EPISTEMOLOGICAL MINDSETS HOW MINDSETS AFFECT HUMAN BEHAVIOUR

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A DISSERTATION

Presented to the Department of Psychology
Program at Selinus University

Faculty of Psychology
In fulfillment of the requirements
for the degree of **Doctor of Philosophy in Epistemological Mindsets**

2020

 "I do hereby attest that I am the sole author of this project/thesis and that its contents are only the result of the readings and research I have done

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ABSTRACT

Epistemological mindsets play significant roles in the implementation of student goals. Besides, they can be used in predicting student's achievements in education psychology. The purpose of the present study was to investigate how epistemological mindsets influence human behaviour. Qualitative and quantitative methodologies were applied in this descriptive study involving 200 participants that had been selected through convenience sampling method. Primary data from questionnaires and interviews and secondary data, obtained from books, journals, and reputable publications, were incorporated in the study to enable the prediction of the future. The results of the study were analyzed using SPSS and Spearman Correlation Coefficients. It was revealed that individual views and knowledge affect the way people behave, act or think. It was further established that epistemological beliefs shape human mindsets, ultimately affecting how they behave.

Key terms: epistemological mindsets, behaviour, change, and knowledge.

CHAPTER 1: INTRODUCTION

1.1 Background to the Study

Epistemology is a philosophy field that deals with the justification and nature of the knowledge of humans (Hofer, 1997). Epistemologies refer to a set of perspectives concerning the nature of learning, understanding, knowing and knowledge, which will affect the way of life of human beings (Elby, 2011). Epistemological mindsets contribute to significant changes in human performance, the achievement of goal-oriented objectives, implementation of mastery, as well as human behaviour. Compared to implicit theories of intelligence, epistemological mindsets play significant roles in the implementation of student goals and it can be used in predicting student's achievements in education psychology (Bråten, & Strømsø, 2004), as well as performance or attitude towards different subjects (Rague, 2017).

Mindset refers to the way, manner, or an approach of gaining insights about particular information (Dweck & Dweck, 2017).The mindset tends to shape how humans access information and as a result, it makes humans construe the world or their experiences in different manners or approaches based on their perceptions, which will ultimately affect human behaviours and choices (Dweck, 2006). Mindset is the mental lens or frame, which select, organizes and encodes data or info, and thus affects the behaviour or perception of human beings, as well as orientates a person toward a definite way of gaining insight on a particular experience or direct a person to response or take a specific action. Mindset controls various cognitive functions in humans. Mindsets consist of beliefs that orient human tendencies and reactions, as well as the cultural behaviour of a person (Dekker, 2016).

Mindset affects personal styles that influence an individual's behaviour or choices, individual differences in life history, as well as decision-making patterns of humans (Dweck, 2015;

Kahneman, 2011; Barry, and Halfmann, 2016). Implemental and deliberative mindsets - motivational and cognitive conditions related to post-decisional and pre-decisional frames of mind frames have significant effects on human behaviour. Implemental and deliberative mindsets or thinking does not only impact or affect human behaviour but also cognition (Armor & Taylor, 2003). Even though epistemological mentality has been studied in various research fields, for example, education (i.e., growth versus fixed mindset), this study focuses on epistemological mindsets; it specifically examines how mindsets affect human behaviour.

1.2 Problem Statement

Various authors of existing literature studies (i.e., Dweck, 2015; Barry and Halfmann, 2016; Dekker, 2016;Armor, & Taylor, 2003; Elby, 2011; Rague, 2017; Dweck& Dweck, 2017) have examined epistemologies and expectations, mindset, growth mindset, and how it changes the way humans think, global mindset and cross-cultural behaviour. Other authors (i.e., Barry and Halfmann, 2016; Rague, 2017) have also studied the impact of mindset on decision-making, and the effects of the epistemological beliefs and mindset on student mathematical performance, respectively. However, there is still much that is open for present or future research in this field since none of these existing literature studies has examined epistemological mindsets: how mindsets affect human behaviour. Therefore, this study fills this current literature gap by examining how mindsets affect human behaviour.

Besides, most of the existing literature studies have overemphasized the mindsets and epistemology at the expense of other important variables such as how mindsets affect human behaviours. Despite having gathered significant research interest in this field, the existing literature review only demonstrates evidence of an epistemological mindset; however, very few to none of the current studies have identified how these mindsets affect human behaviours. Thus, this study

aims at introducing the new body of knowledge of how mindsets affect social behaviours and propose or create a new philosophy/theory/school of thought. It will also recommend how epistemological mindsets impact human behaviours.

1.3 Research Objective and Research Questions

1.3.1 Research questions

1. What are the impacts of epistemological mindsets?

2. What are the effects or impacts of Mindsets on human behaviour?

1.3.2 Research objective

1. To investigate the impacts of epistemological mindsets

2. To explore how mindsets affect human behaviour

3. To identify gaps in the literature and propose a new philosophy or theory and school of thought or body of knowledge.

1.4 Study significance and implication of the study findings

The study is of considerable significance because it examines epistemological mindsets: how mindsets affect human behaviour and provide new insights on how mindsets affect human behaviour. The academicians can use the research findings to enhance their understanding of the relationship between mindset and human behaviour.

In terms of educational implications, the study findings fill the existing literature gap and add a new body of knowledge to this academic field by exploring and identifying how mindsets affect human behaviour. Future academicians will also refer to these research findings since it will provide an instructional guide to future research studies. Lastly, this study will not only offer new

results or evidence to support theories already in place but also create a new philosophy/theory/school of thought, which will provide background information for future researchers in the same field.

1.5 Outline of this Study

After the introduction chapter, this study consists of four other sections as follows:

- Chapter 2. **Literature Review**: the main objective of chapter two is to review current existing literature studies on epistemological mindsets; how mindsets affect human behaviour, as well as pertinent literature in this research domain. It will also include the theoretical and conceptual framework. Lastly, this chapter will identify the research gap based on the reviewed literature.

- Chapter 3. **Research Methodology**: it justifies the methodology, the selected research philosophy, research design, research approach, and research strategy. It also discusses the adopted data collection method, the sampling, and data analysis procedures, study limitations, and concludes with clarification on ethical considerations related to this research.

- Chapter 4. **Data Analysis and Discussion**: discusses how data has been collected, organized, and analysed. This chapter also reports the findings and results of the research and concludes with a summary of the findings.

- Chapter 5. **Conclusions and Recommendation**: discusses in-depth the research findings, provides answers to the research questions, provides recommendations for further research, explains the academic and practical implications of the

research findings, discusses the overall limitations of the investigation, and ends with a brief conclusion to the chapter.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This chapter documents existing and pertinent literature studies that have been done in this research domain, which will be divided into various topics and subtopics. Even though the literature explores a wide variety of epistemology mindsets and associated theories, the focus of this review is on multiple themes or topics and subtopics, which dominate reviewed literature. These various themes or topics and subtopics that will be discussed in this chapter will include epistemological mindsets including epistemology and mindsets, effects of mindsets on human behaviour, theoretical framework including epistemology and learning theories, and conceptual framework. Besides, the chapter will offer a comprehensive overview and understanding of human conduct, as well as the factors that cause or affect human behaviour.

This chapter will also discuss and document the existing empirical literature review and systematic literature reviews pertinent to this study. Although the literature presents the themes above in different contexts, the focus of this study will be on epistemological mindsets: how mindsets affect human behaviour. Lastly, based on the existing literature studies documented and discussed in this literature review chapter, the last section of this chapter will explain the limitations of the documented studies to identify the literature gaps, which this study focuses on filling and add a new body of knowledge.

2.2 Epistemology and Epistemological Mindsets

2.2.1 Epistemology

Epistemology is the branch of philosophy that is about or relates to the value of human knowledge. Epistemology defines, studies, analyses inherently the facts of knowledge, for

instance, psychology of learning, and then assesses or validates mainly the value of human experience as well as of its several types, the validity conditions of human knowledge, limits and range(human knowledge/analysis/critique) (Feldman,2003; Ogbebor, 2011).

Epistemology refers to the study of the limits and conditions of knowledge. In this regard, knowledge refers to the understanding and awareness of specific or unique features of reality. (Dickie, 2016: Martin, 2014). Moser (2005) defined epistemology as the study of the scope and nature of knowledge and vindicated belief. Epistemology deals with the means of production and skepticism concerning diverse claims of expertise. Epistemology seeks the truth, reliability of knowledge and what individuals think they know (Rescher, 2003). Epistemology examines the nature of knowledge as well as its relationship with the same concepts, for example, justifications, beliefs or truths (Fumerton, 2009). In another study, Pritchard (2004) stated that epistemology is about matters regarding the process of creating, justifying, and distributing human knowledge in specific research fields such as philosophy.

Epistemology guides the assumptions concerning the "association between the study problem and the investigator or author (MacMynowski, 2007). Epistemology also shapes how an investigator or author answers research questions about the knowledge validity (for example, quantitative or qualitative), the legality of research approaches used in producing knowledge, which includes formulation and validation of hypothesis, induction, and experimentation), as well as the presumptions intrinsic or essential in specific conceptualizations of the research problem, to accomplish the purpose of the study in philosophy research studies (BonJour,2010; Miller et al., 2008).

Some scholars have emphasized the need for the use of epistemological pluralism in the philosophical research. For instance, Miller et al. (2008) suggested that philosophical

interdisciplinary research studies should use epistemological pluralism because this would result in the production of fully integrated knowledge and achieve in-depth as well as comprehensive findings on the study phenomena. Other scholars have had similar observations on the place of epistemological pluralism in research (Healy 2003; Holdershaw and Gendall, 2008; Miller and Erickson 2006). Thus, this study will employ epistemological pluralism to investigate epistemological mindsets and provide essential insights on how mindsets affect human behaviour.

2.2.1.1 Types of Epistemology

There are three types of epistemology, which include pragmatism, coherentism, and foundationalism. These are discussed below:

1. Pragmatism. This is based on the concept that if it can work, then it is true. Ideas are tools used by humans to achieve what they need to acquire knowledge or gain an understanding of something. Pragmatism belief that of these tools are valid if it works well to attain their objectives and assist humans to live a better life. One of the main advantages is that pragmatists realise that human knowledge is continuously varying and human beings tend to have limits. Moreover, Pragmatism manages to evade coherentism and foundationalism problems. One of the drawbacks or disadvantages of pragmatism is that it is difficult to describe "what truly works."

2. Coherentism. This is based on the concept that knowledge is actual only if it is not self-contradicting. One of the main advantages is flexibility. However, it makes it harder to judge the opinions or perceptions of other individuals as "untrue."

3. Foundationalism. This is grounded on the concept that statements or axioms, which are undoubted. One of the main advantages of foundationalism is that it is very accurate and detailed. It gives a clear explanation of what is knowledge and what is not. True experience exists when axioms are rational and logical. On the other hand, the main disadvantage of

foundationalism is that it is hard to come up with consistent aphorisms/statements for foundationalism that are based on true knowledge (BonJour, 2010; Horrigan, 2007; Niiniluoto, Sintonen, & Woleński, 2004; Zagzebski, 2009).

Other researchers have divided knowledge into three groups. Kern (2017) found that philosophers have naturally divided knowledge into three diverse groups, which include propositional, procedural, as well as personal. Thus, studying propositional, procedural, as well as personal knowledge will provide an important foundation and insights that will guide scholars, philosophers in understanding the epistemological mindsets and its effects on human behaviour. Shamshiri et al. (2016) studied the theory of knowledge in current epistemology and found that coherentism and foundationalism are two critical schools of philosophy that directly deals with the issue of justification of knowledge.

Epistemological foundationalism. Epistemological foundationalism states that justification is designed and organised like a constructed structure (Shamshiri et al., 2016). Epistemological foundationalism is based on the perception that definite beliefs can be justified only if they are supported by and built upon the fundamental assumptions, whereas other ideas are inherently vindicated or justifiable. This implies that the justification of knowledge has a coherent structure; hence, there are two types of beliefs: namely superstructure beliefs and fundamental beliefs (which are fundamentally justifiable). On the other hand, superstructure beliefs are only justified by depending upon the underlying assumptions. Classical foundationalists assert that there is a difference between superstructure beliefs and fundamental beliefs. For example, underlying assumptions are those which refer to the immediate experiences and sensory states of a person, while the superstructure beliefs are connected with the central neural states of a person. Direct encounters and sensory perceptions in foundationalism are beliefs that are independent and

at the same time, accomplish the prerequisite of other ideas for justification in epistemological contexts.

