondents was not achieved, the study's realised sample size of 203 respondents exceeded the expected sample size of 135 respondents.

5.1.4 Recruitment of respondents

The next step after sampling organisations to participate in the study was applying for a research permit and negotiating access to potential respondents. The contact persons or organisational representatives linked the researcher with potential respondents to facilitate data collection are called gatekeepers (Crowhurst, 2013; Singh & Wassenaar, 2016; Walker & Read, 2011).

Since the Republic of Botswana research permit stated that a research permit had to be sought from the government Ministries responsible for coordinating the activities related to the research topic (the Republic of Botswana, 2004), three Government Ministries were purposively sampled for the study. These included a Ministry responsible for matters relating to Public Administration. The second one was the Ministry responsible for Employment Labour Productivity. The last one was the Ministry responsible for the hiring of Accountants working in for the Government.

During the time of requesting a research permit, it was observed that while the gatekeepers in some Government Ministries were effective in processing the research permit, others were obstacles. For example, the application for a research permit at the Ministry responsible for the Management of Public Service issued a research permit within a week of applying for the permit.

i. First Ministry

After getting a permit from this first Ministry, the researcher requested access to respondents at one of the Ministries Directorates. At a meeting held between the Directorate's three highly ranking Officials and the researcher, which was held at their offices, the researcher was informed of the process that the Government uses when making employee selection. They explained that even though their Directorate was mandated to oversee the human resource activities for the Government, some human resource functions such as employee selection were decentralised to Government Ministries and Departments. It was reported that the Directorate remained with the responsibility of human resource policy formulation, provision of guidance to Government Departments on the implementation of human resource policies, conducting monitoring and evaluation of policies and overseeing other human resource activities besides employee selection.

The Ministry's officials further explained that even though their Directorate had experienced human resource practitioners, they could not participate in the study because with their shift in the mandate, they do not make employee selection decisions for Government Departments. In addition, the Government officials explained that when any Ministry has a vacancy to be filled by a fresh graduate, the Ministry submits a request to this Directorate, detailing the person specifications that the job candidate must fit.

Upon receiving this request from the Ministry or Government Department, the Directorate's Officials search for a candidate who closely fits the specifications from the National Graduate Database and submits the name and academic documents of the job candidate to the requesting Ministry. The National Graduate Database acts more like a recruitment pool. The employee selection is done by the requesting Ministry. It was explained that the requesting Ministry has an option of offering the job or rejecting the recommended candidate. They further explained that promotions of already employed staff are handled by the Ministries' Promotion Boards.

Despite low responses having been received from the Government sector, the explanation on how employee selection is done in Government Departments, which was provided by the Directorate's Officials shows that the process follows a rationality approach because the job offers are made to job candidates who fit the requirements of the job. The employee selection process implementers in the Government sector are more than one person. This shows that the employee selection process used in the Government Department is rational.

This observation was not surprising because the uniqueness of this sector is that the sector is self-regulating and leaves little room for flexibility in the implementation of the bureaucratic employee selection decision-making process. An in-depth analysis of results will show the levels of intuitive decision-making styles of the few employee selection decision makers from the Government sector, who participated in the study.

ii. Second Ministry

The gatekeepers at another Ministry were Public Relations Officers. They denied the researcher access to the Ministry Management and potential respondents and did not give her the research permit. Despite having shown those gatekeepers the research permit granted by the Republic of Botswana through its Ministry of Tertiary Education, Research, Science and Technology, the research proposal, ethical clearance letter and letter of endorsement from the researcher's training institution, the Government Officials responsible for issuing research permits informed the researcher that they did not understand what the research was about, and as such could not issue a permit. When the researcher requested a meeting with Senior Officials or human resource practitioners in that Ministry, she was informed that those were already contacted and had agreed that the purpose of the study and the research methodology was not clear.

The observation made when requesting access at this Ministry is that instead of the gatekeepers at this Ministry engaging the researcher further to clarify the research purpose and the method that would be used to collect data, they decided not to grant her access. The behaviour of gatekeepers at this Ministry supports Bertelli's (2016) argument that the extent to which bureaucrats feel in control of their surroundings affects their effort levels and their behaviour consequently affects policy implementation.

iii. Third Ministry

A letter requesting for research permit was submitted to the last Ministry, which was responsible for hiring Accountants that work for the Government. That same letter requested the Ministry to grant the researcher access to its employees who play a role in employee selection decision-making, for research purpose.

Before issuing the research permit, an official from the Ministry, who worked in the Training and Development Department of the Ministry, called the researcher to enquire if she was one of their employees who is furthering her studies, or whether she was an external researcher. It was explained to the researcher that the Ministry had two separate processes for issuing research permits, one for the Ministry's employees and another one for external researchers. The researcher informed the Ministry official that she was an external researcher. Since the researcher was not an employee at that organisation, it was explained that the application for a research permit was to be approved by higher ranking Management officials.

The experience with the third Ministry was that even though the researcher was given the researcher a permit, the permit was issued for a brief period. Unlike the other Ministry, the issuance of a research permit by this Ministry took more than two months. Furthermore, according to that research permit, the researcher was granted permission to collect data within only five days from the date of receiving the letter. The research permit stated that when the five days lapses, the permit would expire, and should the researcher wish to continue collecting data from the employees, she was to re-apply for a new permit.

When requesting contact details for potential respondents, the Ministry officials stated that they could not give the researcher emails of their employees. The researcher was given office telephone numbers instead. She had to call the potential respondents to invite them to verbally participate in the study and request for email addresses of those who would be willing to participate. The researcher proposed to share the web link for accessing the questionnaire, which could be shared with employees. However, the Ministry Authorities did not accept the

proposal because they said it may be interpreted by some employees that the Ministry was recruiting them to participate on behalf of the researcher. Figure 3 shows responses generated from employees of the Ministry that issued the researcher a five-day permit.

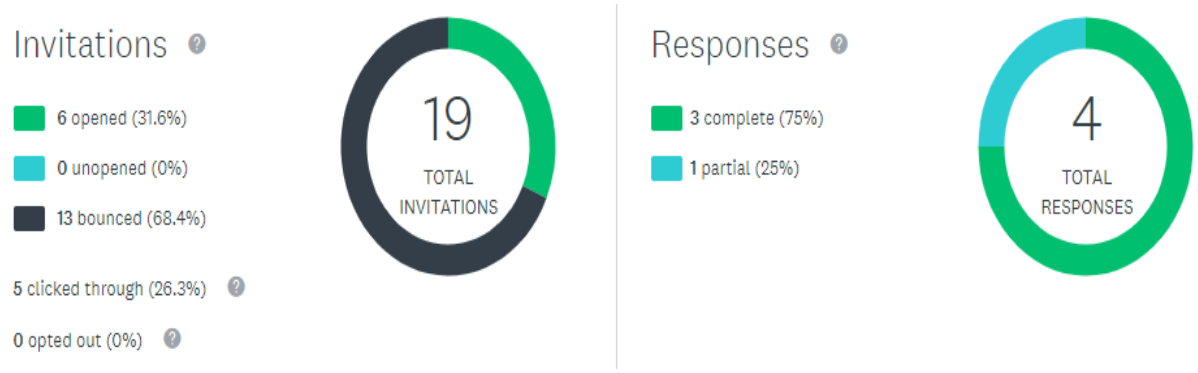

Figure 3: Responses generated from one Government Ministry

From the thirty (30) telephone numbers that were given to the researcher, the researcher managed to get hold of 19 potential respondents. Those contacted telephonically agreed to participate in the study and gave the researcher their email address. The 19 potential respondents were sent email invitations to participate in the study. The data shows that out of nineteen (19) emails that were sent, all six (6) emails that were delivered were opened, while thirteen (13) emails bounced. A total of 4 responses were received, 3 were completed fully and 1 was partially completed. The response rate from this Ministry is good because it is 4 out of 6 (66.67%).

Accessing data sources is a prerequisite for any research process (Seymour & Ingleton, 1999). However, it remains a challenge to social researchers (Singh & Wassenaar, 2016). There were challenges associated with accessing potential respondents who work in Government Departments. It was observed that the Government Ministries had strict procedures and protocols to access employees who were potential respondents, which the researcher had to comply with.

Moreover, requesting for access from Government Ministries and Departments was not a once off activity, and that having been granted access by one gatekeeper, in this case, the Ministry responsible for tertiary education and research, did not exclude the researcher from negotiating access with gatekeepers positioned at organisational or departmental levels. The researcher's experience gained from the process of seeking access to data sources through employers is that “gaining access should be regarded as an ongoing process that is negotiated at each level of contact” (Crowhurst, 2013, p. 465).

It was observed that the process of negotiating access from Government Departments, which had several gatekeepers at various levels, was a lengthy ethical approval process and it was time-consuming. The researcher's experience was not unique from those of some researchers who are of the view that the process of negotiating access is tedious and time-consuming (Singh & Wassenaar, 2016). The extreme social distancing measures that were instituted by the Botswana Government as a response health measure to mitigate the spread of COVID-19 negatively affected the turn-around-times for approval of requests for research permits which were submitted to Ministries. This had implications for the study because data had to be collected within a specified period.

Some researchers (Singh & Wassenaar, 2016; Walker & Read, 2011) lament that gatekeepers can facilitate or bar access to potential respondents. Some gatekeepers in one Ministry denied the researcher access to potential respondents. Literature records that where gatekeepers deny the researcher access, it is advisable to look for potential respondents elsewhere or revise the research plans (Berg, 2009; Blaxter, Tight, & Hughes, 2010; Crowhurst, 2013).

This advice was adopted by exploring alternative avenues for sourcing potential respondents from the Government Ministries or Departments. The researcher recruited Government Officials in decision-making positions from LinkedIn and sent them invitations to participate in the study. This improved the response rate because 21 additional responses were received from respondents who accessed the questionnaire through a web link. In total, the study received 24 responses from the Government Ministries and Departments.

iv. Other Organisations

On the 25th of August 2020, an invitation was sent to organisations by email asking them to participate in the study. The study collected 32 responses from this first email collector.

The limitation with the data obtained by this email collector is that while it contained organisational email addresses, it also included emails of four individuals who were sent a weblink to access the questionnaire but requested that the questionnaire be sent to them by email instead. The lesson learned from the study which future studies should take into consideration is that when online questionnaires are developed on SurveyMonkey, separate email collectors should be developed for invitations sent to organisations and another for individual potential respondents. This strategy will facilitate the monitoring of trends in responses received from organisations and individuals.

A challenge associated with the difficulty in accessing the employees who are the unit of analysis for the study was not only experienced in the Government sector but the hospitality and tourism sector as well. Organisation representatives of most of the organisations within the hospitality and tourism sector, who were contacted through the telephone, stated that they were not interested in participating in the study. Some who received the email invitations opted out. The denial of research access by gatekeepers impacted this sector.

Even though Baruch and Holtom (2008) stated that sending questionnaires by email was one of the effective ways in improving the response rate, this was not the case with this study. The responses received by the email collector in the two months were too low. A low response rate when sending the questionnaire by email observation was also made in the pilot study.

To address the low response, the researcher adopted another modality of recruiting and sending questionnaires to potential respondents. Potential respondents were recruited from LinkedIn. There are two reasons why LinkedIn was the most suitable platform for recruiting study respondents. First, LinkedIn is an online labour market and previous studies that examined people's judgements and decisions sourced respondents from the online labour market (Owens & Hawkins, 2019). The use of the online labour market was supported because the study focused on employee selection decision-making. The use of LinkedIn is reported to be growing exponentially, especially its use in recruitment and selection processes (Hunt, 2014; Koch, Gerber & Klerk, 2018; Nikolaou, 2014). The second reason why the study respondents were sourced from LinkedIn is that the platform had qualified employee selection decision makers who were the target subpopulation of the LinkedIn population that was needed for the study.

The potential respondents were sent invitation messages with a weblink for the questionnaire directly to their LinkedIn inboxes, which could only be accessed by the account holders. For ethical consideration, potential respondents were not given anything to incentivise them. Figure 4 shows the number of responses that were generated by the weblink collector is 216.

Figure 4: Number of responses generated through a weblink

The number of responses received from both collectors shows that in this study, sending and accessing the questionnaire through a web link was more effective than an email. This could be attributed to two things. Firstly, it could be because organisations were not willing to share the contact details of their employees with the researcher but preferred to share the weblink with them so that whoever wants to participate in the study could do so.

Secondly, the high response rate observed in the weblink collector could be because most respondents were recruited directly from LinkedIn, which is a crowdsourcing social media platform commonly used for human resource activities (Hunt, 2014; Koch, Gerber & Klerk, 2018; Nikolaou, 2014). In addition, the web link allowed the respondents the flexibility to participate in the study even outside working hours as reflected by the times the responses were received.

Recruiting potential respondents directly from LinkedIn eliminated the hurdle of going through the employers for a study that is not intrusive and did not require organisational information were minimised. Moreover, it reduced the risks of denying the researcher a research permit or even access to potential respondents because consent was obtained directly from the data sources.

The benefits of sourcing respondents from social media identified by previous researchers (Koch, Gerber & Klerk, 2018, Hunt, 2014), were supported in the study. The use of social media to access online respondents was beneficial to the study because they could be accessed fast, they provided their responses quickly after receiving access to the questionnaire weblink, and the strategy was inexpensive (Koch, Gerber & Klerk, 2018, Hunt, 2014) compared to accessing potential respondents through their employers.

The differences in the number of responses received from using a web link and email need further exploration by future studies. This research opportunity has also been found by Koch, Gerber, and Klerk (2018), who stated that there is a need to research the use of emerging technology such as social media to acquire an understanding of its value to recruitment.

Data collection for the study adopted a pure online questionnaire approach. This meant that there was no option for respondents to participate via a paper-and-pencil version of the survey. Consequently, potential respondents without access to a computer or a smartphone and internet connection were excluded from participating in the study. Even though adopting a hybrid approach would have improved the response rate, an online questionnaire was suitable

for use in the study because its automation allowed for capturing the time that respondents took to complete the questionnaire.