It has equally been found that classical foundationalism is a type of experientialism. This is based on the assumption that assumes that every knowledge of a person is derived from their personal experiences (Shamshiri et al., 2016). Moreover, classical foundationalism assumes that beliefs within the limits of motor states and sensory states tend to be consistent and dependable; therefore, they undertake the significant roles of fundamental beliefs. Classical foundationalism states that a belief, which is outside the limits of personal experience, can only be justifiable by depending on the assumptions that are contained in the sensory states' domains.

Epistemological foundationalism states that superstructure beliefs and fundamental beliefs tend to differ among various groups of people since different individuals tend to hold a different view, which shapes or guides the way they behave in different settings. Epistemological foundationalism can also be divided into moderate foundationalism and extremist foundationalism (which consist of classical foundationalism). The extremist foundationalism argues that a belief is fundamentally justified when it is not modified, real, specific, and infallible. On the contrary, moderate foundationalism does not consider these above conditions as essential to justify the beliefs of a person. Instead, moderate foundationalism asserts that it is sufficient for a fundamental understanding to be likely or conceivable. Shamshiri et al. (2016) concluded that epistemological foundationalism including superstructure beliefs and fundamental epistemological beliefs greatly influences human behaviour or has significant influences on human behaviour depending on individual contexts.

Epistemological coherentism. Coherentism assumes that belief cannot be justified except if it fits a system of belief in which each belief is jointly supported by each other. This is different

from foundationalism that presumes that human ideas are justified. Moreover, the main goal of explaining it is not personal/individual beliefs, but it is a belief "system". Hence, for those subscribed to coherentism as a school of thought, epistemological justification is generally an all-inclusive notion instead of structured into superstructure and bases. However, Shamshiri et al. (2016) argued that essential beliefs are justifiable so that their validation can be prolonged to other ideas. In this regard, Shamshiri et al. (2016) suggested that justification of beliefs is accomplished via the codependency and congruency of concepts in a system, for example, rationality or consistency. Beliefs are usually justified only through a referral of previous or other ideas.

In the theory of knowledge in contemporary epistemology, coherentism is generally the opposite of foundationalism. Coherentism states that the beliefs of human beings are codependent but not independent and separate portions. It also says that beliefs collectively act as a source of knowledge. According to the coherentism theory, the criteria for justification are beliefs. Hence, an idea is justified to the degree/extent, which it's not in harmony or incompatible with other purposes. This implies that a belief is justified if the multifaceted views to which it is a member of or it belongs to is totally coherent and united. The worth of all the opinions relies on the significant roles they are playing in the whole complex of beliefs (Shamshiri et al., 2016). If the rationality, unity, or consistency of a belief complex is increased through the replacement or elimination of views, which implies that such beliefs cannot be justified. Therefore, a belief can only be justified when it is in a coherent association with the complex of belief. Accordingly, the conventional theory of justification suggests that justification of ideas is similar to being consistent.

Similarly, when some things are comprehensible with the system of the belief system of an individual, which implies that it is coherent to agree with such beliefs based on past assumptions. Usually, individuals accomplish coherence via elimination and reduction of the incompatible or

contrasting components or fundamentals, whereas when some things are comprehensible or rational with the system of beliefs, it is the most coherent entity to agree with it or admit it – compared with the illogical components (Dancy, 1991). Thus, Dancy, (1991) suggested that a belief complex with coherent rationality or consistency will justify each of it is members and elements. Based on these ideologies of the coherentism theory, Dancy (1991) that the beliefs of people explain their mindsets, which in turn influences the way they behave. This means that an individual's beliefs justify mindsets and impact the development of human behaviours.

2.2.2 Review of Epistemological Theories

Epistemology is a philosophy that deals with the justification and nature of the knowledge of human beings. According to Hofer and Pintrich (1997), individual epistemological development and epistemological beliefs include how people come to know; the ideas and theories people hold about knowing; how these epistemological ideologies are a portion of cognitive processes of reasoning and thinking; how epistemological doctrines influence cognitive processes of reasoning and thinking. Because of its significance in predicting human behaviour, the effects of epistemological beliefs have been an interesting field of research that has gained the interest of various studies and psychologists.

Equally important in understanding human behaviour is psychology. As such, the nexus between philosophy and psychology has been studied. For instance, Piaget (1950) described his intellectual development theory using the term genetic epistemology and thus starting a research quest for developmental psychologists in the inter-relationship between psychology and philosophy. This paved the way for the rising interest in the domination of epistemology and behaviourism that had gotten rid of knowing completely from learning (Kohlberg, 1971). Based

on the intellectual development theory, epistemology brought knowing and integrated knowing into emerging theories of moral development and judgment, and how this affected human behaviourism (Gilligan, 1982; Kegan, 1982; Kohlberg, 1969, 1971). Similarly, Perry's (1970) efforts to comprehend how learners understood/interpreted varied educational experiences had resulted in the development of epistemological theory in university or college learners.

Since then, a study on epistemological reasoning and beliefs has examined and dealt with various research issues, which include:

1. Evaluation of how epistemological beliefs are associated with other motivational and cognitive and processes (Butler & Winne, 1995; Hofer, 1994; Schommer, Crouse, & Rhodes, 1992; Schutz, Pintrich, & Young, 1993;Schommer,1993a, b; Ryan, 1984; Ryan, 1984b).

2. Identification of the dimensions of epistemological beliefs (Schommer, 1990;Schommer, 1994).

3. Refinement and extension of Perry's developmental sequence (King & Kitchener, 1994; King et al., 1983; Kitchener, 1986)

4. Identification and development of more simplified measurement tools for epistemological development and epistemological sequence (Baxter Magolda & Porterfield, 1985; Knefelkamp, 1974; Moore, 1989;Widick, 1975)

5. Examination of gender-associated patterns in knowing (knowledge) (Baxter and Magolda, 1992; Belenky et al., 1986;)

6. Investigation of how epistemological mindfulness/awareness or mindsets is an essential portion of the process of thinking and reasoning (King & Kitchener, 1994; Kuhn, 1991).

However, in all of this literature, there is very little agreement on the linkages among epistemological beliefs, mindsets, knowledge, and human behaviour. Moreover, there have been no attempts to conceptually and theoretically explain how epistemological mindsets affect human behaviour, leaving a substantial research or literature gap. Therefore, this study aims to examine how epistemological mindsets affect human behaviour, fill the existing literature gap and add a new body of knowledge in this research field.

2.2.3 Review of Epistemological Models

Psychological studies on epistemological development started in the 1950s, and over the years, there have been three concurrent and interesting literature studies that have examined various epistemological subjects. Initiated by Perry (1970), numerous investigators in this research domain have suggested and developed epistemological models, which are, to some extent, development and structural epistemological sequences. The first group of researchers (i.e., Perry, 1970, 1981; Belenky et al., 1986; Baxter Magolda, 1987, 1992) examined and proposed epistemological models that have been used to understand how students interpret their educational experiences. Perry (1970) initiated these actions with a study population consisting of men only; as a result, Belenky et al. (1986) examined "females' ways of knowing" with entirely women participants. Baxter Magolda (1992) becomes fascinated by the implications of the gender of these two lines of research, and, in response, investigated similar issues with both men and females.

The second group of investigators examined the influences or impacts of epistemological assumptions on human reasoning and thinking processes, focusing on skills of argumentation (Kuhn, 1991, Kuhn, 1993) and reflective judgment (Kitchener et al., 1993; Kitchener et al., 1989; Kitchener & King, 1981; King & Kitchener, 1994). The epistemological models and theories differ slightly depending on the focus of the investigation and the study sample used; however,

there were some points of convergence about what people believe knowledge is and how it is they know.

The most recent studies (Ryan, 1984a, Ryan, 1984b; Schommer, 1994b, Schommer, 1990) on the same field took the approach that epistemological concepts are a system of beliefs, which might be less or more independent instead of replicating a comprehensible developmental structure of epistemology. Such epistemological beliefs tend to impact the cognition and comprehension of academic activities among learners, as well as affect the student's behaviours in education settings; hence, this research line has been the most concerned with classroom learning.

2.2.4 Mindsets

Mindsets refer to the presumptions persons or individuals cling to concerning the essential malleability of the individual attributes, which guides and influences or impacts human behaviour (Bresciani, Vrontis & Thrassou, 2013; Dweck & Dweck, 2017). There are two types of mindsets: a growth mindset and a fixed mindset (Dweck, 2008; Dweck, & Dweck, 2017), which are discussed in the following sub-sections.

2.2.4.1 Fixed Mindsets

A fixed mindset presumes that attributes for example, person's abilities, intelligence as well as personality, intelligence, are mainly static, which can't be altered very much (Dweck, 2006). Eason (2014) stated that, in a fixed mindset, persons assume their abilities/qualities are fixed traits; hence, they can't change. Persons with fixed mindsets usually identify these essential qualities (talents and intelligence) instead of thinking of developing as well as enhancing them. Moreover, individuals with fixed mindsets tend to believe that skills only result in achievement, without requiring any struggle or determination; however, this is not correct (Dweck, & Dweck,

2017). Fixed mindsets were initially known as implicit entity theory (Dweck, 1986; Dweck, Chiu, & Hong, 1995).

Fixed mindsets regarding cooperation or concession capabilities, which can be demonstrated through consensus fixed mindsets, affect how a person negotiates and also impacts the human behaviour of various individuals (Kray & Haselhuhn, 2007, p.64). On the contrary, people with fixed mindsets then have repaired or static mindsets and then to develop specific human behaviours like isolation from the rest, low self-esteem, restlessness, among other behaviours. Individuals usually have diverse mindsets about their capabilities indifferent or particular fields or spheres (for example, mindsets concerning or about negotiation managerial, and quantitative skills (Dweck, 1999; 2012; Martin, 2014). Thus, the diversity of the mindset

2.2.4.2 Growth Mindsets

A growth mindset presumes that over time, people tend to develop individual qualities or attributes, which affects their human behaviour, mostly when persons dedicate an intensive effort in learning and application of more effective approaches to achieve their goals (Dweck, 2006; Moore, & Glasgow, 2017). Dweck (1986) stated that the growth mindset was initially known as an incremental implicit theory, in which there is the belief that intelligence can be increased through effort. In a growth mindset, individuals have faith that their most basic capabilities can be developed through hard work, commitment and devotion (Allen, 2016). In such cases, talents and brains tend to be the beginning step of developing growth mindsets since it focuses on creating an incredible passion for learning as well as pliability, which is vital for greater success. Almost every great person has these attributes, which affect their behaviour and performance (Brock, & Hundley, 2016; St, 2018; Williams, 2018).

There are certain notions in the society that have become agreeable over time, and these notions indicate growth in mindsets. For instance, Kray & Haselhuhn, (2007, p.64) stated that growth mindsets are exemplified by agreement with thoughts, which includes "experience is the best teacher in negotiations" and "every person could change even their most basic negotiation attributes". According to Hymer and Gershon (2014), the attributes of growth mindsets tend to guide or influence human behaviour. As such, growth mindsets significantly shape and affect human behaviour.

Other scholars have had different views about mindsets as well. Burnette et al. (2013) stated that mindsets happen on a range between the two examples, such that most people tend to gravitate towards holding either a growth or fixed mindset regarding specific personal attributes or qualities, and the manifestation of growth and fixed mindsets tend to be almost equal among most people. Spinath et al. (2003) argued that even though mindsets shape or affect human behaviour, they are only feebly associated with individual personalities, meaning that mindsets (fixed and growth mindsets) are experientially independent of different personalities or characters.

In addition to the views, Robins & Pals (2002) stated that even though mindsets are generally moderately constant, mindsets tend to be readily introduced or brought by various factors. For example, mindsets are often induced by signals regarding the way organizational culture value personal growth or genius (Murphy & Dweck, 2010); self-persuasion-related strategies or interventions (Aronson, Fried, & Good, 2002); scientific testimonials that focuses on the considerable or limited, and extensive scope for development or improvement of personal abilities (Blackwell, Trzesniewski, & Dweck, 2007); as well as statements or texts/messages about the learnability versus diagnosticity of specific tasks (Dweck, 2008).Therefore, mindsets tend to have the same ontology to other rather stable yet still quite malleable dispositions, for instance,

necessity for success and accomplishment (Allen, 2016; Dweck, & Dweck, 2017); hope (Snyder, Rand, & Ritschel, 2006), as well as optimism (Seligman, 1998;Dweck,2008).

The study of mindsets consists of field researchers investigating the relationships or links of evaluated mindsets, and experimental designs, which examines interconnection by exploring the effects of induced mindsets such as on human behaviour, performance and accomplishment (Burnette et al., 2013).

2.2.5 Mindsets as a Mental Framework in different Settings
Mindsets form mental frameworks, which shape or direct the way a person views, deals with a situation, as well as reacts to the problems they encounter in their daily life as they achieve their personal goals, i.e., how they filter their perceptions of the tasks or activities at hand, other individuals and themselves, (Dweck (1986, 1999, 2008). The study also added that mindsets create a mental framework that usually guides how people behave, and thus, how mindsets affect human behaviour.

Significant experiential studies have revealed that persons holding a fixed mindset are often intimidated instead of being inspired by the success of other people (Hoyt, Burnette, & Innella, 2012) and are usually worried about their performances (Cury et al., 2008). Also, persons holding fixed mindsets tend to be sarcastic or pessimistic about the value of effort (Blackwell, Trzesniewski, & Dweck, 2007), and they generally interpret problems or challenges as threatening (Dweck, 1999). When a person holds a fixed mindset, they are inclined to feel ashamed of any ostensive challenges or inadequacies since they virtually believe that failure reflects fundamentally fixed capabilities and therefore passing up significant chances for developing, improving and realising individual potential (Dweck & Dweck, 2017; Hong et al., 1999).Generally, fixed

mindsets have different effects not only on the potential achievements but also on the behaviour of the people holding this type of mindset (Dweck, 2006).

On the contrary, persons holding a growth mindset tend to view as well as embrace challenges as opportunities for cultivating their talents, skills, or capabilities (Dweck & Dweck, 2017). These persons usually comprehend and recognize that significant efforts are frequently vital for developing their skills or abilities, and thus, they stay relatively composed, calm, tenacious, determined and focused whenever they face difficulties. They also tend to be inspired by the other individual's success, and often learn from criticism (Hymer, & Gershon, 2014; Matthews, 2014; Moore, & Glasgow, 2017).

A growth mindset promotes positive human behaviour. It also supports the identification of opportunities for learning, and thus allows individuals to achieve the more challenging goals they set (Burnette et al., 2013; Dweck, 2006, 2008, 2017).

2.2.6 Growth Mindsets, its Cultivation, and Impacts

Research has shown that developing a growth mindset is beneficial in a variety of contexts, from making a difference for academic success (Aronson, Fried, & Good, 2002; Blackwell, Trzesniewski, & Dweck, 2007; Cury, Da Fonseca, Zahn, & Elliot, 2008; Good, Aronson, & Inzlicht, 2003; Good, Rattan, & Dweck, 2012; Stipek & Gralinski, 1996), in social relationships for adults and children (Beer, 2002; Erdley, Cain, Loomis, Dumas-Hines, & Dweck, 1997; Finkel, Burnette, & Scissors, 2007; Kammrath & Dweck, 2006; Knee, 1998; Levy & Dweck, 1999; Ruvolo & Rotondo, 1998), in the workplace (Heslin & Vanderwalle, 2008; Kray & Haselhuhn, 2007; Tabernero & Wood, 1999), and emotional and physical health (Biddle, Wang, Chatzisarantis, & Spray, 2003; Burnette, 2010; Burnette & Finkel, 2012; Kasimatis, Miller, & Marcussen, 1996; Tamir, John, Srivastava, & Gross, 2007).

According to Dweck (2012), people should always cultivate a growth mindset, which would result in the cultivation of positive human behaviours for higher personality growth and achievement in aspects of life. Moreover, the advancement of growth mindsets will allow individuals to pursue various obstacles in pursuance of their life goals, learn from their experiences, and gain new epistemological mindsets or knowledge.

Besides, various studies (i.e., Dweck, 2012; Good et al., 2003; 2008; Hill & Corbett, 2010; Osborne, 2007; Sassenberg & Moskowitz, 2005) have found that growth mindsets have significant and positive impacts on people's lives such as leading to improved achievements (i.e., increased performance of women in Science, Technology, Engineering, and Mathematics academic fields(STEM), integration of positive behaviours and gives source of hope to minorities. Thus, these authors concluded that growth mindsets impact an individual's success, improved personality features or traits, as well as influences or shapes human behaviours.

2.3 Epistemological Beliefs and Mindsets

Generally, a belief refers to basically a feeling of certainty about something, and the ideas are the fundamental building blocks of these beliefs. Personal beliefs shape peoples' attitudes and influence or develop their mindsets. Mindset is the collection of thoughts and opinions, which makes up the human habits, behaviours and character/dispositions, inclination as well as their mental attitudes, which predetermines an individual's responses and interpretations to situations, circumstances or events (Karwowski & Kaufman, 2017). Thus, beliefs shape human attitudes and determine their mindsets, which collectively shapes or impacts how they behave.

Beliefs and thus people's mindsets develop from four tangible sources, which include expectations and hopes, individual experiences, what people discover intellectually, and their surroundings or environment. These beliefs and mindsets influence or shape human behaviour

(Johnson, 2019). Epistemic belief is defined as a person's knowledge about knowledge: what a person knows about the world, the sources of knowledge or information, as well as how confident people feel about expertise or what they know (Sandoval, 2005; Schraw, Bendixen, Dunkle, Hofer, & Pintrich, 2002). Persons with sophisticated epistemic beliefs have diverse attitudes in which they make sure that their values and beliefs representing a correct reflection of their views or mindsets and what they know about the world (Baron, 2008; Bromme & Goldman, 2014; Stanovich & Stanovich, 2010; Stanovich, 2009).

Investigations in the relationship between epistemological beliefs and mindsets, as well as their impacts on the learner's academic achievement and motivation were done by researchers such as Chen & Pajares (2010). Their study findings revealed that epistemological beliefs mediated the effects of mindsets or implicit theories of capabilities on the science achievement, self-efficacy, goals orientations, as well as learning behaviours of the individual learners.

2.4 Human Behaviour

Human behaviour is a variety of practices shown or displayed by human beings. Human behaviours are influenced by genetics, coercion, persuasion, hypnosis, authority, ethics, values, emotions, attitudes, cultures, and mindsets. Human behaviour has been explored by the academic domains/disciplines of philosophy, anthropology, economics, sociology, social work, psychology, and psychiatry. Human behaviours are experienced throughout a person's entire lifetime. Human behaviours consist of the way people act based on diverse factors, for example, attitude, mindsets, beliefs, core faith, social norms and genetics. Specific/certain traits of every person tend to influence human behaviours exhibited by an individual (Fuentes,2009; Honeycutt, & Milliken, 2012; Ramachandran,2012).

According to Skinner (2011), in philosophy, human behaviour is considered to be impacted and shaped by various aspects such as individual mindsets, attitudes, culture, and other factors related to the environment. On the other hand, Skinner (2012) conducted a detailed study on human behavior and found that human behaviour is generally viewed as having no meaning in sociology, and it is not directed at other individuals; hence, human behaviour is the most basic social action. The social practices of different individuals fall within an assortment with some behaviour outside acceptable limits, some fair, some unusual, while other human behaviours are common among diverse groups of people in the society.

The personal traits vary from individual to individual, leading to the production of different human behaviours or actions from each individual. Human behaviours are also affected or shaped by social norms; this is because people/humans are anticipated to observe/follow definite rules in society that influences or conditions the way persons behave. Human behaviours are also affected or shaped by cultural norms, which in this case, humans are expected to follow or observe specific cultural rules in their day-to-day living. Certain human behaviours are unacceptable or acceptable in diverse cultures or societies. The fundamental faith, which could be perceived through the philosophy of religion of different persons, influences/shapes or impacts the way an individual thinks and this will ultimately lead to diverse human behaviours of people (Andreassi, 2010; Greene, & Kropf,2011;Hutchison, 2008;Rogers, 2016;Thyer, Dulmus, & Sowers, 2012; Van & Besthorn, 2017).

Mindsets, which are defined as an established set of attitudes that a person holds, tend to impact the human behaviour of that person because it influences how a person behaves or acts in a specific condition (Dweck & Dweck, 2017). Attitude is the degree to which an individual has an unfavorable or favorable assessment of human behaviour in question. In this case, the position of

a person dramatically reflects the action that a person will portray in certain conditions. Therefore, human behaviour is significantly impacted by the attitudes people use on their daily basis. Besides, mindset and attitude have significant impacts on human behavior (Dekker, 2016).

2.4.1 Predictors of Human Behaviour and how they impact Human Behaviour

Various authors (i.e., Ajzen, 2005; Albarracin, Johnson, & Zanna, 2014; Cherry, 2019; Harmon-Jones, 2019; Morvan, & O'Connor, 2017;Wicklund, & Brehm, 2013) have found that attitudes shape mindsets, and mindsets influence human behaviours. Besides, a combination of both mindsets and attitudes have a significant influence on human behaviour. As a result, mindsets, and opinions are essential predictors of human behaviour.

Attitudes are habitually the result of human nurture or experiences, and they tend to have an essential effect on social behaviours. Views are either implicit or explicit. Implicit attitudes are unconscious, yet they usually have a powerful influence on social practices and individual beliefs. On the contrary, explicit opinions refer to the positions that people are consciously aware of, which impact the views of people as well as human behaviour (Ajzen, 2005; Cherry, 2019).

Further suggestions, such as of Ajzen (2005), stated that there are numerous diverse components, which make up the attitudes of people. These include behavioural, affective, and cognitive components. Behavioural part states that human behaviours are affected by their beliefs, while emotional component refers to how circumstance, issues, persons and objects make one feel, act or behave, and cognitive component influences or shapes human mindsets, beliefs and thoughts about a particular subject, and as a result, impacts human behaviour.

The study findings from Albarracin, Johnson, & Zanna (2014) stated that learning, social factors, and experiences of a person impact why and how attitudes form. For instance, positions can be learned in different ways, and can also result or emerge directly from individual experiences

or observations. Moreover, social factors, including social norms and social roles, tend to have a stronger effect on attitudes. Social norms encompass the rules of society for what behaviours are perceived as suitable, whereas social functions relate to how persons are anticipated to behave in a specific setting or purpose. Albarracin, Johnson, & Zanna (2014) concluded that social norms, social functions, learning, and experiences influence not only the attitudes of people but also their mindsets, which ultimately have significant effects in shaping or development of their human behaviours.

Human beings tend to alter their attitudes and mindsets to achieve specific human behaviours they desire. This notion is supported by the theory of cognitive dissonance, which suggests that the experiences of an individual in distressful psychological situations as a result of conflicting beliefs or thoughts tend to shape human mindsets, which plays a critical role in influencing human behaviour to reflect the actual behaviours (Morvan, & O'Connor, 2017; Harmon-Jones, 2019).

Similarly, according to the dissonance theory of attitude change (Simonson, 1977), individuals change their attitudes when they have contradictory or differing beliefs regarding a specific topic. Thus, persons tend to change their attitudes to decrease the tensions created by such conflicting or discordant opinions, and as a result, this leads to changes in their mindsets, which will also affect their human behaviours (Wicklund, & Brehm, 2013).

Individual mindsets, attitudes, beliefs, social relationships with other people, and biological influence have diverse impacts on human behaviour and thus can be used to predict human behaviour (Holdershaw, and Gendall, 2008). In general, philosophers have an assumption that measuring and understanding cognitive variables, as well as mindsets, helps in predicting human behaviour (Holdershaw, and Gendall, 2008).

On the other hand, the essential critical presumption in the philosophy that underlies the ideology or concept of mindset and personal attitude is the idea or belief that epistemological mindsets and attitudes in some way predict shape, direct, influence, impact, or guide actual behaviours of human beings. As a result, it is not surprising that scholars interested in studying factors affecting human behaviour or understand the theory of human behavior tend to put greater emphasis on the significant roles of individual attitudes and mindsets in explaining human behaviour as well as in predicting and social practices or actions(Ajzen & Fishbein, 1974; Holdershaw, and Gendall, 2008; Kraus, 1995; Gross & Niman, 1975).

Behavioural intentions have been perceived in different aspects. Specifically, Ajzen and Fishbein (1975) perceive behavioural intentions as an instantaneous experience of conforming specific human behaviours; therefore, understanding the purposes of individuals to perform the act helps in predicting the expression of that person. Although this view seems somehow deceiving, Fishbein and Ajzen (1975) stated there are key variables, which affect the association between human behaviour intentions. The variables/factors include the actual time of the act and intervening time between the stated purposes. East, (1990) argued that because it's habitually unfeasible to measure an individual's plan directly or instantly preceding or before the performance of the behaviour, the measure of purpose gotten at a given period won't represent the intentions of that individual at the period when his/her conduct was observed.

Interestingly, changes in humans in the mindset and intentions of people tend to influence their human behaviours greatly. For example, if an individual states a plan to purchase a house in 90 day period, the price of the home or the availability of the house or any changes in her/his mindset or financial position will affect that stated intention (Fishbein and Ajzen, 1975). However, Fishbein and Ajzen (1975) argued that the measures of human mindsets, intentions and attitudes

should be done and attained at the similar level of specificity as the behaviour these factors try to envisage as this will help in understanding the cause as well as impacts of mindsets, intentions and attitudes on human behaviour, and how these factors predict human behaviour in different cases or settings.