Furthermore, using an online questionnaire for data collection did not need the intervention of the researcher as it would have been the case had a classical experiment was been conducted in a controlled environment (Toplak, West, Stanovich, 2017; Winch & Maytorena, 2009). This has contributed to the quality of the collected data because the data is value-free and it is unbiased (Wahyuni, 2012). In studies that follow a positivist philosophy, collecting value-free and unbiased data contributes to the quality of quantitative study results (Al-Habil, 2011; Antwi & Hamza, 2015; Rahi, 2017; Wahyuni, 2012; Yilmaz, 2013).

5.2 Respondent behaviour

This section discusses the response burden, the response behaviour, and item non-response. It also outlines the insights into the response volume.

5.2.1 Response burden

Data were collected in one session. The data shows that on average, the typical time which respondents took to complete the questionnaire is 12 minutes 22 seconds. Out of the 203 responses that will be analysed, 156 were complete questionnaires. The high response rate shows that the response burden from the research method and the length of the questionnaire that was used to collect data were reasonable.

5.2.2 Response behaviour

Data was collected from 252 respondents. Out of the 252 respondents, a total of 49 questionnaire responses were discarded for several reasons. Out of the 49 that were disqualified because they did not meet the selection criteria, 4 did not give consent to participate in the study while 37 did not have experience in employee selection decision-making. The last 8 out of the 49 responses were discarded because even though the respondents met the selection criteria, they withdrew before providing the required data for the study constructs. Therefore, the remaining questionnaires for data analysis were 203. Of the 203 questionnaires, 156 (76.8%) were completed fully. The rest (47) are partially completed. Table 4 summarises the response behaviour statistics.

In this study, some gatekeepers at some organisations reported that their organisations did were not interested in participating in the study. As a result, they did not give the researcher access to potential respondents. Even though the response rate was good, it could have been higher had it not been for some gatekeepers. Table 4 presents the response behaviour.

Table 4: Response behaviour

Response behaviour	**Number of responses**
Total responses received	252
Number of discarded responses	49
iv. No consent for participating in the study – 4	
v. No experience in employee selection decision-making – 37	
vi. Met selection criteria but withdrew after the pre-study screening – 8	
Total responses for analysis	203
iii. Fully completed questionnaires – 156	
iv. Partially completed questionnaires – 47	
Response behaviour (Total responses for analysis/Total responses received)	80.6%
Response rate (Total responses for analysis/Total questionnaires sent out to potential respondents)	52.73%

The statistics above indicate a positive response from the respondents. The adopted strategies that led to this good response include making telephone follow-ups and sending email reminders. Conducting pre-study screening also improved the collection of usable responses (Cycyota & Harrison, 2006; Hunt & Scheetz, 2019).

5.2.3 Item non-response

The item non-response rate for the study was low (26.07%). These results were achieved because many questionnaire items required an answer. SurveyMonkey was set such that in cases where the respondents skipped mandatory questionnaire items, a message would be displayed on the screen to show the respondents the question that was not answered. The observation made is that the item non-response rate increased with questions items from the beginning to the end of the questionnaire. It is assumed that this trend was observed because

respondents were informed that they could withdraw at any time of the study and that there would be no penalty for withdrawing their participation.

5.2.4 Response volume

Data was collected between the 21st of August and the 20th of October 2020. The observations made in the number of responses received by the month shows that 90 responses were received in August, 133 in September and 29 were received in October 2020. The data shows that more responses were collected within September 2020.

6. Descriptive Statistics

IBM SPSS Version 26 was used to run the descriptive statistics presented in this section. This section addresses the physical characteristics of respondents. This section discusses the descriptive statistics for the sample's demographic information to confirm that there are no errors in the data file. Specifically, the descriptive statistics are analysed to gain confidence that the data generated was unbiased so that the results can be generalised to the study universe. The descriptive statistics presented in this section include percentages, histograms and normality distribution curve, a test of Skewness and Kurtosis, as well as a Test of normality and lastly a Normal Q-Q Plot.

6.1 Demographic information - Gender

Since gender is a categorical variable, the descriptive statistics in this section include numbers and percentages. The sample comprised 106 males and 97 females. This confirms that the sample was gender-balanced. Table 5 shows the frequencies for gender characteristics. The percentages in Table 5 shows a small difference between the number of females and males who participated in the study.

Table 5: Gender characteristics of the sample

		Frequency	Percent
Valid	Female	97	47.8
	Male	106	52.2
	Total	203	100.0

Some previous related studies that used online experimental methodologies shown in Table 6, did not state the gender composition of the sample. The uniqueness of the data generated by the study is that the gender composition of the sample is known. The sample of the study compares to that of Roulin and Bhatnagar (2018), which also had a gender-balanced sample.

Table 6: Sample sizes and gender characteristics of the sample for employee selection studies that used experimental research design

Source	Sample size and demographic characteristics of the sample
1. Carnes et al. (2019)	N = 28 recruiters and 229 job applicants (Gender characteristics of the sample not stated).
2.DeCarlo et al. (2015)	N = 102 participants comprising of 43 undergraduate students and members of the national management association. 44 of these were managers. (Gender characteristics of the sample not stated).
3.Olsen & Martins (2014)	N = 84 participants, who were undergraduate students (39.3% females and 60.7% males) enrolled in upper-level management courses.
4. Roulin & Bhatnagar (2018)	N = 265 comprising of 122 Canadian business students and 143 online U.S. participants with hiring experience. (The sample comprised 49% females and 51% males)
5. Stone and Stone (1987)	N = 188 participants (119 men and 69 women), whose work involved employee selection.

(Source: Author)

6.2 Demographic information – Age

Since age is a continuous variable, several statistical tests have been run to confirm any risks for testing the study theory, which may be associated with the age of people who participated in the study. The sample descriptive statistics for this variable are statistically described using descriptive statistics, a histogram that shows a normal distribution curve for the respondents' age, tests of Skewness and Kurtosis, Tests of normality and lastly Normal Q-Q Plot.

The sample that was used sourced for the study comprises employee selection decision makers of varying ages. The data shows that the sample has both young and old people. A comprehensive analysis of the respondents' year of birth shows that the oldest person who participated in the study was born in 1956 while the two youngest respondents were born in 1996. This means that the age range for people who participated in the study is 40 years. The descriptive statistics in Table 7 show the number of extreme cases in terms of the age of people who participated in the study.

Table 7: Extreme values of the respondents' age

			Case Number	Value
In what year were you born? (Enter the 4-digit birth year; for example, 1979)	Highest	1	1	1996
		2	2	1996
		3	3	1995
		4	4	1995
		5	5	1995
	Lowest	1	202	1956
		2	201	1958
		3	200	1958
		4	199	1961
		5	198	1962

The data shows that most people who participated in the study were born between 1979 and 1996 as shown by the median and mean of the graph. This can be explained partly by an observation that most respondents were sourced from LinkedIn. Most young people compared to elderly people use social media including LinkedIn (Roulin & Bhatnagar, 2018).

Figure 5 is a histogram that shows the sample's normal distribution curve in terms of the year the respondents were born.

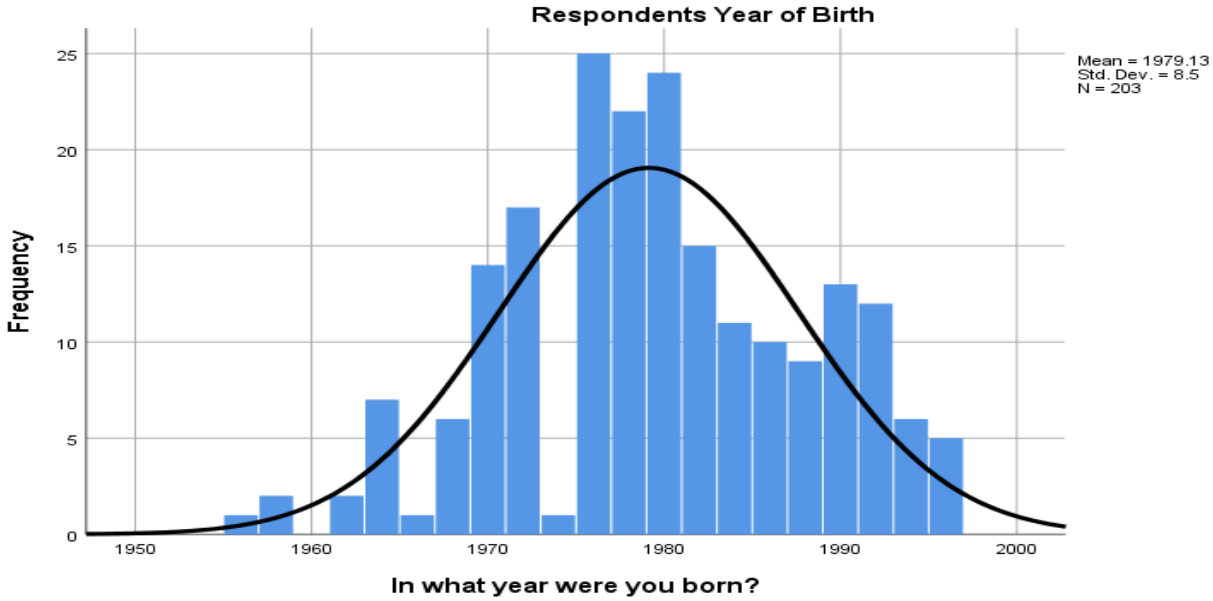

Figure 5: Normal distribution curve of the respondent's year of birth

Based on the shape of the normal distribution curve in Figure 5, we can assume that the sample is normally distributed. However, the graph shows that the distribution is not perfect because it is negatively skewed to the right and it kurtotic. To measure the extent of the level of Skewness and Kurtosis, statistical tests were run for the respondents' age and the results are shown in Table 8.

Table 8: Descriptives for respondents' age

			Statistic	Std. Error
In what year were you born? (Enter the 4-digit birth year; for example, 1979)	Mean		1979.13	.597
	95% Confidence Interval for Mean	Lower Bound	1977.95	
		Upper Bound	1980.30	
	5% Trimmed Mean		1979.29	
	Median		1979.00	
	Variance		72.251	
	Std. Deviation		8.500	
	Minimum		1956	
	Maximum		1996	
	Range		40	
	Interquartile Range		12	
	Skewness		-.136	.171
	Kurtosis		-.378	.340

The information on the stable shows a Skewness measure of -.136 with a standard error of.171. The Skewness test confirms that many respondents for the study were 41 years and below because as Table 8 shows, the mean is the year 1979. Since the desired skewness is 0 (Pallant, 2016), and the *z* value for Skewness is -.795 (-.136/.171), which is close to 0, the Skewness of the data does not pose any risk for data analysis.

The Kurtosis measure of -.378 and a standard error of.171. Therefore, the *z* value for Kurtosis is -11.12 (-.378/.171). Even though the z measure of Kurtosis is not closer to 0, no risks are anticipated with the variance of the age of respondents because Pallant (2016) states that the risk is reduced with samples of over 200 respondents. To rule out any risks with the sample, a Test of Normality was run, and the results are presented in Table 9.

Table 9: Tests of Normality results

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
In what year were you born? (Enter the 4-digit birth year; for example, 1979)	.062	203	.053	.984	203	.022

a. Lilliefors Significance Correction

According to Pallant (2016), a non-significant result of Kolmogorov-Smirnov statistic is a significance value of more than.5. The results of the Kolmogorov-Smirnov statistic for this study show that even though the age of respondents is Kurtotic, a Kolmogorov-Smirnov value is non-significant because the significance value is.053.

To confirm the normality of the sample as shown by the Kolmogorov-Smirnov significance value presented above, a Normal Q-Q plot for the year in which respondents were born is shown in Figure 6. The graph shows that the data are approximately normally distributed since there are very few cases falling outside the range. The distance of the outliers is insignificant. However, they present an opportunity for further exploring to contribute to the theory that the study is testing.

Figure 6: Normal Q-Q plot for respondents' age

6.3 Respondents experience in employee selection decision-making

All respondents for the study had experience in employee selection decision-making. Table 10 shows that out of the 187 who responded to this questionnaire item, 156 (83.4%) of the respondents had made employee selection at least four times. This finding is desirable for the study because Cognitive Experiential Self Theory (Epstein et al., 1992) assumes that the decision makers experience affects the cognitive process used for decision-making. The study will show whether the levels of respondents intuitive decision-making style predict their use of the Take-the-best Heuristic when making employee selection decisions.

Table 10: Respondents experience in employee selection decision-making

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 – 3	31	15.3	16.6	16.6
	4 – 12	62	30.5	33.2	49.7
	13 – 24	33	16.3	17.6	67.4
	25 – 35	16	7.9	8.6	75.9
	≥ 36	45	22.2	24.1	100.0
	Total	187	92.1	100.0	
Missing	System	16	7.9		
Total		203	100.0		

Additionally, the stratification of our sample shows that there were more respondents from private organisations than from other types of organisations. Figure 7 shows the number of responses received per organisation type.