The critical challenge in investigating human behaviour currently is the predominant perception that predictions of human behaviour could happen from measures of human intentions, attitudes, and personal beliefs, irrespective of situational factors, (Foxall, 2002). Consequently, there is a need to study other significant methods or strategies that can help to predict and understand human behaviour. In this regard, Foxall (2002) proposed that researchers examining human behaviour should therefore investigate and understand human mindsets, which often play an essential role in the cause and effect of human action, as this will help them accurately measure or predict human behaviour.

2.5. Effects of Mindsets on Human Behaviour

There are different definitions of mindset that exist such as of Justin (2016), who defined mindset as a specific way of thinking; it is a mental attitude that is shaped by personal or individual beliefs. Mindsets shape and influences human behaviour. It also drives human actions and resulting outcomes. For example, mindset determines the feelings of a person, which, in turn, determines the activities and results of that individual. This implies that changing the mindset of a person will not only improve their life but also change the way they behave (human behaviour) or act. The mindsets of people are shaped or influenced by nurture and nature. The environmental aspects (i.e., schools they attend, places people live, and people they interact with) also have significant influence or impacts on human behaviour. Three voices influence the mindset of a person. These

include the view of the beliefs or perceptions of a person, the voice of their peers, and the voice of the authority (Justin, 2016; pg. 42-43).

In another study by Dweck (2017), mindsets also shape thought, habits, and beliefs of people, which in turn affect what people do, feel, think and behave, while Martin (2014) found that an epistemological mindset is effective in changing human behaviour. Individuals tend to change their mindsets to make sure that their thinking leads to a new anticipated or favourite human behaviour. Although this can be sustainable, it might take considerable effort and time to influence a change in mindset that would effectively change human behaviour. On the other hand, with the investment of energy and time, an individual's mindset could significantly lead such a person to take necessary actions that would lead to a social, behavioural change of the individual. The evolution in individuals' mindset is directly related to the development in individual behaviour (Dweck, 2008; Fumerton, 2009).

The attributes of epistemological mindsets shape or guides the development of desired human behaviour and thus, leading to changes in social behaviours. For example, positive or negative (either fixed or growth) mindsets tend to positively or negatively affect human behaviour. This shows that people should not underestimate the power of a positive mindset because it has a great potential to positively change their behaviour, or their performances by creating self-fulfilling divination or belief. Individual mindset affects not only human behaviour but also a person's resilience when facing challenges, creativity, self-esteem, and confidence. Therefore, there is a need for changing individual mindset such as an epistemological mindset to achieve the desired behaviour or for better human behavioural change. Besides, people can model their mindsets, which would lead to the modeling of new human behaviour patterns in different ways to achieve the desired human behaviour (Sweeney, & Imaretska, 2016; Wendel, 2013).

The epistemological mindset and beliefs people hold play an essential role in changing their human behaviour (Martin, 2014). Having the desired change in mindset and resultant or associated human behaviour also helps an individual to achieve personal goals. People also tend to adopt a human behaviour that is consistent with their current mindset. As a result, cultivating the right mindset will lead to positive human behaviours, which can inspire and motivate individuals leading to improved creativity, productivity, performance, and ultimately a success, as well as social development and interaction with other individuals (Dekker, 2016; Dweck, 2017).

The impacts of mindsets on human behaviour can be successfully examined. Specifically, Armor and Taylor (2003), explored how implemental and deliberative mindsets such as motivational and cognitive states related to pre-decisional and post-decisional mind frames regulate or affect human behaviour. Their study findings revealed that people with implemental mindsets performed more than those with deliberative mindsets. However, implemental mindsets had more positive effects on human behaviour than the deliberative mindsets. Armor and Taylor (2003) concluded that implemental and deliberative mindsets affect human behaviour and cognition. Moreover, mindsets tend to self-regulate social behaviours (Burnette et al., 2013).

The elements of the mindset, such as explicit and implicit principles, beliefs, and values, drive or shapes an individual's behaviour. Changes in these elements of mindset affect or influence the invisible and visible acts of a person leading to adoption and exhibition of particular human behaviour that is consistent with the mindset. There is also a significant correlation between specific mindsets and human behaviour, which is often characterized by a focus on implementation, stronger orientation and revitalization of abilities, and individual performances. In other words, mindset affects human behaviour, which, in turn, influences an individual's ability to accomplish personal goals in life (Bresciani and Sola, 2006).

Mindsets facilitate the change of human behaviour by shaping how people perceive their trait-pertinent situational cues. Growth mindsets develop people's perceptual knowledge or thinking leading to the creation or implementation of desired human behaviour. On the other hand, epistemological mindsets can influence the human behaviour of a person and associated outcomes over time (Dweck, 2008). Based on the trait activation theory, mindsets, for example, the implicit assumptions of a person about the malleability of the dispositional factors, which affects human behaviour (Dweck, 1986; 1999; 2006; 2008), directs or guides the understanding of trait-pertinent contextual cues that shapes how humans behave in different context or settings. Mindsets also have *perceptual* effects on human behaviour. Epistemological mindsets have a direct impact on human behaviour such as they can facilitate the accumulation of robust knowledge or beliefs, which will play a vital role in improving individual, social, cognitive and philosophical development. Additionally, epistemological mindsets have significant impacts on human behavioural performance and related career outcomes of a person leading to career success (Ng et al., 2005).

Studying an individual's mindset and personality traits provides in-depth insights that help one to understand and predict human behaviour, (Heslin, Keating, & Minbashian (2017). This is because mindset and personality traits act as predictors of human behaviour and thus changing mindsets leads to corresponding changes in human behaviour. Mindsets also shape perceptions of trait-pertinent cues, which moderate or affect human behaviour (Heslin, Keating, & Minbashian,2017; Dweck, 2017). The patterns and impact of epistemological belied and mindsets findings such as; individual factors, student's behaviour, academic achievement, task performance, self-efficiency, conceptual change, cognitive development and motivation was affected or influenced by the student's epistemological mindsets and beliefs, (Lodewyk (2007).

In addition, another definition of mindset that exists is that of Dweck (2006), she defined mindset as a series of beliefs or self-perceptions held by persons about themselves, which determines the mental attitude, outlook and human behaviours of people. For instance, the view held by individuals perceiving that they are either 'not intelligent' or 'intelligent' profoundly impacts the way they behave in specific settings such as academic settings. Thus, Dweck (2006) stated that mindsets (both growth mindsets and fixed mindsets) significantly impacts and shapes human behaviour.

2.6. Theoretical Framework: Theories Pertinent to the Study

This section discusses different theories used in this study to provide a comprehensive understanding or insights on epistemology, epistemological mindsets, as well as the effects of mindsets on human behaviour. The theories discussed in this section include the epistemology and learning theories, theories in epistemology and learning theories, the theory of knowledge and mind, as well as the Dweck's theory of mindset. These theories will guide this study by providing a theoretical understanding and framework, which guides in the accomplishment of study objectives and answering of the research questions. The theories include:

2.6.1 Epistemology and Learning Theories

Epistemology refers to a branch of philosophy, which examines the nature, origin, approaches, justification, as well as limits of human knowledge. These beliefs have significant effects on the development of knowledge since they're often perceived to be the fundamental theories and principles/values, which are functionally connected to knowledge and most beliefs people hold. The main epistemological terms include interpretivism, pragmatism, and objectivism (Hofer & Pintrich, 1997).

Interpretivism is related to constructivism. Knowledge is created collectively or individually, as well as differs from one individual to another. The 'created knowing' beliefs tend to be associated with beliefs in learning (Brownlee, 2004; Hammer & Elby, 2003), that are based on the perception of knowledge as complex, tentative, and requiring to be continuously evaluated (Gill, Ashton, & Algina, 2004). Pragmatism refers to the process of acquiring knowledge through "procedural knowing" (Kuhn & Weinstock, 2002). Brownlee et al, (2008) stated that pragmatism, which is utilised in explaining the knowledge acquisition, encompasses active processing whereby there is existence of any truth exists. On the other hand, objectivism is related to empiricism, which is a process of acquisition of knowledge, where sensory experience (what people quantify with their individual senses) is the only authenticated, valid, and trusted source of knowledge. This process of gaining knowledge is usually the initial step in obtaining information, and it is often called "pre-procedural knowing" (Kuhn and Weinstock, 2002).

According to the epistemology and learning theory (Hofer & Pintrich, 1997), learning refers to the process of acquiring new skills and knowledge. Learning comprises various processes that range from rote memorization and practices to the creation or development of completely new capabilities as well as scientific theories, which extends previous knowledge. Learning is not limited to human beings, but can be acquired by machines or animals. Therefore, learning is an adaptive change, whether belief or in behaviour (Hofer & Pintrich, 1997; Kelly, 2016).

Learning theory deals with the ambiguity not by contending on an independent, sharper "explication" of reliability, rather it studies various or different likely explications, none of which is insisted upon. Such strategy slightly changes the emphasis from intractable debates about what reliability is to the more objective tasks that involves the determination of the specific senses of reliability that can be achieved in a precisely provided and specified learning issue (Kelly, 2016).

Formal Learning Theory is a non-empirical (priori), mathematical study of the strategic reliability conception. Formal Learning Theory does not investigate whether persons really know or how individuals learn; however, it examines reliability of humans or systems, for instance, how they are likely reliable. Hence, learning theory is associated with the epistemological and traditional psychological issues; however, it maintains its individual, definite character and prominence (Kelly, 2016).

2.6.2. Theories in Epistemology

Theories in epistemology is used in addressing the queries related to how human beings construct concepts in their minds, develop epistemological mindsets, the reliability of their senses, the association between the objects of their knowledge and what humans "know', as well as the nature of human knowledge itself. In this current study, the theories in epistemology will offer useful insights and theoretical background, which helps in studying the impacts of epistemological mindsets: how mindsets affect human behaviour.

Generally, the theories in epistemology about the association between the objects of human knowledge and the knowledge in human minds are categorized into different positions, which includes epistemological pluralism, epistemological monism and epistemological dualism. These positions are discussed as follows:

- **Epistemological Pluralism.** This concept states that knowledge is vastly and greatly contextualized by cultural, historical, as well as other outside factors. Therefore, instead of there being merely two types of things as in dualism i.e., a combination of physical and mental or one type of something, for example in monism, i.e., either essentially physical or fundamentally mental, an array of things that are currently available influencing the attainment of human knowledge such as the physical objects, the sensory and mental events of humans, as well as the numerous or diverse impacts on peoples' behaviour as a result of

different or individual epistemological mindset that lie outside of the immediate control of human beings. The ideology of epistemological pluralism is also known as epistemological relativism since knowledge is interpreted/construed as relation to diverse cultural and historical forces (Turkle and Papert, 1992; Ogbebor, 2011). Miller, et al. (2008) stated that epistemological pluralism acknowledges or states that, in any given research setting, there may be numerous significant approaches/ways of knowing, and that accommodating epistemological pluralism (plurality) could result in more successful incorporated and in-depth research. Thus, this strategy is mainly valuable in this research, which examines epistemological mindsets; how mindsets affects human behaviour.

- **Epistemological Monism:** This is based on the concept that there is a closer association between the real objects and human knowledge about such objects; thus, epistemological monism guides the development epistemological mindsets based on the knowledge of real objects, and their influences or impacts on human behaviour. Eventually, they are not two completely diverse things as in Epistemological Dualism - either the known objects are equated with the mental objects, for example in Idealism or the mental object is equated with the known object, just like in Realism. However, these statements about physical objects only make sense if people could be interpreted as really being statements about human sense data since human beings only have accessibility to their mental world and not their physical world (Ogbebor, 2011).

- **Epistemological Dualism**. This is based on the concept that ideas "in the human mind" and the object "out there" are two totally dissimilar stuff. Critical Realism is a form of Epistemological Dualism due to the fact that critical realism contributes to the opinion or understanding that there is both an outside world (objective world) and a mental world.

Knowledge regarding the outside world might often be imperfect or could not continuously be conceivable, but nonetheless it could, in belief, be attained as well as it is basically dissimilar from the mental world of human minds or epistemological mindsets. (Marinopoulou, 2017; Ogbebor, 2011).

2.6.3 Theory of Mind

The 'theory of mind', as defined by Premack and Woodruff (1978), is the individual's capability of interpreting human behaviours or mindsets and related behavioural change by attributing mental states to themselves as well as to other persons. The central tenet of the theory of mind is that persons act in regard to their beliefs and mindsets, with the aiming of achieving their desires or accomplish certain behaviour (Burr& Hofer, 2002). Moreover, the belief-desire theory enables an individual to elucidate and forecast a greater deal concerning human mindsets, actions, behaviours, and talk (Astington, Pelletier, and Homer, 2002).

The theory of mind has become more expounded in view of a diversity of human desires and beliefs, for instance, human mindsets as well as the mental states including of wishing, fearing, hoping, remembering, guessing, knowing and thinking- for instance, human emotions, intentions, mindsets, human behaviour and insights (Astington, Pelletier, and Homer, 2002; Fagnant, & Crahay, 2011).

On the other hand, Montgomery (1992) states that the state of human knowledge and beliefs, occasionally known as epistemic states, which holds an essential place in the theory of mind; therefore, the development of epistemological understanding is a significant portion of theory-of-mind development.

Epistemological mindsets and understanding encompasses a cognisance of the mental states of knowing or not knowing, of being mistaken or certain, as well as of the role of inference, communication and viewpoint/perceptions, as well as inference in offering indication for these states of belief, ignorance, and knowledge (Astington, Pelletier, and Homer, 2002).

Based on the theory of mind, a person's recognition that diverse individuals would have different beliefs, epistemological mindsets, or behaviour about the same reality, as well as that human behaviour or beliefs are subject to change. The theory of mind also states that people have different epistemological mindsets, which influences their human behaviours (Astington, Pelletier, and Homer, 2002; Fagnant, & Crahay, 2011). Similarly, O'Neill, Astington, & Flavell, (1992) states that the theory of mind states that persons construct their epistemological mindsets beliefs via communication, and perception, as well as that diverse information comes from dissimilar sensory modalities.

2.6.4 Epistemology: The Theory of Knowledge

Epistemology, which is also known as the investigation or examination of the theory of knowledge, is one of the significant fields of philosophy (Cardinal, & Hayward, 2004). Rescher, (2003) stated that the majority of philosophers apply the tripartite theory of knowledge that is used in analysing the knowledge as a vindicated true belief, as a working and classical model to provide an in-depth understanding of how epistemology affects human behaviour. Lemos, (2007) argued that much of human knowledge comes to people via their perceptions and senses. However, according to the theory of human knowledge, human beings do not passively receive data or info via human sense; debatably or perhaps, humans contribute just as much to their experiences as they gain new knowledge. In addition, much of human knowledge comes to people via their perceptions and senses (O'Brien, 2006).

Epistemology defines knowledge and studies the definitive source of knowledge, for example, human knowledge, as well as how knowledge influences individual's perception, mindset or behaviour (Fumerton,2009). Based on the theory of knowledge, there are two traditional sources of knowledge, which includes empiricism and rationalism.

1. **Empiricism.** Empiricism is a theoretical concept that states that human experiences are the primary source of their knowledge. It is a theory that states that human knowledge originates mainly from their sensory experiences (Meyers, 2014). Viola, (2013) stated that empiricism appears in the history of philosophy in three principal forms, which include positivism, sensism, and materialism. Empiricism focuses on the role of experience, particularly experiences based on perceived observations by the five senses of human beings in the development or creation of concepts (Jordan, 2013).

   Empiricism asserts or assumes that human knowledge originates predominantly from what their senses tell them as well as their experiences. Essentially, empiricism assumes that people learn things or gain knowledge through perceptions and these shape the development of certain individual mindsets, which ultimately influences their human behaviours (Crignon, Zelle, & Allocca, 2013; Preyer, Siebelt, & Ulfig, 1994; Robinson, 2015).

   Empiricism is the philosophical notion that human experiences that are founded on their experimentations as well as observations, are usually viewed by empiricists such as Hume, Berkeley, & Locke, (2013) as the main source of knowledge. Based on empiricism, the information that an individual gathers with her/his senses must be used in making decisions, deprived of reason or to either political or religious teachings. Mostly, and in its philosophical use application, empiricism means the theory that the phenomenon of

awareness is basically the product of sensuous experience, for example, of sensations that are differently arranged or related (Scheibe, & Falkenburg, 2001). Empiricism plays a critical role in the development and understanding of mental constructs and epistemological mindsets, which influences or impacts how human beings behave (Hume, Berkeley, & Locke, 2013).

Conversely, in its epistemological application, empiricism theoretically asserts that experiences are used to completely derive every human knowledge in an implicit or explicit manner. This means that personal experiences are the primary foundation of every human knowledge and thus such experiences shape the development of specific human mindsets, which also play an important role in influencing human behaviours (Audi, 2003; Dicken, 2010).

Empiricism in philosophy, according to Gupta (2006), refers to the theory of knowledge that emphasises the importance of experiences as a source of knowledge in humans, as well as their role in shaping human mindsets. Philosophically, empiricism asserts that personal experiences are closely associated with their human experiences, particularly as created or shaped through thoughtful experimental measures/arrangements. These experiences also shape or influence epistemological mindsets, which may impact how human beings behave in particular contexts since it is a natural precursor of changes in human behaviours.

2. **Rationalism**. Rationalism refers to the general philosophical course of acceptance as the only core of reality driven by and from the knowledge of logical thinking (Scheibe, & Falkenburg, 2001). Rowbottom (2011) defined rationalism as the epistemological opinion

or perception, which views reason as the main source and assessment of knowledge or all views that appeals to reasoning as the main sources of justification or knowledge.

Rationalism according to Huenemann, (2014) is the philosophical concept that believes that reason is the definitive source of human knowledge or what is true. Huenemann, (2014) further argued that rationalism holds the ideology that the ideas/materials of human knowledge tend to be provided by contemplation/introspection or sense experiences, and the knowledge included in observing the required associations between contemplation or introspection and sense experiences is the core function of reasoning. Philosophical rationalists assume that the ideas (sources/materials) of human knowledge are deduced from fundamental elementary concepts thoughts or perceptions and not human experiences (Nelson, 2013).

Rationalism is also an opinion that appeals to deductive and intellectual as the source of knowledge and its justifications. Therefore, rationalism assumes that some proposals are understandable by human beings by solely instincts, whereas other propositions are known by being deduced via legal opinions from perceived or understood proposals (Gendler, 2001). Furthermore, rationalism depends on the concept that realism has a rational structure in that every aspect of it might be seized or attained through logical and mathematical principles, but not merely via sensory experiences of human beings (Casullo, 2012).

Rationalism differentiates between the prior knowledge, for instance, the knowledge that is prior to experience usually arising through reasons/reasoning and empirical knowledge, for example, the knowledge arising via the experiences of people (Elster, 2009;Greenberg, 2010). Rationalism also asserts that empirical knowledge deals

with the material universe, as knowledge, results from human experiences. In addition, rationalism is a technique of investigation that views reason as the main source, validation, assessment as well as justification of knowledge (Horowitz, & Camp, 2005).

Rationalism perceives that human knowledge is mainly based in reasoning/reasons, whereas empiricism believes or perceives that human knowledge is chiefly based in experiences. The reasons and experiences shape the human mindsets, which will ultimately influence human beliefs or the way they will behave in different settings. Even though the modern scientific global perception of epistemology and epistemological mindsets borrows greatly from empiricism, there is need to synthesize both traditions (empiricism and rationalism) as this will provide a comprehensive understanding of epistemological mindsets and its impacts on various aspects of individual's life, personality or behaviour (Cardinal, & Hayward, 2004; Lemos, 2007; O'Brien, 2006; Pollock, & Cruz, 1999; Redmond, Pombo, & Nepomuceno, 2016; Rescher, 2003).

In regard to the contemporary developments in philosophy of epistemology and philosophy of science, Rowbottom (2014) argued that rationalism hold the belief that a priori knowledge tends to inform or shape the development of epistemological mindsets, which often influences the way human beings behave.

In his book, Thomas (2014) explored the rationalism and philosophy of mind and found that most of the human knowledge or the ideas they apply or use are part of human inborn rational nature: experiences will generally cause a procedure or processes by which people bring such human knowledge to mindfulness; however, the experience does not offer human beings with the knowledge itself but shapes their thoughts and related mindsets, which ultimately tend to have significant effects on human behaviour.

According to Fischer and Collins (2015), rationalism suggests that like their feelings, the knowledge and senses of human beings usually project a specific view of reality. Such perception of reality informs or shapes their personal mindsets and ultimately impacts the way human beings behaves under different conditions or contexts. On the other Vivelo, (2013) stated that pragmatic rationalist influences the formations of epistemological mindsets, which leads to the development of definite human behaviours in pragmatic rationalists. Fischer and Collins (2015) found that knowledge is acquired in rationalism through three ways, which include reason, innate ideas, and deduction. Reason implies the use of logic to reach at a definite conclusion and provide diverse approaches of finding the truth, while deduction relies on principles as well as application of principles to make conclusions, and innate philosophies or concepts refers to the notions that human beings are born with, which in some ways shapes human mindset, personality and behaviours (Fischer and Collins, 2015).

2.6.5 Dweck's Theory of Mindset

According to the Mindset Theory proposed by Dweck (2006), epistemological mindsets influences human behaviour (Dweck, 2006). The development of a growth mindset has philosophical and significant motivational effects on an individual's behaviour as well as expectations of a person in achievement of life goals (Paunesku et al., 2015; Dweck, 2012; Gunderson et al., 2013; Dweck & Molden, 2000; Blackwell, Trzesniewski, & Dweck, 2007).

He also proposes that entity beliefs could lead human beings to have particular mindsets and cause them to make more rigid judgments, which often limits the paths people select to pursue. These beliefs are perceived to be a significant part of the motivational systems of human beings. Moreover, people hold such beliefs (i.e., epistemological beliefs) that tend to impact their efforts

that they invest, the level of interest that they maintain, the personal objectives, which individuals pursue, and significantly influence or predict their human behaviours after impediments (Dweck, 2007).

Motivation that various scholars seek with an incremental or entity mindset tends to or perceived/held to vary. Dweck, (2007) stated that people having incremental beliefs or mindsets tend to pursue new challenges and implement mastery objectives/goals, whereas individual who have or hold entity beliefs tend to pursue performance goals. These mindsets (incremental and entity) differ significantly and would result in diverse responses to failures or challenging tasks, as well as adoption of different human behaviours based on the individual context. For instance, Dweck (2000) noted that students with an entity mindset tend to display a "destitute/helpless" responses to trials or obstacles they face, and attribute failures factors outside of their control (i.e., poor teaching or bad luck) or due to lack of capability that would possibly result in the avoidance of tasks, decrease in efforts among the students, as well as change of student's behaviours in the learning setting.

On the other hand, Dweck (2000) argued that people that have incremental mindsets are more likely to welcome and pursue new challenges. These individuals perceive errors as new chances to learn or gain new knowledge as well as tend to believe that failure is caused by lack of efforts but not lack of abilities. Dweck (2017) also found that incremental mindsets not only play an important role in student's performance and achievements, but also their behaviours.

2.7 Systematic Literature Review on Mindsets and its Effects, and the Literature Gap

Two studies in the United States conducted by Blackwell, Trzesniewski and Dweck (2007) investigated the influence or effects of implicit mindsets (theories) on academic performance and success. One of the two researches was a longitudinal research that involved 374 students in four

successive seventh grade classes across the transition to secondary school. Blackwell, Trzesniewski and Dweck (2007) examined the mindsets of the students, their individual responses to failures, effort, beliefs, and learning goals at the start of the academic year. Based on their study findings, the authors revealed that the growth mindset at the start of the school transition projected/predicted greater attainment in mathematics over the next two years and more positive motivational patterns. These findings are similar with Dweck (2014) who also found that mindset play an important role in students' science and mathematics achievements. In addition, Blackwell, Trzesniewski and Dweck (2007) concluded that mindsets of the students impact their academic achievements, responses to failures, efforts, beliefs towards their academic goals, as well as influence their classroom behaviours.

Various literature studies conducted by different authors (i.e., Paunesku et al., 2015; Rattan, Savani, Chugh, & Dweck, 2015; Yeager et al., 2015; Yeager et al., 2016) have revealed that the mindsets of the students tend to be malleable and thus such mindsets may be supported/promoted through various approaches, which overtly teach learners about the theory of mindset as well as encompass info or data on the malleability of the students' brains both at school and university levels.

In a recent study, Mega, Ronconi, & De Beni, (2014) found that learners believing that intelligence (or mindsets) can be increased can utilize or adopt diverse approaches or interventions to regulate and control their learning. Nevertheless, learners believing that intelligence is fixed (having fixed mindsets) can decrease their levels of intervention or approach uses. Based on their study findings, Mega, Ronconi, & De Beni, (2014) concluded that fixed mindsets or a belief in the fixed nature of capabilities have significant effect in undermining the long-term academic

achievement of the learners by promoting good behaviours, improving performance, fostering avoidance of difficult yet required tasks.