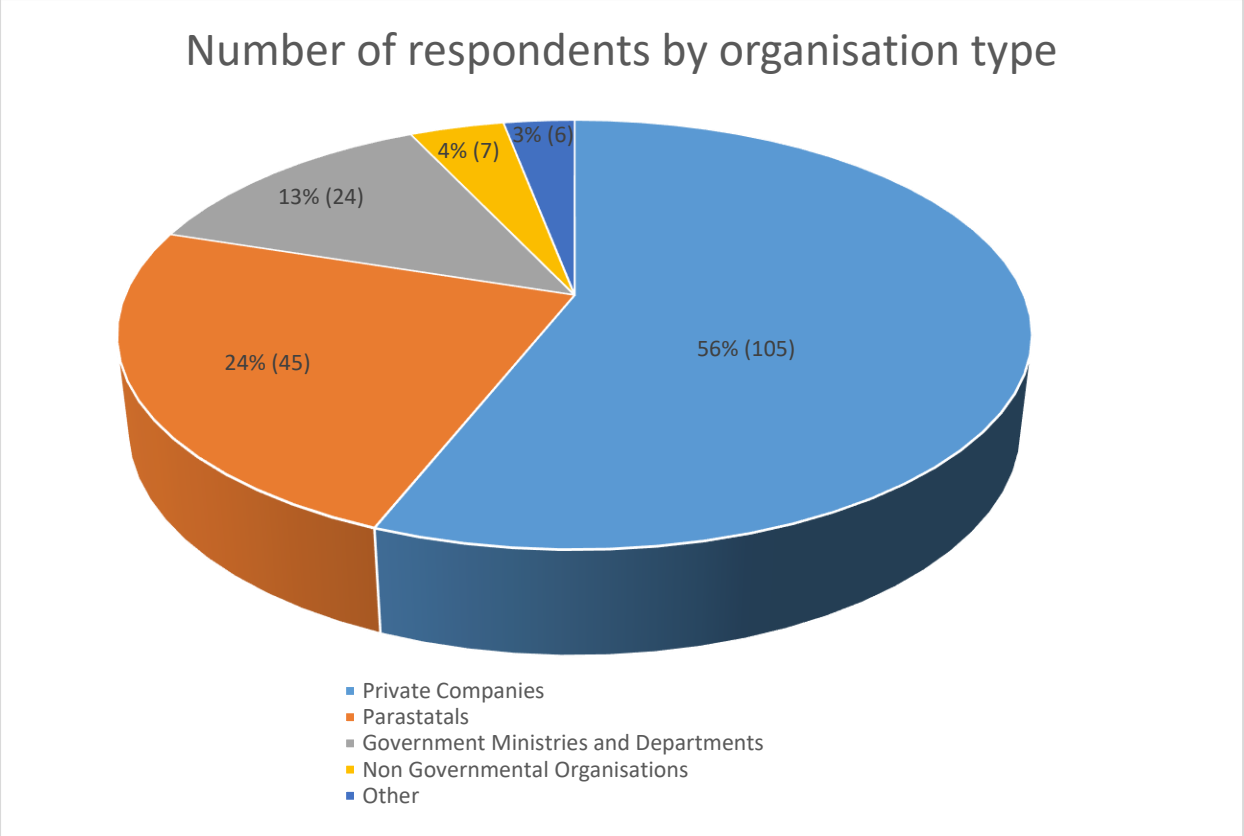

Figure 7: Organisation types that respondents work for

Respondents who chose other for the questionnaire item that requested them to indicate the type of organisations they work for revealed that 2 were retired, 1 was currently unemployed, 1 worked in a regulatory body for engineers, 1 owned a one-man business and the other one worked for the government and has a private business. The data in Table 11 below also shows that the respondents held different positions at their workplaces

Table 11: Respondents positions at work

Positions	**Number of respondents**	**Percentage**
Managing Director/ Chief Executive Officer	23	12.30%
Executive Director	20	10.70%
Senior Manager	36	19.25%
Middle Manager	58	31.02%
Senior Officer	12	6.42%
Executive Director in Human Resources Management	4	2.14%
Human Resource Manager	10	5.35%
Human Resource Officer	24	12.83%
Total	**187**	

7. Conclusion and Outlook

A general conclusion that can be made from the study's data collection effort is that this research milestone was conducted successfully because it was completed within the set time limit. This was facilitated using time-saving strategies discussed previously in section 5 of this report. Six key observations were made during data collection.

Firstly, organisations have different protocols and procedures for applying for research permits, negotiating access to respondents and ethical clearance. Some processes negatively affect the response rate and time planned for data collection, while some ethical clearance processes are efficient and effective. As argued by Crowhurst (2013), negotiating access for data collection was not a once of activity in this study.

Secondly, since the study was cross-sectional, data was collected in a single phase. This reduced the response burden. Consequently, this increased the study's response rate. It was observed that most respondents completed the questionnaire fully and a few partially completed responses were received.

Thirdly, using an interlocking disproportionate stratified sampling technique yielded a heterogeneous sample that was representative of the study universe. The sampling technique used also yielded a sample that was relevant for the theory anchoring the study, this sampling technique also yielded a sample that was relevant to Cognitive Experiential Self Theory (Epstein et al, 1992), the study's theoretical lens, which assumes that the decision maker's experience influences the cognitive process they use. The characteristics of the sample are evident that the data collected is of good quality. This will promote the generalisability of results to the study universe. The sampling strategy used contributed to having a sufficient sample size of 203 respondents against the expected sample size of 135 respondents.

Fourthly, the study's sample characteristics compare to samples of previous related studies, because it was heterogenous and is gender-balanced. The sample of the study is gender-balanced. The ages of the respondents are normally distributed. Lastly, since all the respondents were experienced employee selection decision makers, this has contributed to the quality of the data that has been collected. Moreover, the data collected is credible and sufficient for testing the theory conceptualised in the research plan.

The fifth observation is that using email and weblink collectors for a study whose level and unit of analysis is individuals, a study that did not require organisational information, improves the response rate. However, the data collected revealed that collecting data using a web link was more efficient and effective than email.

Lastly, conducting an online experimental vignette methodology through a software that has capabilities for manipulation and randomisation improved the quality of the data. In return, this improved the internal and external validity of this experimental vignette designed the study.

Data collection will be followed by conducting a comprehensive analysis of the data to gain insights into the effects of Uncertainty Avoidance in the relationship between Intuitive Decision-making and Take-the-best Heuristic Use. It is planned that the hypothesis that Intuitive Decision-making predicts Take-the-best Heuristic Use will be tested first. Thereafter, the hypothesis about the moderation effect of Uncertainty Avoidance on that relationship will be tested.

The study results will contribute knowledge that will help us better understand the effect of Uncertainty Avoidance on the process of employee selection decision-making. Practically, the study will contribute knowledge that will benefit policymakers and human resource practitioners, which will be used to develop organisational policies that will improve the quality of employee selection decisions.

8. References

Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods*, *17*(4), 351–371. https://doi.org/10.1177/1094428114547952

Al-Habil, W. I. (2011). Positivist and phenomenological research in American Public Administration. *International Journal of Public Administration*, *34*(14), 946–953. https://doi.org/10.1080/01900692.2011.615554

Antwi, S. K., & Hamza, K. (2015). Qualitative and quantitative research paradigms in business research: A philosophical reflection. *European Journal of Business and Management*, *7*(3), 217–225.

Atzmüller, C., & Steiner, P. M. (2010). Experimental vignette studies in survey research. *Methodology*, *6*(3), 128–138. https://doi.org/10.1027/1614-2241/a000014

Bertelli, A. M. (2016). Bureaucratic Autonomy in the U.S. Separation of Powers: Evidence from Cabinet Departments. *Public Organization Review*, *16*(1), 139–151. https://doi.org/10.1007/s11115-014-0300-0

Besedeš, T., Deck, C., Sarangi, S., & Shor, M. (2015). Reducing choice overload without reducing choices. *The Review of Economics and Statistics*, *97*(4), 793–802. https://doi.org/10.1162/REST

Bromiley, P., Mcshane, M., Nair, A., & Rustambekov, E. (2015). Enterprise risk management: Review, critique, and research. *Long Range Planning*, *48*(4), 265–276. https://doi.org/10.1016/j.lrp.2014.07.005

Byrne, K. A., & Worthy, D. A. (2015). Gender differences in reward sensitivity and information processing during decision-making. *Journal of Risk and Uncertainty*, *50*(1), 55–71. https://doi.org/10.1007/s11166-015-9206-7

Calabretta, G., Gemser, G., & Wijnberg, N. M. (2017). The interplay between intuition and rationality in strategic decision-making: A paradox perspective. *Organization Studies*, *38*(3–4), 365–401. https://doi.org/10.1177/0170840616655483

Carnes, A. M., Knotts, K. G., Munyon, T. P., Heames, J. T., & Houghton, J. D. (2019). Think fast: The role of thin slices of behavior in employee selection decisions. *International Journal of Selection and Assessment*, *27*(4), 357–370. https://doi.org/10.1111/ijsa.12257

Chen, L.-H., & Chancellor, H. C. (2019). Examining attitudes toward bicycle-share program use: A dual-process theory approach. *Transportation Research Part F: Psychology and Behaviour*, *62*, 769–781. https://doi.org/10.1016/j.trf.2019.03.007

Cole, C. A., & Balasubramanian, S. K. (1993). Age differences in consumers' search for Information: Public policy implications. *Journal of Consumer Research*, *20*(1), 157. https://doi.org/10.1086/209341

Crowhurst, I. (2013). The fallacy of the instrumental gate? Contextualising the process of gaining access through gatekeepers. *International Journal of Social Research Methodology*, *16*(6), 463–475. https://doi.org/10.1080/13645579.2013.823282

Dabić, M., Tipurić, D., & Podrug, N. (2015). Cultural differences affecting decision-making style: a comparative study between four countries. *Journal of Business Economics and Management*, *16*(2), 275–289. https://doi.org/10.3846/16111699.2013.859172

Epstein, S., Lipson, A., Holstein, C. and Huh, E. (1992), "Irrational reactions to the negative outcome: evidence for two conceptual systems", Journal of Personality and Social Psychology, 62, 328-39.

Henard, D. H., & McFadyen, M. A. (2005). The complementary roles of applied and basic research: A knowledge-based perspective. *The Journal of Product Innovation Management*, *22*, 503–514.

Hunt, N. C., & Scheetz, A. M. (2019). Using MTurk to distribute a survey or experiment: Methodological considerations. *Journal of Information Systems*, *33*(1), 43–65. https://doi.org/10.2308/isys-52021

Koch, T., Gerber, C., & De Klerk, J. J. (2018). The impact of social media on recruitment: Are you Linkedin? *SA Journal of Human Resource Management*, *16*, 1–15. https://doi.org/10.4102/sajhrm.v16i0.861

Lodato, M. A., Highhouse, S., & Brooks, M. E. (2011). Predicting professional preferences for intuition-based hiring. *Journal of Managerial Psychology*, *26*(5), 352–365. https://doi.org/10.1108/02683941111138985

Owens, J., & Hawkins, E. M. (2019). Using online labor market participants for nonprofessional investor research: A comparison of mturk and qualtrics samples. *Journal of Information Systems*, *33*(1), 113–128. https://doi.org/10.2308/isys-52036

Pallant, J. (2016). *SPSS survival manual* (6th edn.). New York, NY: McGraw-Hill.

Phatshwane, P. M. D., Mapharing, M., & Basuhi, E. J. (2014). Attitudes towards business ethics held by Accountancy and Finance students in the University of Botswana. *International Journal of Business and Management*, *9*(2), 17–29. https://doi.org/10.5539/ijbm.v9n2p17

Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, *06*(02), 1–5. https://doi.org/10.4172/2162-6359.1000403

Republic of Botswana. (2004). No Title. *Guidelines for Application for Research Permit*, *Draft*.

Rhodes, N., & Pivik, K. (2011). Age and gender differences in risky driving: The roles of positive affect and risk perception. *Accident Analysis and Prevention*, *43*(3), 923–931. https://doi.org/10.1016/j.aap.2010.11.015

Roulin, N., & Bhatnagar, N. (2018). Smoking as a Job Killer: Reactions to Smokers in Personnel Selection. *Journal of Business Ethics*, *149*(4), 959–972. https://doi.org/10.1007/s10551-016-3101-2

Ryan, A. M., Reeder, M. C., Golubovich, J., Grand, J., Inceoglu, I., Bartram, D., … Yao, X. (2017). Culture and testing practices: Is the world flat? *Applied Psychology: An International Review*, *66*(3), 434–467. https://doi.org/10.1111/apps.12095

Sabiote, C. M., Frías, D. M., & Castañeda, A. J. (2012). The moderating effect of uncertainty avoidance on overall perceived value of a service purchased online. *Internet Research*, *22*(2), 180–198. https://doi.org/10.1108/10662241211214557

Singh, S., & Wassenaar, D. R. (2016). Contextualising the role of gatekeepers. *South African Journal of Bioethics and Law, 9(1),* 42-46.

Steiner, P. M., Atzmüller, C., & Su, D. (2017). Designing valid and reliable vignette experiments for survey research: A case study on the fair gender income gap. *Journal of Methods and Measurement in the Social Sciences*, *7*(2), 52–94. https://doi.org/10.2458/v7i2.20321

Verma, V. K., Chandra, B., & Kumar, S. (2019). Values and ascribed responsibility to predict consumers' attitude and concern towards green hotel visit intention. *Journal of Business Research*, *96*(November 2018), 206–216. https://doi.org/10.1016/j.jbusres.2018.11.021

Wahyuni, D. (2012). The research design maze: understanding paradigms, cases, methods and methodologies. *JAMAR*, *10*(1), 69–80.

Winch, G. M., & Maytorena, E. (2009). Making good sense: Assessing the quality of risky decision-making. *Organization Studies*, *30*(2–3), 181–203. https://doi.org/10.1177/0170840608101476

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: {Epistemological}, theoretical, and methodological differences. *European Journal of Education*, *48*(2), 311–325.

Yilmaz, A. K. & Flouris, T. (2010). Managing corporate sustainability: Risk management process based perspective. *African Journal of Business Management, 4(2), 162-171.* ISSN 1993-8233.

Yoo, B., Donthu, N., & Lenartowicz, T. (2011). Measuring Hofstede's five dimensions of cultural values at the individual level: Development and validation of CVSCALE. *Journal of International Consumer Marketing*, *23*(3–4), 193–210. https://doi.org/10.1080/08961530.2011.578059

Yuan, Z., Ye, Z. & Zhong, M. (2021). Plug back into work, safely: Job reattachment, leader safety commitment, and job engagement in the COVID-19 pandemic. *Journal of Applied Psychology, 106(1)*, 62–70. https://doi.org/10.1037/apl0000860.

Zhu, Y., Chen, T., Wang, J., Wang, M., Johnson, R. E. & Jin, Y. (2021). How critical activities within COID-19 intensive care units increase nurses daily occupational calling. *Journal of Applied Psychology.106(1),* 4–14. https://doi.org/10.1037/apl0000853.

Zikmund, W. G. (2013). *Business research methods* (9th ed.). Mason, OH: Cengage Learning.