Different studies have revealed that development of a growth mindset is important and useful in various settings, for example, in physical and emotional health (Burnette, 2010; Burnette & Finkel, 2012;Biddle, Wang, Chatzisarantis, & Spray, 2003;Tamir, John, Srivastava, & Gross, 2007); in the workplaces or organizations(Heslin & Vanderwalle, 2008; Kray & Haselhuhn, 2007); in social associations for children and adults (Beer, 2002; Finkel, Burnette, & Scissors, 2007; Kammrath & Dweck, 2006); as well as from making significant difference for academic success and learning behaviours among the students (Aronson, Fried, & Good, 2002; Blackwell, Trzesniewski, & Dweck, 2007; Cury, Da Fonseca, Zahn, & Elliot, 2008; Good, Aronson, & Inzlicht, 2003; Good, Rattan, & Dweck, 2012).

In the academic setting, Burnette et al., (2013) conducted a meta-analytic review of self-regulation and implicit theories (mindsets) to extensively study the implicit mindsets or theories regrading human intelligence have been extensively studied with regard to the learning processes and result variables. Burnette et al., (2013) found that implicit theories (mindsets) or mindsets matter in academic contexts since they play a huge role in promoting desirable learning behaviours that would lead to improved performances and achievements among learners in the learning settings.

There are positive impacts of learners' implicit theories of intelligence on their academic results, (Dweck, 2006). Implicit theories generally frames or shapes the definite mindsets of the learners, along a range from incremental beliefs to entity beliefs, and thus creating well-defined meaning systems (Hong et al., 1999), which causes or triggers diverse patterns of human behaviours or responses to challenging setbacks and conditions, as well as eventually impacting

the scholars' or learners' achievement results and learning processes (Burnette et al., 2013; Dweck, 1999; 2000; 2017; Dweck and Leggett, 1988; Dweck and Sorich, 1999; Henderson and Dweck, 1990).

Different authors (i.e.,Blackwell et al., 2007; Romero et al., 2014; Müllensiefen et al., 2015) found that implicit theories (or mindsets) directly predict personal achievements and behavioural performance. On the contrary, Dweck and Leggett (1988) and Dweck, (1999)proposed that implicit theories tend to indirectly predict individual achievements by influencing specific or definite self-regulatory procedures such as behaviours in responses to egoistic fears/threats. Burnette et al., (2013)supported this proposal by stating implicit theories or mindsets will theoretically support a weaker direct relationship with academic performance or success.

Cultivation of growth mindsets leads individuals to pursue challenges that can enable them to make great progress, improve their learning or knowledge acquisition by identifying more efficient ways to enhance it, as well as enhance better learning behaviours that would lead to greater success of people such as learners' success in academic setting. For example, growth mindset efforts narrow the success gap in learning settings. In addition, cultivation of growth mindsets is also important in implementing learning-oriented behaviours (Dweck, 2012; Good et al., 2008; Hill & Corbett, 2010).

In the study done by Quintanilla, (2012), implicates of two types of implicit theories were examined – whether persons believe that a phenomenon is fixed and static versus malleable and dynamic, with the aim of investigating how mindsets and other situational, contextual or social factors impacts judicial behaviour. Quintanilla, (2012) stated that an incremental theory reflects the mindsets, which a phenomenon is malleable tend is likely changeable and could be modified, whereas an entity theory reflects the mindsets, which a phenomenon is fixed and will not likely be

changed. Human beings hold mindsets (incremental and entity implicit theories) regarding, i.e., society, social institutions or their human nature. These mindsets or implicit theories impact their decision-making, judgement or perceptions and their human behaviours, as well as strongly influences or frames how individuals shape/organize their experiences in, knowledge about and/or transactions in the world (Quintanilla, 2012). Quintanilla, (2012) concluded that whether people holds incremental theories versus entity theories (mindsets) is frequently driven by circumstances, settings, social and behavioural effects: a form of situated mindset and behaviour understanding.

Implicit theories might also predict individuals' responses to adversity and challenge, (Yeager and Dweck, 2012). They found that a view that intelligence can be developed (an incremental theory of intelligence) leads to increased resilience in academic settings. Similarly, with a desire for challenge and acquiring new knowledge, individuals who hold incremental beliefs have been shown to be more resilient in the face of setback because they view failure as a natural component of long-term learning and mastery (Dweck, 1999; Dweck & Leggett, 1988). Indeed, in a longitudinal study, Martin, Nejad et al. (2013) found that incremental beliefs about intelligence predicted academic buoyancy (students' capacity to effectively respond to academic challenge, setback, and adversity).

Adaptability (students' capacity to effectively adjust to novel, uncertain, and variable situations and circumstances) is also shaped by students' beliefs about the malleability of intelligence. Individuals with an incremental view tend to see academic and non-academic outcomes as factors that can be addressed through cognitive, emotional, and/or behavioural modification (i.e., effortful regulation), (Nejad et al., 2013). In contrast, individuals holding an entity view tend to see their intelligence as fixed, leading to less inclination to make psycho-behavioural adjustments. Accordingly, Martin, Nejad and colleagues (2013) found that

incremental beliefs about intelligence predicted adaptability. Other work has shown that implicit theories of intelligence predict academic trajectories during times of academic transition and change through school (Blackwell, Trzesniewski, & Dweck, 2007).

Implicit theories (or mindsets) in a language learning setting have also been studied. Implicit theories or mindsets are the essential, core beliefs which are held by human beings hold the malleability and nature of numerous features of the conditions of humans. Based on their study findings, Ryan and Mercer (2012) concluded that mindsets or implicit theories associated with human abilities or intellectual capacity and ingenuity are the key factors or beliefs that impacts learning strategies and learning behaviours. These mindsets (or implicit theories) are also associated with human beliefs and self-concept, and thus they can influence the behavioural changes in people or learners, attributions and motivations.

Dweck's model and theory of mindset has been tested and extended by Dupreyat & Mariné (2005). Specifically, authors investigated the associations among implicit theories (mindsets) or beliefs on the nature of cognitive engagement in learning, orientation of goals, as well as accomplishment by applying path analysis and nature of human intelligence. Their study findings revealed that mastery objectives had a positive effect on academic success or achievements through the intervention of effort expenses. On the contrary, their study findings indicated that work avoidance and the motivation to prove competence (performance objectives) negatively influenced achievement and learning in general, whereas mastery goals (striving for competence enhancement) had significant and positive effects on learning tasks and results. Based on their study findings, Dupreyat & Mariné (2005) concluded that implicit theories of intelligence (or mindsets) have significant impacts on influencing the cognitive engagement in learning and

orientation of learners' goals, as well as their learning behaviours. These study results were similar with the theoretical predictions of Dweck's theory of mindsets.

In another study, Yeager & Dweck (2012) explored the role of mindsets in promoting resilience among learners and their findings revealed that mindsets have significant effects on the learners' resilience when they face social and academic challenges. The authors also found that learners who think or believe that intellectual capacities are abilities, which could be developed (unlike fixed abilities or mindsets) generally demonstrate higher rate of completion of courses in challenging mathematics courses, as well as greater success across challenging school transitions. In addition, their study findings revealed that students who believe that social attributes are developed tend to have low adolescent's stress and aggression behaviours, which leads to improved students' achievements and performances in learning contexts. Yeager & Dweck (2012) concluded psychological interventions influence or changes learners' mindsets effectively; therefore, in order to create and promote resilience educators or teachers need to create resilience and promote or support such mindsets in educational contexts.

In similar setting, Mercer & Ryan (2010) examined the role of the psychological construct of mindsets in the English as a foreign language learning setting in Japan and Austria, and found that mindsets play a role in the nurture of their talents and performance. In addition, the authors found that mindsets and beliefs of the learners have pedagogical implications since they have significant influences on their learning attitudes and behaviours.

Association among implicit theories of intelligence ('mindsets'), academic success or performance, objective orientations, and perceived competence was explored by Leondari & Gialamas (2002). Their study findings demonstrated that mindsets or implicit theories of intelligence orient people toward specific or definite goals that tend to impact their human

behaviours related to achievements and success. However, the authors found an indirect effect of goal orientations on individual success that is mediated via perceived competence. They also found that mindsets or implicit theories were not associated with the academic success but it was related to the students' individual achievement behaviours (Leondari & Gialamas, 2002).

Investigation on the outcomes of organization-level mindsets (implicit theories of intelligence) done by Murphy & Dweck (2010) concluded that mindsets, which includes incremental (malleable) and entity (fixed) mindsets, shapes and significantly influences individual's social judgements and self-judgments, inferences about what they value, and their behavioural decisions therefore, mindsets influence or shapes the cognition as well as human behaviours.

Although all of the studies (literature reviews) documented and discussed in the systematic literature review above have explored epistemological mindsets as well as their impacts, the impacts of epistemological mindsets, more specifically, how mindsets affect human behaviour remains under-researched in philosophy. This shows that there is an important literature gap, which this study seeks to fill and provide new insights, as well as add a new body of knowledge in philosophy research domain by examining the impacts of epistemological mindsets: how mindsets affect human behaviour.

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Introduction

Quantitative and qualitative methodologies will be used to accomplish the aim of this study, which is to investigate the "how mindsets affect human behaviour". This is because the variables in the aim of the study are measurable, and will be achieved using quantitative and qualitative strategy. Moreover, this study will be conducted as a descriptive study with the objective of answering to the research question and accomplishing the purpose of the proposed study. This study will use the existing literature to extrapolate data into the future, where the secondary data for the study was obtained data from secondary sources. On the other hand, the primary data will be collected using an online survey (SurveyMonkey) and interviews. Generally, the purpose of this chapter is to explain in detail the selected research philosophy, research approach, research design, research strategy, and data collection methods along with their advantages and limitations. This will then be followed with a discussion on data analysis and the ability to produce valid, reliable results, and concludes with a brief discussion on ethical considerations that might be encountered during this research.

3.2 Research Approach and Philosophy

The study was conducted using a quantitative approach with the aim of achieving the study aim, which is to examine how mindsets affect human behaviour (Creswell, 2014). Moreover, the author used a descriptive research design with the objective of answering the research question and accomplishing the purpose of the proposed study (Creswell, 2013). The study also used existing literatures to extrapolate data into the future, where the secondary data for the study are

obtained data from secondary sources, while the primary data were collected using a survey questionnaire.

Research philosophy refers the method in which data about a certain phenomenon was collected, analysed, and used (Creswell, 2013;2014). Research philosophy enables researchers to identify the research approach that should be used by the research and why, which is derived from the research questions. Researchers use different types of research philosophies, which include, but not limited to ontology, epistemology, realism, idealism, and constructivism, and naturalism (Newby, 2013; Burns and Grove, 2011). This study adopted only realist or realism and objectivist research philosophies. Realism is based on the stance that there is an independent external reality regardless of what people may think of it or seek to understand about it (Creswell, 2013; Cocchiarella, 2007). Objectivism depicts the stance a phenomena and its meaning has an existence (or reality), which is independent of social actors (Saunders, Lewis, & Thornhill, 2012). Therefore, realism and objectivist research philosophy were adopted to answer the research questions and achieve the study propose. The main advantage of using realism research philosophy is that it offers realistic views of the participants, which was analysed to provide accurate or real and independent study findings, as well as provide insights on the key issues influencing successful brand extension strategy in clothing industry. Although, realism philosophy helped in identifying how epistemological mindsets affect human behaviours, incomplete information might impact the new knowledge generated (Popescu and Xu, 2009; Xing Quan and Davisdon, 2007). The main advantage of objectivism is that it offered a clear theoretical focus for this study; however, it is providing more insights into the meanings the individuals (participants) attach to a social phenomenon (or research problem) (Saunders, Lewis & Thornhill, 2012).

3.3 Research Design

Research design is a set of procedures and methods that combines the different elements of the research in an effective manner to handle the research problem efficiently (Rahi, 2017; Heppner et al., 2016). The role of research design is to ensure that the research problem is answered and needed information collected with minimal effort, time, and money or bias. This study used quantitative research design to examine how mindsets affect human behaviour. Quantitative design seeks to identify the group of people whose collective opinion would help in forming valuable information for the research and to reach out to maximum number of people to record their opinion on the matter. Some of the common methods used in this design include surveys or questionnaires (Anderson, 2012; Hesse-Biber, 2010). A survey questionnaire and interview tool were used to collect primary data from the predetermined study population. The author administered the survey questionnaires to participants who agreed to participate in the study. The survey questionnaires were sent to the selected participants via email. The participants were required to fill and return the survey questionnaires to the author for data analysis and interpretation. The survey data was used to answer the research questions

3.4 Research Strategy

The aim of this study was to examine epistemological mindsets: how mindsets affect human behaviour. Specifically, the study sought to explore and quantify the study participant's views or attitudes on the study variables (both dependent and independent variables) in order to produce generalized results in a large study population, with the aim of answering the research questions and achieving the study objectives, which was to investigate how mindsets affect human behaviour. Therefore, the author used both qualitative and quantitative research strategies (Creswell, 2014; Kothari, 2016). The quantitative strategy helped in generation of numerical data

(Rahman, 2017), while the qualitative strategy helped in getting the views or opinions of the study respondents on how mindsets affect human behaviour(Creswell, 2014) that were analysed and interpreted to provide answers to the research questions, and achieving study purpose of determining how mindsets affect or impact human behaviour. The primary methods or sources such as survey questionnaires, interviews were used to gather data from the predetermined sampled study population, while secondary data were collected from secondary sources such as books, journals or articles.

3.5 Justification of Methodology

The purpose of this study was to explore how mindsets affects human behaviours. Thus, both qualitative and quantitative exploratory research methodologies were fit for this study in order to reach the objectives of this study answer the research questions. Moreover, quantitative exploratory research methodology is a combination of quantitative and exploratory research methodologies. Exploratory research is useful in tackling new problems on which no or little past research has been conducted (Brown, 2006; pg. 43) such is in the current research domain, which this study aimed at filling the existing research gap by examining how mindsets affects human behaviours. Exploratory research explains which variables/causes produce which impacts, where the mindsets are the causes that produces the impacts (human behaviours) (Lehmann, 2010; Saunders, Lewis and Thornhill, 2012).

Qualitative research methodology was important to seek the views or opinions of the study respondents, which were then used to understand the current research problem such as by seeking new insights on mindsets affects human behaviours, asking questions and evaluating how mindsets affects human behaviours in an effective manner (Creswell, 2014). On the other hand, quantitative

research methodology allows the use of large sample of study participants and helps in generation of numerical data that can be statistically analyzed and interpreted to provide answers to the research questions. This is why it was most justifiable to use quantitative and qualitative research methodology to undertake an in-depth study into the epistemological mindsets: how mindsets affect human behaviour.

For this study, both secondary and primary data were collected. The data collected included the demographic characteristics of the study participants and their views on how mindsets affect human behaviour. The study participant's views were collected using a 5-Likert Scale questionnaire (where 1-is strongly disagree and 5- is strongly agree) with items designed based on the study objectives and study variables. The questionnaire consisted of two parts: Part A - demographic characteristics of the study respondents and Part B - how mindsets affects human behaviour. A convenience sample of estimated 200 study participants will be taken for ascertaining the how mindset affects human behaviour.

3.6 Target Populations and Sampling Methods

The target population for the study comprised of students selected from a predetermined university.

3.6.1 Sampling Criteria

The sampling criteria involved selection of participants from the identified target population who meet some predetermined criteria. The sampling criterion required that participants should be above 18 years and must be students with better understanding of epistemological mindsets and its effects on human behaviours—thanks to their course programs. The inclusion criteria were as follows:

1. The study participant was 18 years and above

2. The study participant must be a student taking philosophy or psychology-related program

3. The participant must have consented to take part in the study.

However, the author excluded the potential participants who did not meet the sampling criterion. The exclusion criteria was: those who had declined to participate in the study and those who had not attained the age of the majority at the time of conducting the study.

3.7.2 Sampling Techniques

Sampling techniques for the research method used in this study was convenience sampling methods. The researcher used the convenience sampling technique to select samples from the target population (Saunders et al., 2012). The sampling unit in this research included students selected from predetermined university.

3.7.3 Convenience Sampling

Convenience sampling refers to a typical non-random or non-probability sampling in which individuals selected from a given study sample (study population) meets specific research or practical criteria (Dörnyei, 2007). For example, easily accessible, physical/geographical closeness, easily available at any particular period, or the willingness to take part in particular research project are encompassed in order to accomplish the objective of the research study.

Convenience sampling method is appropriate for this quantitative study. Since Survey method was used for data collection in this quantitative study, the researcher used convenience sampling method to collect data from population individuals (potential participants) who were conveniently available to participate in this research. Convenience sampling or non-probability was used because it was easier for the survey questionnaires to be distributed online using email. Furthermore, the researcher used the selection form a sequential list method to select survey

respondents to ensure that all the subjects are given equal chance of being selected and it ensured a fair chance in the selection process for the research study. The population was also divided into two main strati based on gender; female and male. Furthermore, there was more stratification based on place of work, rank, age, and sex of the study respondents in order to constitute samples, which were better of the whole.

3.7 Study Population and Sample Size

Determining study population and calculating sample size are important issues to research success (Garg, 2018). In this research, the study population selected will comprise of students. The sample size was 200 participants.

3.7.1 Study Participants

The study participants consisted 200 targeted students selected from the chosen university were contacted to seek their consent to participate in this research.

3.7.2 Procedures for Recruiting Study Participants

The recruitment email was sent to all the potential study participants with a valid email address to request their participation. The purpose of the dissertation, a disclosure that protects participant's confidentiality and an informed consent in regard to study participation, study procedures, expected benefits and risks, compensation description were enclosed in the recruitment email, and the study respondent's permission to withdraw from undertaking the project at any time without detriment. The researcher will receive replies via email from the identified potential participants from the predetermined study population who were willing to participate in the study. The author will identify and select those who will reply and are willing to participate in the study. After receiving the email replies, the researcher will recruit 200 study participants who were picked using convenience sampling technique. Based on the response obtained, the author

received 200 positive responses for participation only from predetermined study participants selected from the university who are willing to participate in the research. Other 30 potential participants were not willing to participate in the study due to different reasons, including being busy with work. Thus, the participants who took part in this study were only 200 philosophy students from a leading university. The response rate was 86.96%, meaning the data collection method was effective and will generate in-depth findings. The study sample involved over 18 years old study respondents with experience philosophy. The participants to be questioned were selected using convenience sampling; this reduced cases of bias during sampling of the study sample because of the big population.

3.7.3 Procedure for Study participation

The study participation is voluntary, meaning the participants' decision to take part in the study or not was fully respected. The author did not coerce or force any participant to take part in the research and observed all the research ethics. All the study participants had a right to withdraw from the study without detriment (Garg, 2018).

3.8 Data Sources and Data collection procedures

Primary data and secondary data will be used in this research study to achieve its objective and answer the research questions.

1. **Primary data.** This was collected from the predetermined target population. The study sample size included 200 participants. The study sample included students selected from the chosen university. A survey instrument was used to collect primary data from the 200 selected participants regarding how mindsets affect human behaviour. The survey questionnaire was designed based on the research objectives and research questions. The researcher administered the survey questionnaire to the selected participants via email. The survey questionnaires that were filled and

returned by the study participants were used for data analysis to provide results (Kothari, 2016). The collected data using the survey was analyzed in IBM SPSS to generate research (primary) findings, which were used to answer the research questions and achieve the study objectives.

2. **Source of Data.** Secondary sources such as peer reviewed journals, articles, and books will be used to collect secondary data. These literature sources will be used to generate secondary data on epistemological mindsets, as well as literature data regarding how mindsets affect human behaviour that will be compared with primary data to see if there is consistency between the findings of this research study and the literature review findings. Through search engines like Google Scholar, literature that had been published in the area were searched. Some of the key terms that were used to obtain literature included, "epistemology," "epistemological mindsets," "epistemology and behaviour," among others. These helped in making conclusive findings and to determine if the research questions were answered well and the objectives achieved exhaustively. Through the comparison of the secondary and primary data, the study was also to identify areas of research gap and limitations of the existing literature review, with the aim of filling the exiting literature or research gap.

3.9 Research Reliability and Validity

3.9.1 Reliability

To ensure the reliability, the investigator avoided bias in interpreting answers, survey results and semi-structured survey responses and the data gathered were analysed carefully to answer the research questions (Kothari, 2004). For instance, to ensure that the interpretation of the data was reliable, IBM SPSS was used to analyse the study results. Additionally, this research was supported by the research respondents; hence, the researcher believed that key threats to the reliability of the study results or data were eliminated. Furthermore, in this research study,

consistency was also ensured through administration of standard survey questionnaires to all selected research respondents. Additionally, for purpose of reliability, the researcher avoided bias in interpreting the findings or collected data and high level of consistency was maintained through the study.

3.9.2 Validity

In this study, validity tests were conducted on the developed data collection instrument; that is, whether it correctly measured the concept. Validity is a term that refers to a way that measures the extent to which an instrument accurately describes the concept required to be measured (Creswell, 2014). The author tested the validity using the Spearman correlation coefficient to measure the correlation between each item in one variable and the whole variable. Furthermore, the Spearman correlation coefficient was used to test the construct validity.

The author ensured the validity of data that collected from the field by counter checking the respondents through the survey questionnaires filled and returned. If the two methods showed any similarities, the data was considered to be valid. The collected data from survey questionnaires were easily quantifiable as is not be open for subjective interpretation. The validity of survey instrument as well as that of the survey results were also enhanced by creating sound questions and making sure or certifying that the survey questions were appropriate for the target study participants (Sekaran and Boujie, 2013).

3.9.2.1 Validation procedures of the research instruments

For purpose of validity, the survey tool (questionnaire) was designed by the researcher and the survey questions were formulated based on the answer the research questions and it was to be used to achieve the study objectives; this ensured validity of the research instruments selected.

The survey instruments were also designed to ensure that they were appropriate for the target study participants and the survey question covers the study variables. Therefore, the survey instrument selected were deemed valid by the researcher. When the data collection instruments (survey questionnaires) were developed, each survey question were scrutinized, improved and amended until the researcher was completely satisfied that it was an accurate measure of the desired construct of this research, and that there was sufficient coverage of each study variable that was evaluated in this study. Lastly, the author sent designed questionnaire to the supervisor for approval and any amendments prior data collection.

3.10 Data Analysis

The aim of the thesis study was to examine how mindsets affect human behaviours. The data was collected from the 200 selected participants were to be reduced into homogeneous groups in order to establish meaningful relationships. This entailed systematic organization of the raw data; from questionnaires, and interview schedules in manner that facilitated easy analysis. Based on qualitative methodology, the data analysis was based on the questionnaires administered and returned by the selected study respondents from the selected. The filled questionnaires from the field (study participants) were cross-checked for accuracy, tested, and then all data were analysed systematically using various methods. The data was then exported into Excel or SPSS for visualization as well as thorough analysis. Prior to qualitative data analysis, data was generally condensed to smaller homogeneous sets to determine significant relationships, which entailed systematic grouping of the raw collected data from the survey questionnaires or the schedules of interview in manner that facilitated easy analysis (Creswell, 2013).

In order to answer the research questions and achieve the study objectives, a Statistical Package for Social Science (IBM SPSS) version 25 was used to analyze the data collected from

the 200 participants. Using the primary data collected via survey questionnaires from 200 study participants, the researcher did reliability analysis and Likert scale analysis to achieve study objectives, and provide answers for the qualitative study questions. The reliability analysis was used to determine the value of Cronbach's Alpha Coefficient, which was used to test the reliability and validity of the data. T-test Analysis and Correlation Coefficient Analysis were done to answer the research questions, and achieve the study objective. Additionally, descriptive Statistics of Likert Scale survey questionnaire were performed to achieve study objectives and answer the study questions. In addition, regression analysis, t-test analysis, chi-square tests, and correlations analysis were conducted to answer the research questions and achieve the study objective.

3.11 Ethical considerations and Research Ethics

Ethical approval and Consent confirmation was sought before data collection was conducted. In summary:

1. Privacy rules was observed or respected and confidentiality kept during data collection.

2. The author avoided biasness in relation to tribe, gender or race during data collection

3. Findings from the study were not manipulated to in the favours of the research

4. The study protected participants and protected the university's reputation.

5. The study protected participants and protect the university's reputation (Creswell, 2014).

The stated measures safeguarded a high level of transparency in this mixed method research by giving room for other interested parties/scholars to validate these study findings without any alteration or modification.

3.12 Research Limitations or Shortcomings

There are numerous limitations and shortcomings for the research methodology chosen. For example, due to the limited time-scale of this research in context with the field of research, the

investigator was not able to study further or involve a larger number of participants. Therefore, the researcher chose to limit the research scope and decided to use one particular region, which was convenient as the target population (Rubin& Babbie, 2011).