Appendix 3: Field report on the research method and respondents' behaviour

Gordon Institute of Business Science
University of Pretoria

Doctor of Philosophy

Research Title

The effect of Uncertainty Avoidance on the Relationship Between Intuitive decision-making style and Take-the-best Heuristic use in Employee Selection: A pilot study

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1. Introduction

1.2 Background for the main study

Employee selection decisions contribute to the strategic performance of organisations (Bromiley, Mcshane, Nair, & Rustambekov, 2015; Calabretta, Gemser, & Wijnberg, 2017; Luan Reb & Gigerenzer, 2019). Even though these decisions are important to organisations, they are complex (Moore, Lee, Kim, & Cable, 2017; Rashid Sambasivan, & Johari, 2003) because they are made through an inherently complex process (Hodgkinson & Sadler-Smith, 2018; Rashid et al., 2003). Part of the complexity of employee selection decisions emanates from the fact that they are made under uncertainty (Artinger et al., 2015; Connelly, Certo, Ireland, & Reutzel, 2011; Klotz et al., 2013; Luan et al., 2019). We do not know yet how these decisions are made in real life (Bolander & Sandberg, 2013). However, researchers suggest that complex decisions are a result of the decision maker's social and cultural values (Dabić, Tipurić & Podrug, 2015).

The research question for the study is 'What is the effect of Uncertainty Avoidance on the relationship between Intuitive decision-making style and Managerial Heuristic Use in employee selection?' The study will examine the moderating effect of Uncertainty Avoidance on the relationship between the Intuitive decision-making style and Managerial Heuristic Use in employee selection through an experimental vignette design study.

1.3 Rationale for performing the pilot study

A four-week pilot study was conducted as one of the important stages of the planned research project. The main objectives of the pilot study were to assess the feasibility of the study as well as design a research protocol that is realistic and workable to achieve the purpose of the main study. The pilot study tested the efficiency of the main study's research design and methodology by identifying potential problem areas or deficiencies that might have a negative impact on its success. This included determining the appropriateness of the selected research procedures and identifying practical modifications in the procedures so that the procedures that would generate the data for answering the research question.

Besides testing the research procedures, the pilot study also identified the effectiveness of the measurement instrument that will be used to collect the data for the main study. Problems associated with the design of the data collection instrument and the measurement scales were identified during the pilot study. They were corrected before the commencement of the main study.

Specific objectives for conducting the pilot study included:

i. Identify logistical problems which might occur when using the selected research design.
ii. Assess the likely success of the proposed recruitment strategy that will be used for identifying potential respondents for the main study.
iii. Establish the effectiveness of the proposed sampling technique.
iv. Test the procedure for ethical considerations.
v. Use and further develop the data collection instrument to maximise its internal validity.
vi. Test the construct validity and internal consistency reliability of the two existing measurement scales that will be used in the main study.
vii. Test the data collection method that will be used.
viii. Determine the response rate, completion rate and estimate a realistic time for completing the questionnaire.
ix. Test the adequacy of the data analysis instrument.
x. Collect and analyse preliminary data to assess the effectiveness of the proposed data analysis tests for examining the relationship between the study constructs.

2. Methods

A four-week experimental vignette design pilot study was conducted. The criteria and procedures that were used in that pilot study were carried out as outlined in the research proposal. This was meant to assess the validity of the criteria and procedures that will be applied in the main study so that their adequacy and effectiveness could be determined. The criteria and procedures included all the aspects of research such as the method of data collection, sampling, data analysis and ethical considerations. The specific objectives of the pilot study outlined in section 1.2 – Rationale for performing the pilot study, cover all the aspects that were tested when conducting the pilot study.

3. Results

This section covers the observations made on the quality of the research criteria and procedures from the pilot study. It also discusses solutions that were adopted to address problem areas or deficiencies identified in the research criteria or procedures. The solutions discussed here were trialled during the pilot study to validate their effectiveness. Additionally, this section reports information on the primary and secondary outcomes, such as the descriptive statistics for the pilot study sample, the internal consistency reliability alpha scores for the two existing scales that will be used in the main study. The section also briefly discusses the preliminary results on the relationships in the study's conceptual model. The discussion is categorised according to the various aspects of research methodology.

3.1 Research design

Objective 1: Identify logistical problems which might occur when using the research design.

The research design for the study is an experimental vignette design. An electronic questionnaire was developed on SurveyMonkey, which is a data collection software that has the capability desired for setting up an online experiment. The pilot study followed a mixed experimental research design (Aguinis & Bradley, 2014).

The effectiveness of the manipulation that will be used in the main study was tested by including one item in the data collection instrument, which respondents had to respond to after the experimental task. The manipulation check item was ‘Remembering the employee selection scenario you read in the survey, did you feel making employee selection decisions without before told which job applicants attributes are important for the advertisement job affected the employee selection decisions you made on each job application the process affected the employee selection decisions that you made on each job applicant?" The results of the pilot study manipulation test are presented in Table 1. The results show that the manipulation works as planned since 17 out of 28 (60.7%) reported that it did. Therefore, no modification would be done on the manipulation of the experiment’s vignettes.

Table 1: Manipulation Test Results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	14.3	14.3	14.3
	Strongly disagree	3	10.7	10.7	25.0
	Disagree	2	7.1	7.1	32.1
	Neutral	2	7.1	7.1	39.3
	Agree	13	46.4	46.4	85.7
	Strongly agree	4	14.3	14.3	100.0
	Total	28	100.0	100.0	

The randomisation process that will be used in the main study's experiment was also tested. The questionnaire had a split-logic question for different paths of the four experimental scenarios. The responses that split-logic question, worked such that the respondents within each group were automatically randomly assigned to different experimental tasks where they could only see questions that were specific and relevant for the sector, they worked in.

Additionally, the pilot study assessed whether each item in the questionnaire gave an adequate range of responses. Two challenges were identified with two different items on the questionnaire. The first challenge was with a question that asked the respondents to select industries they work in. Since one of the options for this item was Parastatals, and Parastatals are established under various government Ministries, some respondents selected government department for that question. The way the electronic questionnaire was designed was such that respondents working for the Government and those in Parastatals had to respond to different questions relating to different prototypical jobs. Those working for the government had to answer questions related to employee selection decisions made in the selection of Accountants while those in Parastatals would answer questions specific to employee selection decisions made in the selection of Marketing Officers.

The other observation made by the researcher when compiling a sampling frame is that not all Parastatals fall within the Services Sector. This means that options for that item had to be reviewed. This problem was solved by separating options for Parastatals, one option for Parastatal in the services sector, and another for Parastatal in the engineering sector.

Another challenge related to the one above was observed from the responses of respondents who work in Government Departments dealing with engineering. Respondents who work in Government Engineering Departments who indicated that they work for Government Departments were randomly assigned to an experimental task specific to the employee selection for Accountants instead of that for Civil Engineers. The multiple-choice options for that item resulted in randomisation not working as intended, as some respondents answered questions that were not meant for them. A solution to this challenge is that the multiple-choice option for civil engineering organisations was modified to specify that this includes Government Departments dealing with engineering.

All these challenges that had to do with the options for multiple questions did not distort the pilot study results because all the 28 respondents were experienced employee selection decision makers spanning across all levels of operation. In general, the pilot study showed that the proposed experimental vignette design that will be used in the main study is clear and feasible.

3.2 Sampling Strategy

Objective 2: Assess the likely success of the proposed recruitment strategy that will be used for identifying potential respondents for the main study.

Several organisations operating in Botswana's four industries within the services sector were selected for the pilot study. The organisations were identified using snowball sampling because the compilation of the sampling frame was not yet completed. Invitations to participate in the study and requests for potential respondents were sent to the identified organisations through email.

The pre-study screening questionnaire that was meant to determine the respondents' eligibility to participate in the study and obtain their informed consent was sent with the invitation to participate in the study. Only one out of 12 organisations that were invited to participate responded to the invitation. Furthermore, no completed pre-study screening questionnaire was sent back to the researcher. Even the organisation that accepted the invitation to participate in the pilot study, did not send the pre-screening questionnaire back. Instead of completing the pre-study screening questionnaire, the respondents who gave consent to participate in the pilot study requested a web link to the pilot study questionnaire and some requested that the questionnaire be sent directly to their email.

Cycyota and Harrison (2006) suggested that obtaining respondents' informed consent to participate in the study before collecting data improves the response rate. The observation made in the pilot study was that having a separate pre-screening questionnaire from the main study's questionnaire might not be effective in the main study. Therefore, obtaining the respondents' informed consent to participate in the study and collecting data for the screening question was done in one session with collecting data for the study. The modification of the questionnaire includes having an item for obtaining respondents informed consent to participate in the study and the screening question on their experience in employee selection decision-making in the first section of the questionnaire. The procedure of including screening questions on the questionnaire of the main study and ensuring that only eligible respondents take part in the study has been used in some previous studies (Petzer, Mostert, Kruger & Kuhn, 2014).

The electronic pre-study screening questionnaire was modified such that any potential respondent who does not voluntarily give consent to participate in the study or responds that they have never participated in employee selection before will be disqualified from participating in the study. The questionnaire will terminate for those disqualified and they will not be able to go to complete the rest of the questionnaire. Rather, they will be directed to a thank you message at the end of the survey.

On the opposite, respondents who give consent to participate in the study and state that they have prior experience in employee selection will be directed to the next sections of the questionnaire for them to respond to items on their demographic information, their work experience, and the economic sectors they work in. After that, they will participate in an experimental task and respond to items on the conjoint analysis items.

To improve efficiency in accessing the potential respondents for the pilot study without compromising the sample size of experienced employee selection decision makers in organisations earmarked for being included in the study sample, the pilot study respondents were obtained from the researcher's acquaintances and professional network who work in various Government Ministries, Departments or Units, the engineering, hospitality and tourism and the business services industries. They all met the selection criteria outlined in the research proposal. These were employees who have participated in employee selection before, have email addresses and access to the internet because the questionnaire is accessed online.

The only challenge with accessing the study respondents was that there were some delays in getting research permits and access from some organisations, especially government departments. Consequently, requests to access employees who are the unit of analysis in the study were not successful. Since getting access to organisations proved to be challenging during the pilot study, this is a risk that may cause some delays in data collection for the main study. This challenge will be mitigated by making follow-ups telephonically or by sending emails to organisations, reminding them of the requests to have them participate in the study.

Another solution to accessing the study respondents is to access them on professional network social media such as LinkedIn where profiles of individual account holders will be examined to check their work portfolios and the organisations they work for. LinkedIn is an online business and employment service that operates through websites and as a mobile phone application.

Objective 3: Establish the effectiveness of the proposed sampling technique.

The pilot study had a sample size of 28. This sample size was not for providing appropriate statistical power required for testing the two hypotheses per se, but to understand the feasibility of the study's recruitment strategies for respondents, test the research design and provide an initial examination of the hypothesised relationships.

A total of 23 out of the 28 respondents provided complete responses while 5 partially completed the questionnaire. The pilot study respondents were selected using the same sampling technique that will be used in the study, a disproportionate stratified sampling technique sampling (Mutoko & Kapunda, 2017). This sample size was adequate for running PLS-SEM since this test requires a minimum of 20 respondents (Svensson, 2015). Because purposive sampling was used to select

the respondents for the pilot study, no respondent was disqualified in the pilot study because they all met the selection criteria.

Initially, the plan was to get a list of registered tourism establishments from the Botswana Tourism Organisation. However, during the pilot study, a comprehensive list of all establishments which are members of the Hospitality and Tourism Association of Botswana (HATAB) was sourced since it was readily available on HATAB's website. HATAB is an organisation established to promote, encourage, and police excellence in Botswana's hospitality and tourism sector. As a result, the researcher resorted to using this list because all HATAB members are registered by the Botswana Tourism Organisation.

The list of some organisations operating in the services sector, which have email addresses and telephones was compiled using Botswana Telephone Book compiled by Botswana Telecommunication Corporation (BTC). BTC is a telecommunication service provider established by an Act of Parliament (BTC Act) 1980 as a body corporate mandated to provide, develop, operate, and manage Botswana's national and international telecommunications services. During the pilot study, it was not easy to access employees who work for the Accounts Sections of Government Departments. Consequently, the total number of respondents from this sector was not availed to determine a percentage of the sample that will be used for this stratum.

3.3 Ethical considerations

Objective 4: Test the procedure for ethical considerations

The first ethical consideration was obtaining consent from potential respondents before they were given the questionnaire. All respondents of the pilot study gave informed consent to participate in the pilot study albeit it was given verbally. The improvement made on the main study's data collection instrument is that there was one item that asked respondents if they voluntarily give consent to participate and that they were not coerced to do so.

Another ethical consideration was to protect the respondents' privacy. This was achieved because the questionnaire did not have a provision for those taking the survey to write their names. Furthermore, the parameters for the data collection instrument were set to inactivate capturing of the respondents' email addresses on the codebook. SurveyMonkey automatically assigned each respondent a unique Respondent ID number, which was used to link them with their responses on the codebook.

3.4 Instruments for data collection and measures

Objective 5: Develop and modify the data collection instrument to maximise its internal validity.

A pilot study was conducted to improve the internal validity of a questionnaire before using it in the main study. The questionnaire comprised thirteen information cues that influence employee selection decisions. Seven of these cues were target cues that are relevant to the job while six were pieces of information meant to prime respondents. The choice of the theoretical relevant target cues and primes that inform employee selection decisions were identified from previous studies. However, those studies were conducted in different contexts than the setting for the proposed study. The pilot study tested which of these cues are important for employee selection decision makers in Botswana.

The target cues that were pilot tested included job applicants' previous work experience, internship done during or after tertiary education, level of education, a field of study, duration of study when pursuing academic qualifications, academic grades, extracurricular activities, and interviews scores (Jackson et al., 2018; Luan et al., 2019; van Esch, Hopkins, O'Neil & Bilimoria, 2018). The five primes that were included are gender congruity (Koch, D'mello, & Sackett, 2015; van Esch, Hopkins, O'Neil & Bilimoria, 2018), age (van Esch, Hopkins, O'Neil & Bilimoria, 2018) candidate type, that is whether one is an internal or external candidate (DeOrtentiis, Ployhart, Van Iddekinge, Chad, Heetderks, 2018; Fini, Jourdan & Perkmann, 2018; Keller, 2018; Rodrigues, 2018), social networks (Hensvik & Skans, 2016) and college heterogeneity (Jackson, Brett, Sessa, Cooper, Julin, & Peyronnin, 1991). Table 2 shows the respondents' perceived importance of all the cues that influence employee selection decisions, which were included in the pilot study.

Table 2: Perceived cue importance

Information Cue	Frequencies		N
	Mean	Percentages (%)	
1. Gender	1.54	30.83	28
2. College heterogeneity	2.13	42.50	28
3. Social ties	2.29	45.83	28
4. Extra curricula activities	2.67	53.33	28
5. Candidate type	2.75	55.00	28
6. Age	2.88	57.50	28
7. Intension during or after tertiary education	2.92	58.33	28
8. Study duration	3.21	64.17	28
9. Grade Point Award/ Academic grades	3.21	64.17	28
10. Previous work experience	3.83	76.67	28
11. Interview scores	3.96	79.17	28
12. Level of education	4.21	84.17	28
13. Field of Study	4.33	86.67	28

Four target cues that had high mean scores were a field of study, level of education, interview scores, previous work experience. The two primes that also had high mean scores were age and candidate type. These six cues will be included in the main study's experimental task. The rest were removed from the experiment to reduce the number of cues to a manageable number. Having a few experimental cues will avoid respondents' response fatigue (Paetz et al., 2019) and hopefully, improve respondents' completion rate. Also, removing some cues from the experimental tasks will allow conjoint analysis operation in SPSS to work because the test could not be executed for 13 cues.

In the research proposal, it was stated that the time that respondents would take to make employee selection decisions would be recorded to measure their Managerial Heuristic Use, specifically how fast they can make employee selection decisions. However, the limitation observed in SurveyMonkey's capability is that it does not capture the time which respondents take to respond to each item. Instead, it only captures the completion time for the whole questionnaire, based on the start and finish time. This means that the proposed measures for managerial

heuristic use, will not be recorded as initially planned. Rather, respondents' completion time will be recorded as one of the measures for managerial heuristic use.

Objective 6: Test the internal consistency reliability and construct validity of the two existing measurement scales that will be used in the main study.

The proposed study will use the experientiality scale (Pacini & Epstein, 1999) and the uncertainty avoidance scale (Yoo, Dinthu & Lenartowicz, 2011). Since these two scales were developed and validated at contexts different from the proposed study setting, their internal consistency reliability and construct validity had to be pretested before use in the main study (Carpenter 2018, Churchill, 1979; Svensson, 2018; Wahid, Rahbar, & Shyan, 2011).

(i) Internal consistency reliability of Experientiality scale

The results in Table 3 show that the 20 item experientiality scale had low internal consistency reliability since its Cronbach's alpha value was.350. This coefficient alpha value is below the recommended.7 benchmark (Bonett & Wright, 2015; Pallant, 2016). The Cronbach's alpha score of.350 suggests that there was not sufficient correlation between the scale's 20 items suggesting that the items did not contribute collectively to the scale's factors.

Table 3: Internal consistency reliability statistics before eliminating ten of the 20 items of the Experientiality scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.350	.389	20

Mean	Variance	Std. Deviation	N of Items
62.3571	48.831	6.98790	20

To improve the internal consistency reliability of this scale, some items with low coefficient values had to be eliminated as suggested by Churchill (1979). SPSS was of assistance in identifying items on the experientiality scale, which if deleted, the scale's Cronbach's alpha value would increase to a range within the recommended benchmark. The highlighted items in Table 4 are those that were deleted.

Table 4: Item Total Statistics for the Experientiality scale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
1. I like to rely on my intuitive impressions.	58.9643	44.999	.168	.821	.322
2. I don't have a very good sense of intuition.	60.0000	49.778	-.147	.563	.406
3. Using my gut feelings usually works well for me in figuring out problems in my life.	59.0714	43.772	.271	.935	.298
4. I believe in trusting my hunches.	59.3571	44.757	.177	.845	.319
5. Intuition can be a very useful way to solve problems.	58.9286	45.254	.117	.867	.333
6. I often go by my instincts when deciding on a course of action.	59.2500	41.083	.397	.860	.257
7. I trust my initial feelings about people.	59.6071	46.470	.039	.861	.354
8. When it comes to trusting people, I can usually rely on my gut feelings.	59.6429	40.608	.437	.848	.247
9. If I were to rely on my gut feelings, I would often make mistakes.	59.2500	51.602	-.244	.896	.419
10. I do not like situations in which I have to rely on intuition.	59.1786	48.448	-.082	.731	.390
11. I think there are times when one should rely on one's intuition.	58.2857	47.175	.060	.759	.347
12. I think it is foolish to make important decisions based on feelings.	59.0000	45.704	.035	.846	.358
13. I do not think it is a good idea to rely on one's intuition for important decisions.	58.9643	44.999	.100	.853	.337
14. I generally do not depend on my feelings to help me make decisions.	58.8929	49.581	-.136	.871	.402
15. I hardly ever go wrong when I listen to my deepest gut feelings to find an answer.	59.3571	44.757	.136	.821	.328
16. I would not want to depend on anyone who described herself or himself as intuitive.	59.5357	50.258	-.170	.726	.409
17. My snap judgements are probably not as good as most people.	59.3571	46.683	.030	.809	.356
18. I tend to use my heart as a guide for my actions.	59.6429	41.349	.334	.874	.269
19. I can usually feel when a person is right or wrong, even if I cannot explain how I know.	59.0714	44.661	.158	.796	.322
20. I suspect my hunches are inaccurate as often as they are accurate.	59.4286	39.587	.475	.828	.230

Table 5: Experientiality Scale Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.846	.847	10

After eliminating the ten highlighted items in Table 4 to increase the scale's Cronbach's alpha value, the experientiality scale's coefficient alpha score increased to.846. Table 6 shows the item total statistics for the experientiality scale after eliminating ten items to improve the scale's internal reliability.

Table 6: Items in the experientiality scale that will be used in the main study

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
1. I like to rely on my intuitive impressions	28.0714	49.921	.570	.641	.830
3. Using my gut feelings usually works well for me in figuring out problems in my life.	28.1786	50.374	.571	.784	.830
4. I believe in trusting my hunches.	28.4643	48.184	.675	.588	.820
6. I often go by my instincts when deciding on a course of action.	28.3571	48.016	.635	.677	.823
5. Intuition can be a very useful way to solve problems.	28.0357	48.554	.580	.646	.828
7. I trust my initial feelings about people.	28.7143	49.249	.518	.581	.835
8. When it comes to trusting people, I can usually rely on my gut feelings.	28.7500	49.380	.556	.546	.831
11. I think there are times when one should rely on one's intuition.	27.3929	53.951	.398	.417	.843
15. I hardly ever go wrong when I listen to my deepest gut feelings to find an answer	28.4643	48.628	.549	.607	.832
18. I tend to use my heart as a guide for my actions.	28.7500	50.787	.410	.576	.845

Table 7 shows the reliability and validity results of the 10 item experientiality scale that will be used in the main study.

Table 7: Reliability of the Experientiality scale that will be used in the main study

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.846	.847	10

Mean	Variance	Std. Deviation	N of Items
31.4643	60.332	7.76737	10

(ii) Internal consistency reliability of uncertainty avoidance scale

The scale has a Cronbach's alpha score of.805. This Cronbach's alpha score shows that the uncertainty avoidance scale has internal consistency reliability. The scale's items are highly correlated. Therefore, the five-item scale will be used as it is as there is no need for any modification. Table 8 shows the overall internal consistency reliability results for the uncertainty avoidance scale (Yoo et al., 2011).

Table 8: Uncertainty Avoidance Scale Internal consistency reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.805	.798	5

Table 9 shows the items' squared multiple correlation coefficients and the scale's Cronbach's alpha values if each of the five items is deleted.

Table 9: Item Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
1. When making employee selection decisions, it is important to have instructions spelled out in detail so that I always know what I am expected to do.	16.0370	12.422	.290	.409	.845
2. It is important to closely follow instructions and procedures when making employee selection decisions	16.1852	8.772	.775	.750	.703
3. Rules and regulations for employment are important because they inform me of what is expected of me.	16.2222	9.179	.781	.759	.705
4. Standardized work procedures are helpful in making employee selection decisions.	16.4815	9.875	.616	.765	.759
5. Instructions for decision makers are important the employee selection process.	16.7037	10.678	.510	.729	.791

(iii) Construct validity of the Experientiality scale.

To assess if the experientiality scale measures what it is intended to measure, its construct validity was measured. This was achieved by using a factor analysis technique called Principal Component Analysis (PCA). This technique is used in research especially when measurement tests and scales are evaluated to refine and reduce many items to form a small number of items that can be grouped into the scale's factors (Pallant, 2016). According to Pallant (2016), the three steps for conducting factor analysis include determining the suitability of the data set for factor analysis, extracting factors, and factor rotation.

Step 1: Determination of the suitability of the data set for factor analysis

The determinants of the suitability of the data set for factor analysis are sample size and correlation between the scale's items. As shown in the previous section, items in the 10-item experientiality scale and the uncertainty avoidance scales correlated. Therefore, this section discusses whether the sample size of the pilot study was adequate for factor analysis.

(a) Sample size

There are academic debates in the literature about the minimum required sample size for running factor analysis techniques before the results can be generalised to the study population (Pallant, 2016). For example, Tabachnick and Fidell (2013) recommend that an adequate sample size to conduct factor analysis is at least 300 responses, or 150 if the scale's Cronbach alpha score is above.80 suggesting good intercorrelations among the scale's items.

Hair, Black, Babin, Anderson & Tatham (2009) argue that "the researcher should not factor analyse a sample of fewer than 50 observations" (p. 102). Since the pilot study collected 28 responses, and this number is less than the recommended minimum of 50 responses to meet the assumption of PCA (Hair et al., 2009), the data set did not meet the determinant to run PCA.

Pallant (2016) stated that some researchers argue against using the study's sample size as a determinant of running a factor analysis. They contend that the item response rate should be used Pallant (2016). There is an argument that in some cases, a ratio of 5 responses per item is adequate for conducting factor analysis (Tabachnick & Fidell, 2013). Based on Pallant (2016) and

Tabachnick and Fidell's (2013) argument of using item response rate instead of sample size, as a determinant for factor analysis, PCA was run on the pilot study data since the pilot study had 28 respondents and more than 5 responses were collected for all the 20 questionnaire items.

(b) Intercorrelation of items in the experientiality scale

The correlation matrix for the experientiality scale shows that some items have negative correlations, and about half of the total number of items had correlation coefficients above.3. These results suggest that factor analysis could or could not be conducted. Pallant (2016) contends that correlation coefficients of items in small data can be unreliable to determine the adequacy of data for factorability.

Kaiser-Meyer-Olkin (KMO) is one of the statistical tests used for determining sampling adequacy. Tabachnick and Fidell (2013) suggested that a minimum of.6 score for the KMO test is adequate for running a Factor analysis technique. The results of the 20-items scale that was used in the pilot study show a.515 measure of sampling adequacy. However, the modified 10 item scale shows a KMO.616 measure of sampling adequacy for factor analysis.

Bartlett's test of Sphericity was also run to determine the adequacy of data for factorability. According to Pallant (2016), Bartlett's Test of Sphericity value less than.05 suggest that data is suitable for factor analysis. The results of Bartlett's test of Sphericity for the pilot study data set based on the 10 item scale reflected in Table 10 show (i) Approx. chi-square: 117.018; (ii) df: 45 (iii) p-value:.000 suggesting a statistically significant value for the 10 items scale; (iv) Communalities of 1.0 for all the items and (v) Total variance explained of cumulative 100% since the eigenvalues of all the 10 items range between 1.038 to 42.764. These results indicate that the factor solution was satisfactory.

Table 10: KMO and Bartlett's Test Results for Experientiality scale

		20 item scale	10 item scale
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.515	.616
Bartlett's Test of Sphericity	Approx. Chi-Square	321.285	117.018
	df	190	45
	Sig.	.000	.000

Step 2: Factor extraction

The second step of conducting factor analysis according to Pallant (2016) is factor extraction. A Scree test was used to determine the number of factors that mostly contribute to the variance in the pilot study's data set. The graphical representation depicted in Figure 1 shows that there were 2 factors above the graph's elbow. This suggests that the scale has two factors. This finding is aligned with the results of previous studies, which showed that the Experientiality scale has two factors. For example, Pacini and Epstein's study (1999) identified that the experientiality scale's two factors are experientiality ability and experientiality engagement. Hodgkinson, Sadler-Smith, Sinclair and Ashkanasy's (2009) study also revealed that the experientiality scale has two factors, which they named positive intuitive processes and negative intuitive processes.

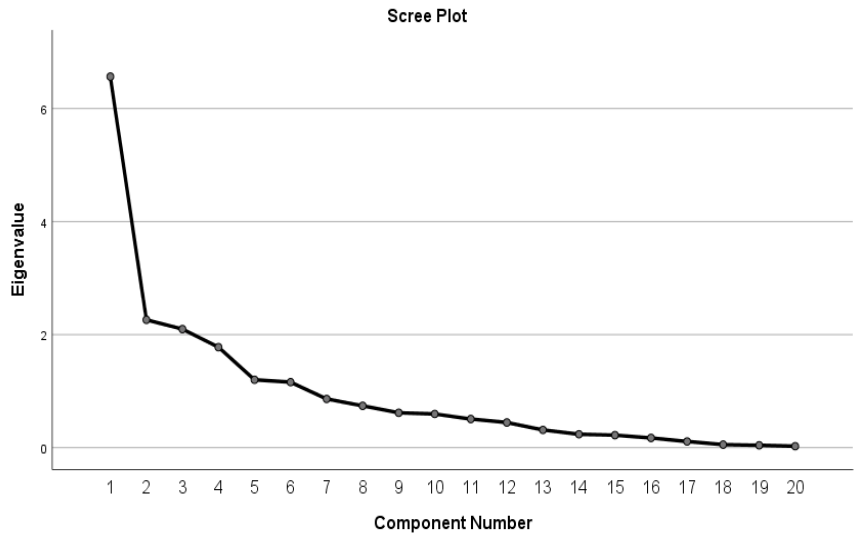

Figure 1: Scree Plot

Step 3: Factor rotation and interpretation

The third step of factor analysis is factor rotation and interpretation. Since step 1, determined that the 10 items in the experientiality scale correlate, and step two showed that two factors were extracted. In step 3, factors were rotated and interpreted. Factor rotation was achieved by using Direct Oblimin with Kaiser Normalization resulting in oblique factor solutions. Table 11 is a structure matrix showing the item loadings on each of the two factors. The results show that items 1, 3, 6, 7 and 8 load strongly on Factor 1 while items 5, 11, and 18 load strongly on Factor 2.

Table 11: Structure Matrix

Items	**Component**	
	1	**2**
1. I often go by my instincts when deciding on a course of action.	.791	.354
2. When it comes to trusting people, I can usually rely on my gut feelings.	.786	.212
3. Using my gut feelings usually works well for me in figuring out problems in my life.	.748	.370
4. I believe in trusting my hunches.	.732	.527
5. I like to rely on my intuitive impressions	.728	.350
6. I trust my initial feelings about people.	.685	.271
7. I hardly ever go wrong when I listen to my deepest gut feelings to find an answer	.365	.852
8. Intuition can be a very useful way to solve problems.	.458	.780
9. I think there are times when one should rely on one's intuition.	.210	.744
10. I tend to use my heart as a guide for my actions.	.321	.589

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Since the items in the scale are correlated, the factors in the structure are correlated. Table 12 shows the component correlation matrix.

Table 12: Component Correlation Matrix

Component	1	2
1	1.000	.424
2	.424	1.000

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization

The results of Table 11 and Table 12 show that the 10 items experientiality scale that will be used to measure intuitive decision-making style is valid for use in the main study. The expected sample size of the main study is 135. This sample size has been calculated based on realised samples of previous related studies (Zikmund, 2013). Therefore, the main study's sample will be factor analysed using Principal Component Analysis (PCA) as proposed.

3.5 Procedures

Objective 7: Test the method proposed for data collection.

The questionnaire that was used to collect data for the pilot study was electronic and it was self-administered. Invitations to participate in the study were sent to potential respondents. If after sending an invitation email to respondents asking for their participation, and they did not complete the survey after 14 days, SurveyMonkey automatically sent reminders about the request to complete the questionnaire to them. In previous studies, email reminders were sent anytime between 14 days (DeCarlo, Roy, & Barone, 2015) and 30 days (Svensson, Høgevold, Petzer, Padin, Ferro, Klopper, Varela & Wagner, 2016) of sending the first initial invitation to participate in the study. Figure 2 is a sample reminder email that was sent to respondents who received the questionnaire but did not complete it after 14 days of its receipt.

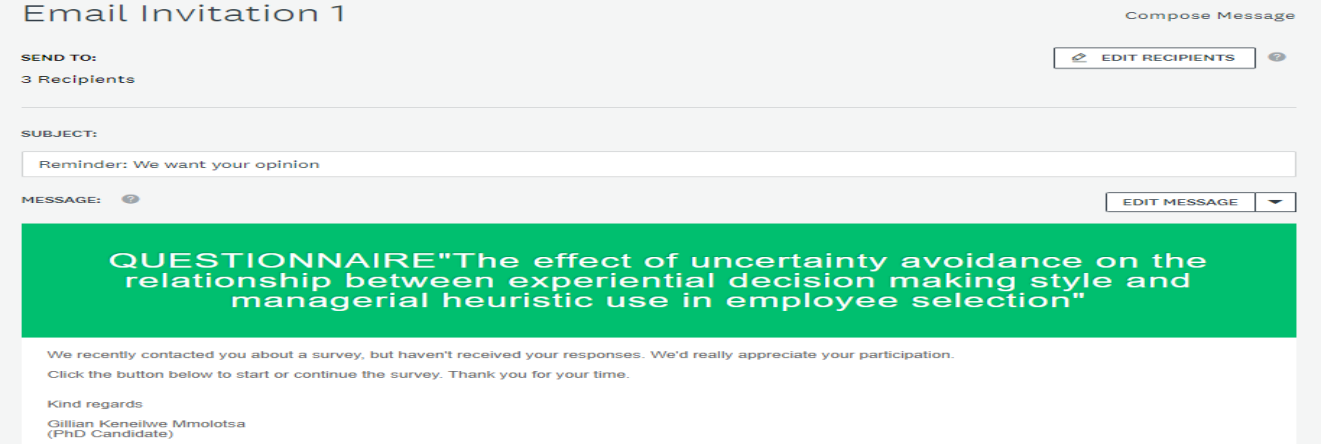

Figure 2: Sample email that was sent to respondents who partially completed the questionnaire

Those who partially completed the survey were also sent reminder emails requesting them to do so. SurveyMonkey can show which respondents were sent email invitations to participate in the study. It also shows those that fully completed the questionnaire and those that did complete it partially, emails that bounced, as well as those that opted out of the study. SurveyMonkey was set up to automatically send reminder emails to those who partially completed the questionnaire, 14 days after the initial invitation was sent. Figure 3 is a reminder email to those who partially completed the questionnaire.

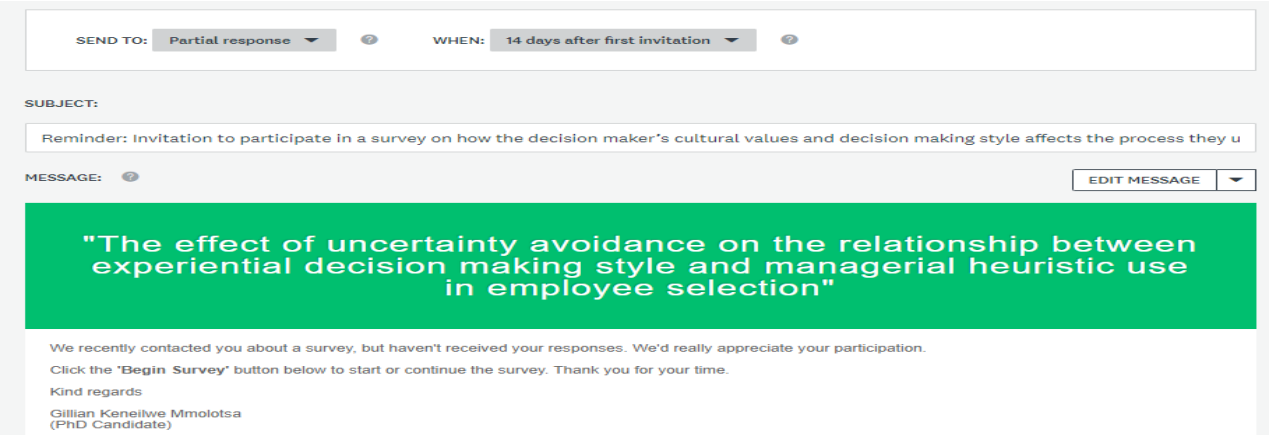

Figure 3: Reminder email send to respondents for partially completing the questionnaire

As soon as the respondents who accessed the questionnaire by email completed it, the system generated an automatic thank you email and sent it to them. Those who accessed the questionnaire by weblink collector, immediately received the thank you message upon clicking the end of the survey button. Figure 4 shows the sample thank you email that was sent to respondents upon completing the questionnaire.

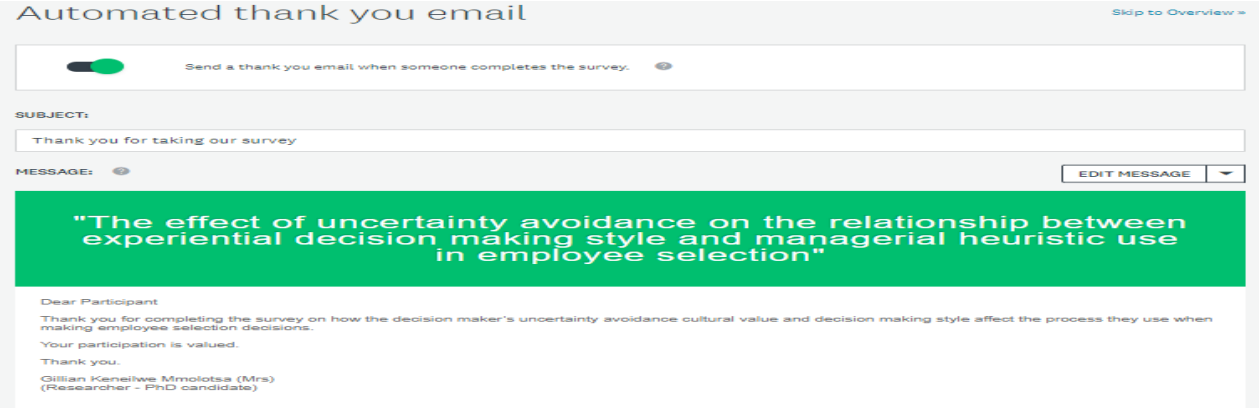

Figure 4: Sample thank you for an email that was sent to respondents who completed the questionnaire

The response rate when sending questionnaires to respondents by email was tested to determine if this procedure will work as proposed. Baruch and Holtom (2008) stated that sending out questionnaires to respondents by email is more effective than sending questionnaires as postal mail. They demonstrated that sending questionnaires by email improves the response rate by 10% compared to sending it as postal mail (Baruch & Holton, 2008). The observation made in the pilot study is that the response rate from the pilot study respondents who were sent the questionnaire by email was lower than those who were sent the web link for accessing the questionnaire.

During the pilot study, some respondents reported never having received the questionnaire despite information obtained from SurveyMonkey showing that none of the emails was bounced due to incorrect capturing of the email addresses. Figure 5 shows the response and completion rate of respondents who were sent the questionnaires sent by email.

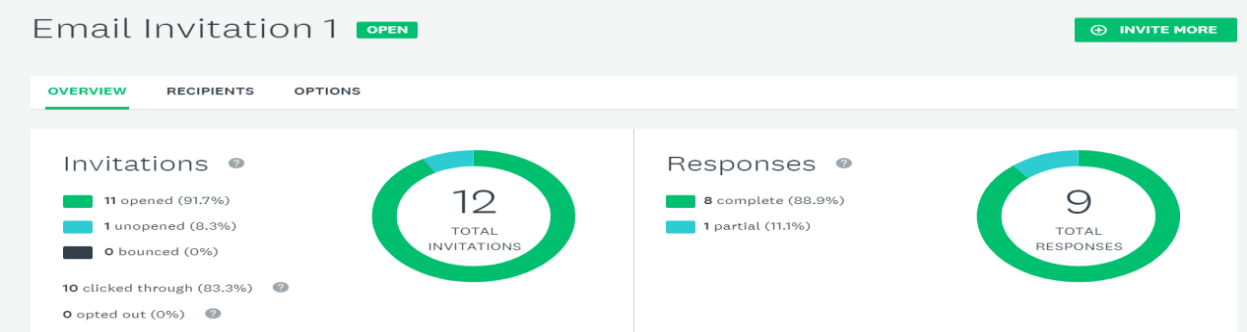

Figure 5: Response and completion rate for respondents who were sent the questionnaire by email

An alternative way of sending the questionnaire to respondents was explored as a way of mitigating the low response rate when using email. A web link was used as a second collector, and it was tested by inviting potential respondents to participate in the pilot study on the researcher's Facebook page. The invitation contained a web link for accessing the questionnaire so that those who accept the invitation could complete the questionnaire right away. Figure 6 below shows a Facebook invitation that was extended to experienced employee selection decision makers.

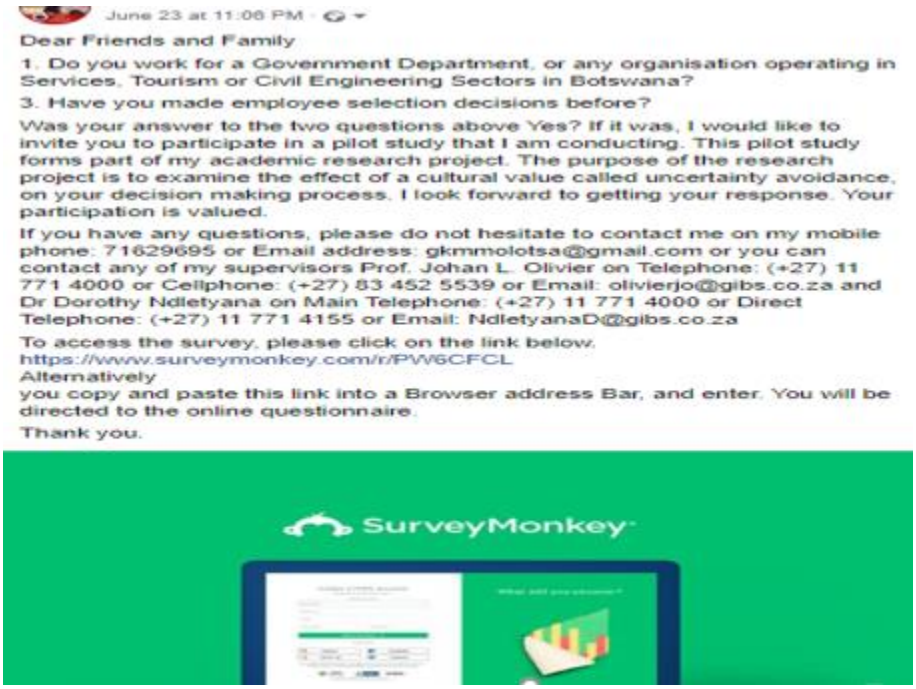

Figure 6: Social media invitation to participate in the study

After using a web link collector, the response rate improved compared to when the questionnaire was sent by email. Figure 7 shows the response volume after using a web link collector.

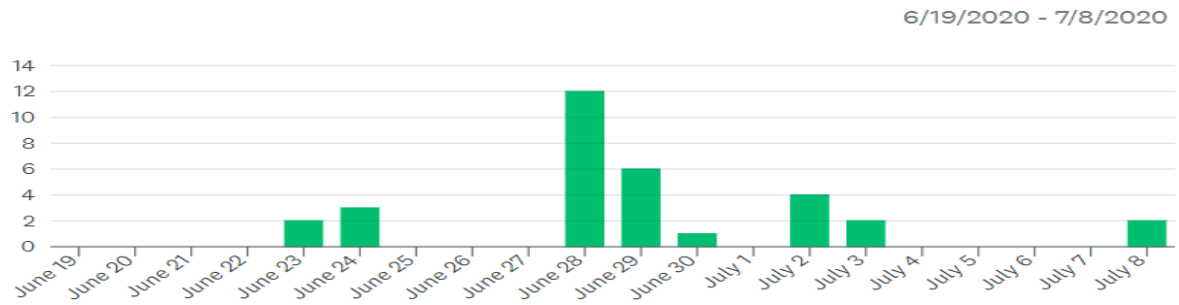

Figure 7: Response volume when using email and weblink collectors

Objectives 8: Determine the response rate, completion rate and estimate a realistic time for completing the questionnaire.

The response rate for the pilot study was good because data was collected from more than 20 respondents, which was the targeted actual sample size for the pilot study. The results of the pilot study show that the web link collector generated more responses than the email collector. Therefore, the lesson from the pilot study is that using both collectors will improve the response rate in the main study. Figure 8 shows a comparison of responses collected by the two collectors.

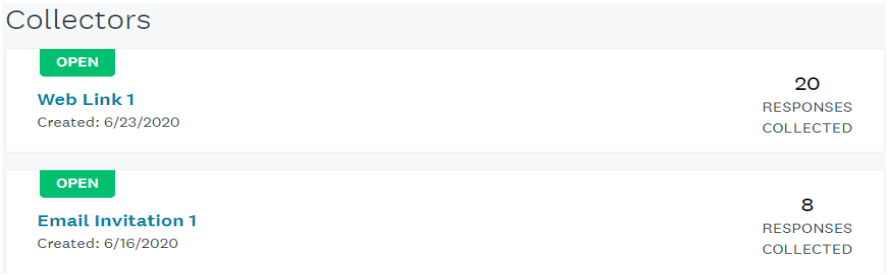

Figure 8: Number of responses collected through a web link and email

The pilot study provided an opportunity to check whether the main study's respondents will answer all questions. The feedback received from some pilot study respondents was about the length of the questionnaire. A common concern was that the questionnaire is long. Despite this concern, the completion rate of the pilot study questionnaire was good because it was 82%. Figure 9 shows insights into the response rate. That is total responses completion rate and completion time.

Figure 9: Insights on the response rate, completion rate and completion time

The results of the pilot study show that the number of respondents reduced with the number of items in the questionnaire. For example, the number of respondents who completed question 1 was 28 and those for the last question was 14. Even though some respondents attempted to respond to the last item, the discrepancy observed in the responses provided by those who attempted it, is that ranking was not done for all the cues.

Additionally, most respondents called the researcher to ask how the ranking was supposed to be done even though the instruction for that item stated that ranking could be done by dragging the cue to the preferred ranking number or by using the drop-down menu. It is also possible that because there were 13 experimental cues to be ranked, this made it problematic for respondents. This challenge was anticipated, especially that SurveyMonkey queried that those 13 cues were many for a rating question. The system suggested a maximum of five options instead.

The ranking question that was aimed at measuring respondents' perception of the relative importance of each cue that influences employee selection decisions compared to others will be deleted because it posed challenges for respondents. Deleting this question will not affect the quality of the study results because the utility worth of each cue that will be used in the main study's experimental task will be calculated by running a conjoint analysis. Furthermore, a question that will request respondents to rate cues according to their perceived importance of the cue in influencing employee selection decisions will be retained.

The pilot study tested whether the completion time was reasonable or not. In the proposal, the time that was estimated for completing the questionnaire was 50 minutes. The pilot study results show that on average, respondents took 35.36 minutes to complete the questionnaire. Since obvious that the initially estimated 50 minutes for completing the questionnaire was overestimated, the estimated completion time for the main study will be reduced to 20 minutes. This time is realistic because the number of items and information cues for the experimental task in the main study's questionnaire will be reduced.

3.6 Data analysis

The descriptive statistical analysis for the pilot study data was done. Out of the 28 respondents, 14 were females and 14 were males. Table 13 below shows the mean, median, range, skewness, kurtosis, and standard deviation for age and gender. The distribution curve in Figure 10 shows that the graph is negatively skewed (-.892), suggesting that respondents were mostly people above 40 years old. The kurtosis of the year of the birth graph (Figure 10) is above the peak of a normal distribution curve.

Table 13: Summary statistics

		Year of birth	Gender
N	Valid	28	28
	Missing	0	0
Mean		1974.75	1.50
Median		1976.00	1.50
Std. Deviation		4.971	.509
Skewness		-.892	.000
Std. Error of Skewness		.441	.441
Kurtosis		1.285	-2.160
Std. Error of Kurtosis		.858	.858
Range		22	1
Minimum		1963	1
Maximum		1985	2

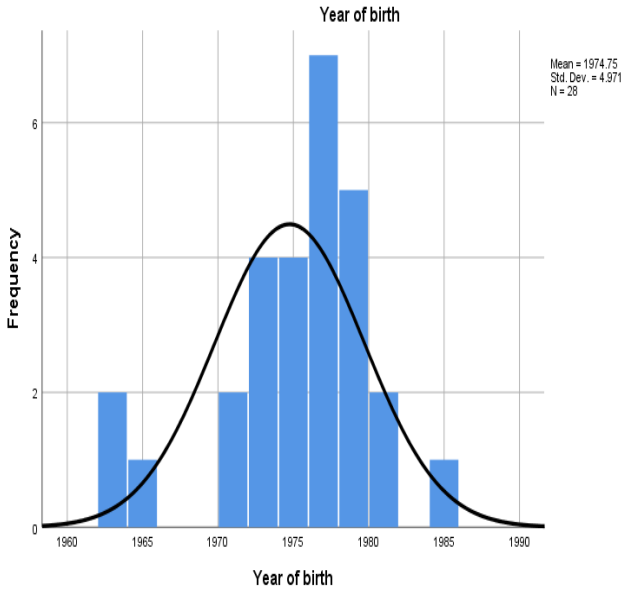

Figure 10: Frequency by year of birth

Objective 9: Test the adequacy of the data analysis instrument

Data for the pilot study were analysed using IBM SPSS version 26. The pilot study tested the data entry on the SPSS codebook. Even though the data collected from SurveyMonkey could be exported to SPSS, capturing data collected from the employee selection experimental task on the codebook needed to be re-worked.

The data that was collected from the experimental tasks undertaken by the four experimental groups were captured in different pages that were randomly assigned to them. After exporting the data to SPSS, the data had to be entered in the right fields of the SPSS codebook to enable the smooth running of statistical tests on data generated from all 4 experimental groups.

The pilot study also tested the data analysis instrument that will be used for analysing the main study's data. SPSS has the capability to run Cronbach's alpha test which is a construct validity and reliability test for measurement scales. It also can run conjoint analysis tests for the data that will be collected from the experiment. However, since the pilot study had 13 experimental cues, they could not be analysed using the conjoint analysis command. Since the number of cues has not been reduced from 13 to 6, it is expected that this test will work as desired. SPSS has the capability to run statistical tests that will test the nature of the relationship of the three constructs, Intuitive decision-making style, Uncertainty Avoidance and Managerial Heuristic use.

Objective 10: Collect and analyse preliminary data to assess the effectiveness of the proposed data analysis tests for examining the relationship between the study constructs

Before analysing the pilot study data to examine the relationship between the constructs on the hypothesised model, it was checked for outliers by inspecting the Mahalanobis distance of the 10 items of the experientiality scale. Table 14 shows the minimum and maximum values of Mahalanobis distances of the 10 items on that scale. The Mahalanobis Distances values for the 10 items were compared to the chi-square cumulative distribution for the same number of degrees of freedom using the formula:

```
Probality_MD=1-CDF.CHISQ (MAH_1,10).
```

Table 14: Mahalanobis distances of the Experientiality scale

	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	3.780	17.669	9.643	4.231	28
Cook's Distance	.000	.735	.095	.158	28

The results presented in Table 14 showed that there were no outliers since there were no less than.001 p values for Probability_MD. The results of Cook's Distance also in Table 14 show that there were no major problems with the data since the maximum value was.735. Tachbanick and Fidell (2013) suggested that a Cook's Distance of above 1 suggests that the data file contains some outliers.

To provide an initial examination of the relationships between Intuitive decision-making style, Take-the-best Heuristics Use and Uncertainty Avoidance in the hypothesised conceptual model, the pilot study data were analysed using Partial Least Squares Structured Equation Modelling (PLS-SEM). Even though the data that will be collected from the main study will be analysed by using controlled hierarchical multiple regression, PLS-SEM was used for analysing pilot study data because this statistical test is suitable for analysing data generated from a small sample size (Svensson, 2015). PLS-SEM was a suitable substitute for linear regression because it works by measuring variance in the dependent latent variable through an exploratory approach, which relies on regression and prediction (Hair, Ringle, & Sarstedt, 2011).

The scatter plot in Figure 11 shows that the relationship between Intuitive decision-making style and Managerial Heuristic Use is not linear. The preliminary results depicted in a scatter plot in Figure 11 show that the relationship between Intuitive decision-making style and Managerial Heuristic Use is not linear. Therefore, it cannot be concluded that the Intuitive decision-making style predicts managerial heuristic use. Since previous studies established a positive relationship between Intuitive decision-making style and Managerial Heuristic Use (Brown & Duos, 2015; Lodato et al., 2011; Luan et al., 2019), the pilot study suggests otherwise, the relationship for these constructs would better be explained in the presence of another variable.

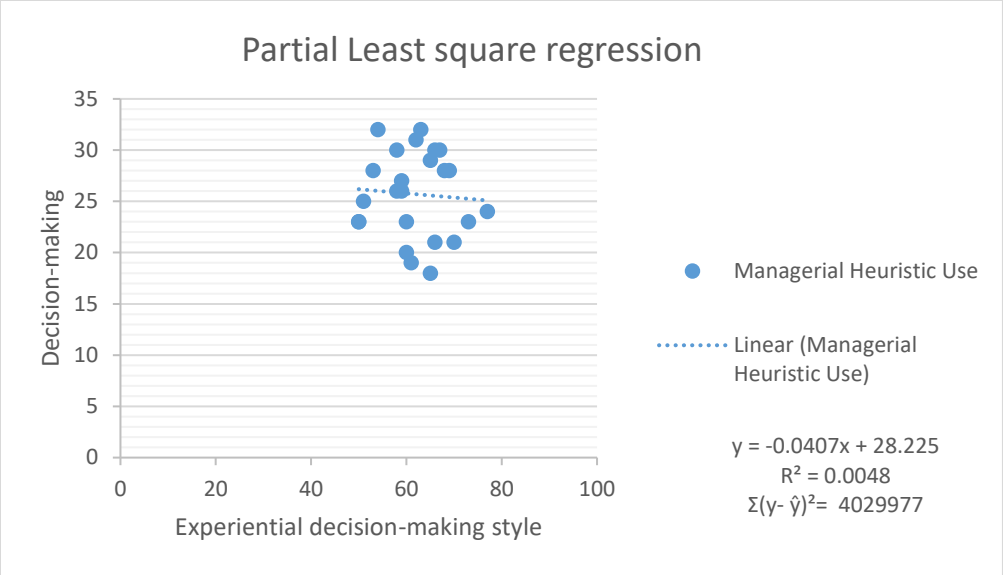

Figure 11: Relationship between intuitive decision-making style and Managerial heuristic use

The Uncertainty Avoidance of pilot study respondents was measured in the pilot study. The results in Table 15 show that employee selection decision makers in Botswana have high levels of Uncertainty Avoidance. The moderating effect of this cultural value on the relationship between Intuitive decision-making style and Managerial Heuristic Use was not examined in the pilot study due to a sample.

Table 15: Pilot study respondents Uncertainty Avoidance results

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	TOTAL
1. When making employee selection decisions, it is important to have instructions spelled out in detail so that I always know what I am expected to do.	3.70% 1	0.00% 0	7.41% 2	33.33% 9	55.56% 15	27
2. It is important to closely follow instructions and procedures when making employee selection decisions	7.41% 2	0.00% 0	7.41% 2	33.33% 9	51.85% 14	27
3. Rules and regulations for employment are important because they inform me of what is expected of me.	7.41% 2	0.00% 0	0.00% 0	51.85% 14	40.74% 11	27
4. Standardized work procedures are helpful in making employee selection decisions.	3.70% 1	7.41% 2	14.81% 4	40.74% 11	33.33% 9	27
5. Instructions for decision makers are important the employee selection process.Adapted from Yoo, Donthu & Lenartowicz (2011)	3.70% 1	11.11% 3	14.81% 4	51.85% 14	18.52% 5	27

4. Discussion

The pilot study has demonstrated that the research protocol for the main study is feasible. The proposed experimental vignette design (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010; Steiner, Atzmüller, & Su, 2017) fulfilled the conditions that were set out in the research proposal. Therefore, the main study will proceed without modifying its research design.

However, a few modifications will have to be made to the questionnaire design before its use in the main study. This includes a reduction of the number of items in the experientiality scale from 20 to 10 because the 10-item scale had good internal consistency reliability, and as such will yield good quality results in the main study. The pilot study has revealed that the experientiality scale (Pacini & Epstein, 1999) has good construct validity. Therefore, it will measure what it is intended to measure.

The results of the pilot study have also shown that the uncertainty avoidance scale (Yoo, Dinthu & Lenartowcz, 2011) has good internal consistency reliability and construct validity. Therefore, this scale will be used without any modification. This pilot study has provided interventions that will be taken to address all identified research deficiencies. A gap that was identified on sampling procedures and obtaining access to employees will be closed by making telephone follow-ups to organisations that will be invited to participate in the study. The decision to use email as the only collector of data as was initially proposed will be reviewed because the results of the pilot study showed that a web link improved the response rate far more than using email. Based on these results, the two collectors, email and web link will be used for collecting data in the main study.

The pilot study has also shown that the criteria and procedures that will be used in the main study will work effectively to generate data required for answering the study research question. One of the strategies for improving the response rate is obtaining respondents consent and screening them for eligibility to participate before the commencement of the study (Cycyota & Harrison, 2006). However, the results of the pilot study showed that in the proposed study setting, this procedure may have a negative impact on the response rate as there was a poor response to pre-study screening questionnaire items will be included in the first section of the questionnaire.

As indicated in section 3.2 – sampling strategy, the pre-screening questions will be included in the questionnaire of the main study. This modification is considered because there is evidence of previous studies included pre-screening questions on the questionnaire of the main study (Petzer et al., 2014; Svensson et al, 2016).

Possible biases or experimental problems that can occur in the main study are listed, and mitigation strategies are outlined as well. The pilot study has shown that there were potential risks and gaps which were unforeseen at the time of designing the proposed study. Had these not been identified before collecting data for the main study, they would have harmed the success of the main study. Therefore, investing time and monetary resources for conducting the pilot study was worthwhile because of the potential risks that were managed on time.

5. Conclusion

The proposed research design and methodology for the main study are reasonably well planned. The decision to conduct a pilot study before embarking on the main study was good. Therefore, this pilot study report is a research protocol that will be used in the main study and can be applied in similar employee selection decision-making studies that adopt online conjoint analysis experimental vignette methodologies.

6. References

Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods*, *17*(4), 351–371. https://doi.org/10.1177/1094428114547952

Artinger, F., Petersen, M., & Gigerenzer, G. (2015). Heuristics as adaptive decision strategies in management. *Journal of Organizational Behavior*, *52*(January 2013), 33–52. https://doi.org/10.1002/job

Atzmüller, C., & Steiner, P. M. (2010). Experimental vignette studies in survey research. *Methodology*, *6*(3), 128–138. https://doi.org/10.1027/1614-2241/a000014

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, *61*(8), 1139–1160. https://doi.org/10.1177/0018726708094863

Bolander, P., & Sandberg, J. (2013). How employee selection decisions are made in practice. *Organization Studies*, *34*(3), 285–311. https://doi.org/10.1177/0170840612464757

Bromiley, P., Mcshane, M., Nair, A., & Rustambekov, E. (2015). Enterprise risk management: Review, critique, and research. *Long Range Planning*, *48*(4), 265–276. https://doi.org/10.1016/j.lrp.2014.07.005

Brown, S., G. & Daus, C.S. (2015). The influence of police officers' decision-making style and anger control on responses to work scenarios. *Journal of Applied Research in Memory and Cognition*, 4, 294-302. https://dx.doi.org/10.1016/j.jarmac.2015.04.001

Calabretta, G., Gemser, G., & Wijnberg, N. M. (2017). The interplay between intuition and rationality in strategic decision-making: A paradox perspective. *Organization Studies*, *38*(3–4), 365–401. https://doi.org/10.1177/0170840616655483

Carpenter, S. (2018). Ten steps in scale development and reporting: A guide for researchers. *Communication Methods and Measures*, *12*(1), 25–44. https://doi.org/10.1080/19312458.2017.1396583

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, *16*(1), 64–73. https://doi.org/10.1177/002224377901600110

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signalling theory: A review and assessment. *Journal of Management*, *37*(1), 39–67. https://doi.org/10.1177/0149206310388419

Cycyota, C. S., & Harrison, D. A. (2006). What (Not) to expect when surveying executives: A meta-analysis of top manager response rates and techniques over time. *Organizational Research Methods*, *9*(2), 133–160. https://doi.org/10.1177/1094428105280770

Dabić, M., Tipurić, D., & Podrug, N. (2015). Cultural differences affecting decision-making style: a comparative study between four Countries. *Journal of Business Economics and Management*, *16*(2), 275–289. https://doi.org/10.3846/16111699.2013.859172

DeCarlo, T., Roy, T., & Barone, M. (2015). How sales manager experience and historical data trends affect decision-making. *European Journal of Marketing*, *49*(9–10), 1484–1504. https://doi.org/10.1108/EJM-05-2014-0301

DeOrtentiis, P. S., van Iddekinge, C. H., Ployhart, R. E., & Heetderks, T. (2015). In or out: differences between internal and external hires on individual- and unit-level outcomes. *Academy of Management Annual Meeting Proceedings*, *2015(1),* 1-1. DOI: 10.5465/AMBPP.2015.16973

Fini, R., Jourdan, J., & Perkmann, M. (2018). Social valuation across multiple audiences: The interplay of ability and identity judgments. *Academy of Management Journal*, *61(6),* 2230-2264. DOI: 10.5465/amj.2016.0661

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139–152. https://doi.org/10.2753/MTP1069-6679190202

Hair, J. F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2009). Multivariate data analysis (7th ed). Upper Saddle River, NJ: Pearson Education.

Hensvik, L., Skans, O. N. (2016). Social networks, employee selection, and labor market outcomes. *Journal of Labor Economics, 34(4),* 825–867. https://doi.org/10.1086/686253

Hodgkinson, G. P., & Sadler-Smith, E. (2018). Managerial and organizational decision-making. *Academy of Management Perspectives*, *32*(4), 473–492. https://doi.org/10.5465/amp.2016.0140

Hodgkinson, G. P., Sadler-Smith, E., Sinclair, M., & Ashkanasy, N. M. (2009). More than meets the eye? Intuition and analysis revisited. *Personality and Individual Differences*, *47*(4), 342–346. https://doi.org/10.1016/j.paid.2009.03.025

Jackson, S. E., Brett, J. F., Sessa, V. I., Cooper, D. M. Julin, J. A., & Peyronnin, K. (1991). Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates recruitment, promotions, and turnover. *Journal of Applied Psychology, 76(5),* 675-689

Jackson, D. J. R., Dewberry, C., Gallagher, J., & Close, L. (2018). A comparative study of practitioner perceptions of selection methods in the United Kingdom. *Journal of Occupational Psychology*, *91*, 33–56. https://doi.org/10.1111/joop.12187

Keller, J. R. (2018). Posting and slotting: How hiring processes shape the quality of hire

and compensation in internal labor markets. *Administrative Science Quarterly. 63(4)*, 848-878. DOI: 10.1177/0001839217736045.

Klotz, A. C., Da Motta Veiga, S. P., Buckley, R. M & Gavin, G. B. (2013). The role of trustworthiness in recruitment and selection: A review and guide for future research. *Journal of Organisational Behaviour*, 34, S104-S119. DOI:10.1002/job.1891

Lodato, M. A., Highhouse, S., & Brooks, M. E. (2011). Predicting professional preferences for intuition-based hiring. *Journal of Managerial Psychology*, *26*(5), 352–365. https://doi.org/10.1108/02683941111138985

Loepp, E., & Kelly, J. T. (2020). Distinction without a difference? An assessment of MTurk Worker types. *Research and Politics, January – March* 1-8. https://doi.org/10.1177/2053168019901185

Luan, S., Reb, J., & Gigerenzer, G. (2019). Ecological rationality : Fast-and-frugal heuristics for managerial decision-making under uncertainty. *Academy of Management*, *0*(ja), In press. https://doi.org/10.5465/amj.2018.0172

Moore, C., Lee, S. Y., Kim, K., & Cable, D. M. (2017). The advantage of being oneself: The role of applicant self-verification in organizational hiring decisions. *Journal of Applied Psychology*, *102*(11), 1493–1513. https://doi.org/10.1037/apl0000223

Mutoko, W. R., & Kapunda, S. M. (2017). Factors influencing small, medium and micro-sized enterprises' borrowing from banks: The case of the Botswana manufacturing sector. *Acta Commercii, 17(1),* 1-9. https://doi.org/10.4102/ac.v17i1.426

Pacini, R., & Epstein, S. (1999). The relation of rational and experiential information processing styles to personality, basic beliefs, and the ratio-bias phenomenon. *Journal of Personality and Social Psychology*, *76*(6), 972–987. https://doi.org/10.1037/0022-3514.76.6.972

Paetz, F., Hein, M., Kurz, P., & Steiner, W. J. (2019). Latent class conjoint choice models: A guide for model selection, estimation, validation, and interpretation of results. *Marketing ZFP - Journal of Research & Management, 41(4),* 3-20. DOI: 10.15358/0344-1369-2019-4-3

Pallant, J. (2016). *SPSS survival manual* (6th edn.). New York, NY: McGraw-Hill.

Petzer, D.; Mostert, P.; Kruge**r**, L-M., & Kuhn, S. (2014). The dimensions of brand romance as predictors of brand loyalty among cell phone users. *South African Journal of Economics & Management Sciences, 17(4),* 457-470. DOI: 10.4102/sajems. v17i4.721

Rashid, Z. A., Sambasivan, M., & Johari, J. (2003). The influence of corporate culture and organisational commitment on performance. *Journal of Management Development*, *22*(8), 708–728. https://doi.org/10.1108/02621710310487873

Rodrigues, U. R. (2018). Tournament of managers: Lessons from the academic leadership

market. *Journal of Corporation Law, 43(3),* 537-579.

Steiner, P. M., Atzmüller, C., & Su, D. (2017). Designing valid and reliable vignette experiments for survey research: A case study on the fair gender income gap. *Journal of Methods and Measurement in the Social Sciences*, *7*(2), 52–94. https://doi.org/10.2458/v7i2.20321

Stewart, N., Ungemach, C., Harris, A. J. L., Bartels, D. M., Newell, B. R., Paolacci, G., & Chandler, J. (2015). The average laboratory samples a population of 7,300 Amazon Mechanical Turk workers. *Judgment and Decision Making, 10 (5)*, 479-491.

Svensson, G. (2015). Contemporary process to test the theory of a research model through covariance-based structural equation modeling in business research: Is it science, quasi-science or just non-science? *European Business Review*, *27*(4), 447–458. https://doi.org/10.1108/EBR-08-2013-0104

Svensson, G. (2018). A toolkit to examine multi-item measures – avoiding pitfalls and flaws. *European Business Review*, *30*(1), 82–92. https://doi.org/10.1108/EBR-09-2017-0166

Svensson, G., Høgevold, N. M., Petzer, D.; Padin, C., Ferro, C.; Klopper, H. B.; Sosa Varela, J. C. & Wagner, B. (2016). Framing stakeholder considerations and business sustainability efforts: a construct, its dimensions, and items. *Journal of Business & Industrial Marketing*. 31(2), 287-300. DOI: 10.1108/JBIM-05-2014-0094.

Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics (6th edn). Boston: Pearson Education.

Van Esch, C., Hopkins, M. M., O'Neil, D. A., & Bilimoria, D. (2018). How perceived riskiness influences the selection of women and men as senior leaders. *Human Resource Management*, 57(4), 915-930. 16p. DOI: 10.1002/hrm.21902.

Wahid, N. A., Rahbar, E., & Shyan, T. S. (2011). Factors influencing the green purchase behavior of Penang Environmental volunteers. *International Business Management*, *5*(1), 38–49.

Yoo, B., Donthu, N., & Lenartowicz, T. (2011). Measuring Hofstede's five dimensions of cultural values at the individual level: Development and validation of CVSCALE. *Journal of International Consumer Marketing*, *23*(3–4), 193–210. https://doi.org/10.1080/08961530.2011.578059

Zikmund, W. G. (2013). *Business research methods* (9th ed.). Mason, OH: Cengage Learning.

Appendix 4: UP Ethics clearance letter

Gordon Institute of Business Science
University of Pretoria

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Dear Gillian Keneilwe Mmolotsa

18 May 2020

ETHICS APPLICATION: Gillian Keneilwe Mmolotsa (Student Number: 18378855)

Research Title: The effect of uncertainty avoidance on the relationship between experiential decision-making style and managerial heuristics use in employee selection

On behalf of the Gordon Institute of Business Science Doctoral Research Ethics Committee, I am pleased to confirm that your application for ethical clearance, for the above research has been approved on the basis described in the application form and supporting documentation.

We wish you success in your studies.

Yours Sincerely

Professor Gavin Price
Doctoral Research Ethics Committee Chairperson

Note: GIBS shall do everything in its power to protect the personal information supplied herein, in accordance to its company privacy policies and the Protection of Personal Information Act, 2013. Access to all of the above provided personal information is restricted, only employees who need the information to perform a specific job are granted access to the information.

2020 ver.

Appendix 5: Republic of Botswana Research permit

Telephone : 3655400 / 3655483
Fax : 3914271
E-mail: botsamotec@gov.bw

REPUBLIC OF BOTSWANA

Block 6, Government Enclave, Headquarters
Private Bag 00517 Gaborone

MINISTRY OF TERTIARY EDUCATION, RESEARCH, SCIENCE AND TECHNOLOGY

REF: MOTE 1/18/6 VIII (31)

10th June 2020

Mrs Gillian Keneilwe Mmolotsa
P.O. Box 80099
GABORONE

Dear Madam

The effect of uncertainty avoidance on the relationship between experiential decision making style and managerial heuristics use in employee selection.

Reference is made to your application on the above captioned matter.

Your application for Research Permit for the proposed research titled: ***'The effect of uncertainty avoidance on the relationship between experiential decision making style and managerial heuristics use in employee selection.'*** has been granted. The permit is valid for one (1) year. You are kindly advised to peruse section 4.4 to 5.0 of the 'Guidelines for Application for Research Permit' in Botswana.

Any changes in the proposed research should be communicated, without fail, to the Permanent Secretary, Ministry of Tertiary Education Research Science and Technology citing above reference. You are advised to submit final research report to the Department of Research, Science and Technology.

By copy of this letter, the Director of Research Science and Technology (DRST) is advised to take note of this development and ensure that deliverables to government are timely met. Furthermore, you are requested to deposit completed research report to DRST.

Yours faithfully

Dr Kekgonne E. Baipoledi
For/Permanent Secretary

DEPARTMENT OF RESEARCH SCIENCE & TECHNOLOGY
12 JUN 2020
RECORDS MANAGEMENT
PRIVATE BAG 00178 GABORONE

cc: Director of Research Science and Technology

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