The surveyed or interviewed respondents likely suffered significantly as a result of desirability biasness whereby other respondents decided to fill survey questionnaires in a manner that the participant sees appropriate for him/her, other than in a manner in which it reflected the actual situation/state on the real study setting. For the survey, misinterpretations and misunderstandings will likely be common; thus, this will limit the research even though some of these issues are promptly addressed or solved by the investigator. Conversely, since this research will be based on one specific area, aspects of geographical and cultural biases were also anticipated. Acknowledging all the above limitations or shortcomings, the researcher will certify the survey, validate the research findings, and opened more discussions at the end of the qualitative research project.

CHAPTER 4. DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

The purpose of this study was to examine the epistemological mindsets: how mindsets affect human behaviour. The data collected through the survey from the 200 participants was imported to Excel Spreadsheet and exported into IBM SPSS version 25 for analysis and visualization. The data collected was analyzed using IBM SPSS version 25 with the aim answering the research questions and achieving the study objective, which was to explore epistemological mindsets. Specifically, it examines how mindsets affect human behaviour. The data collected was analyzed with the aim of answering the following research questions:

1) What are the impacts of epistemological mindsets?

2) What are the impacts of mindsets on human behaviour?

In addition, the data collected will be analysed to test and validate the following study hypothesis:

1) Epistemological mindsets have positive and significant impacts on human behaviour

2) There is positive and significant relationship between mindsets and human behaviour.

Various statistical analysis was conducted such as include descriptive statistics including mean and standard deviation, as well as independent t-test. Moreover, reliability analysis was conducted to test the internal consistency of the collected data using the Likert scale survey questionnaire, and the Cronbach Alpha will be used to test the level of consistency. In addition, Chi-square tests, correlation analysis and one-way analysis of variance (ANOVA) were conducted to test and prove or validate the two study hypotheses.

Tthe qualitative data was collected from 10 senior lecturers in the Philosophy department in the selected university. The qualitative (interview) data was coded and qualitatively analysed to

answer the research questions and accomplish the study objectives. This chapter presents the data

analysis and study results.

4.2 Demographic Characteristics of the Study Participants
4.2.1 Gender

50% of the study participants were male, while 50% of the study participants were female,

as shown in figure 1 below. This shows there was a gender balance.
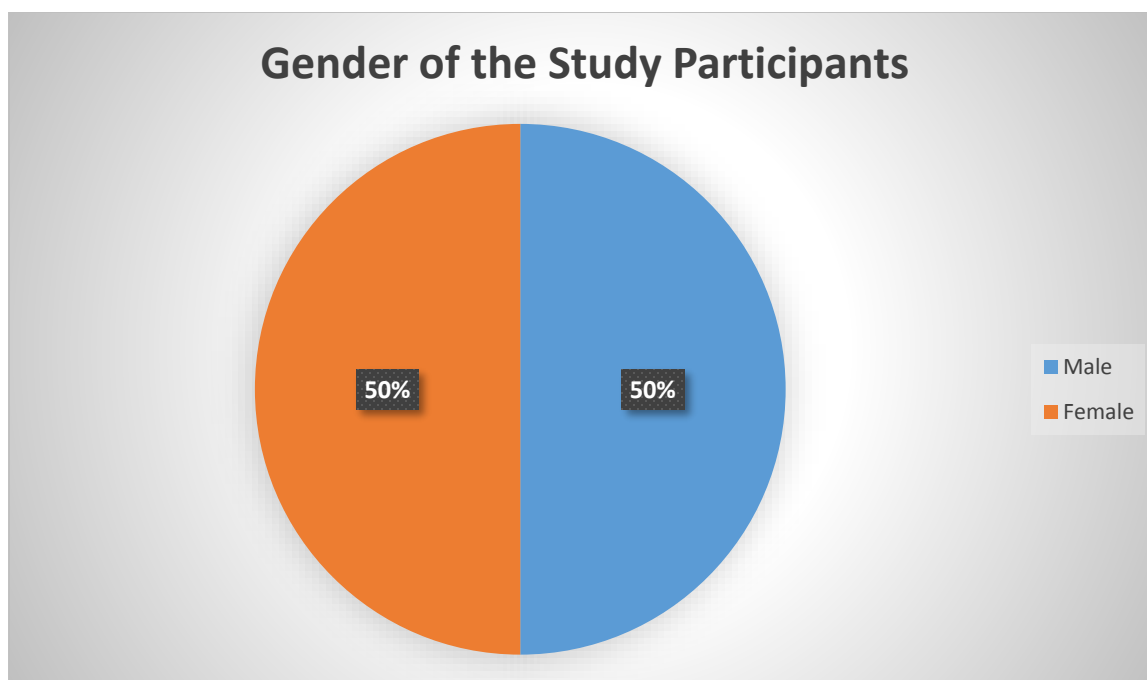
Figure 1. Gender of the Study Participants

4.2.2 Age of the Study Participants

Majority of the study participants (40.0%) were aged between 30 and 39 years, 21.0% of the study participants were aged between 21 and 29 years, 19.0% of the study participants were aged between 40 and 49 years, and 14.0% of the study participants were aged between 50 and 59 years. On the other hand, 4.0% of the study participants were over 60 years of age, and only 2.0% of the study participants were aged between 18 and 20 years, as shown in figure 2 below.
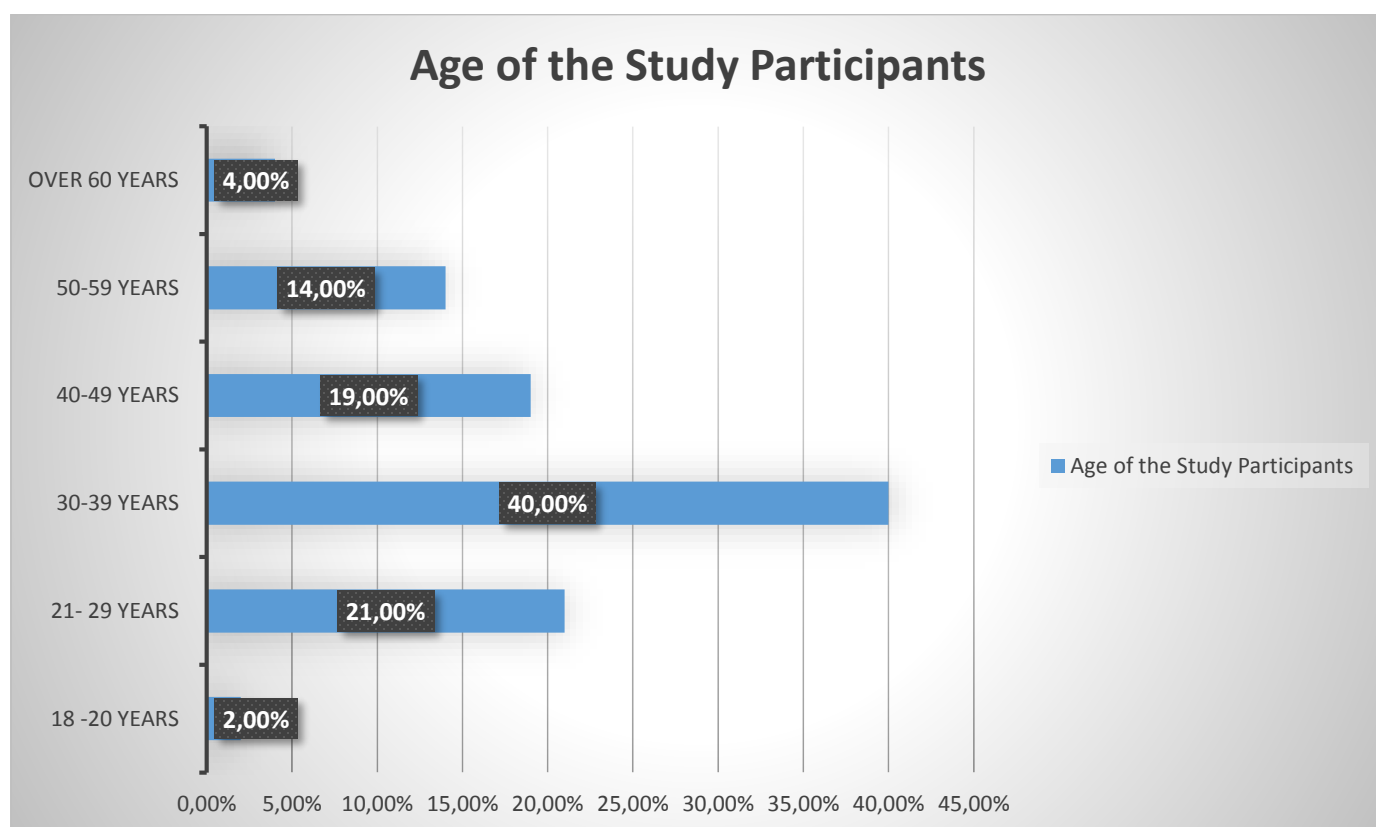
Figure 2.Age of the Study Participants

4.2.3 Level of Education

Most of the study participants (45%) stated that they have master's degree or pursuing masters in philosophy, while 35% of them are undergraduate students studying philosophy course or related subjects or university degree graduate students, and 18% of the remaining study participants have PhD or pursuing doctorate studies in philosophy. The level of education of the remaining 2% of the study participants was high school, as shown in figure 2.1 below.
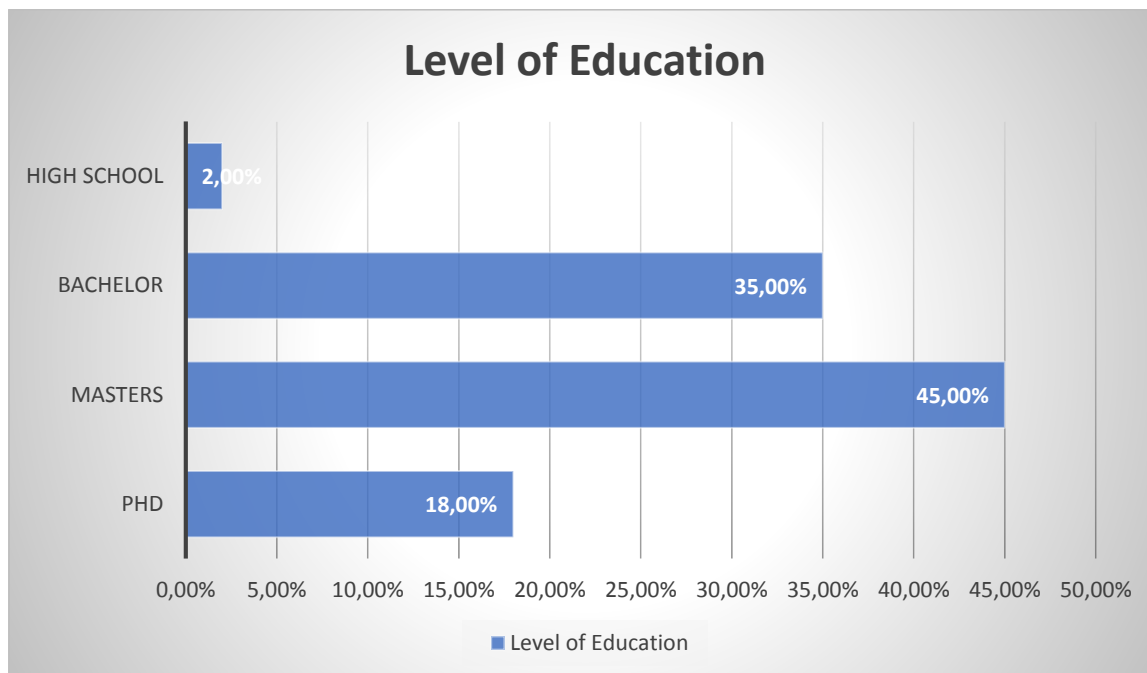
Figure 2.1. Level of education

4.3 Reliability Analysis

Reliability analysis will be conducted to test the internal consistency of the collected data using the questionnaire, while Cronbach Alpha will be used to test the level of consistency. Table 1.1 shows the reliability analysis and statistics.

Table 1.1 Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.836	20

In qualitative and quantitative studies, research works are assessed based on the level of internal consistency and reliability associated with/to the measurement procedures including data collection instruments. The internal validity determined by the research design whereas the external validity and the degree to which the techniques of sampling allow generalizability of the research results (Creswell, 2013; Rubin & Babbie, 2011).

In this research, the internal consistency was important as it defines the consistency of the outcomes or findings delivered in the test. Internal consistency also ensures that the different questions (questionnaire questions) which are used to measure the different constructs provide consistent scores based on the participants' responses. Internal consistency reliability refers to the measure of how well a test is used to address different constructs (the questionnaire items) and deliver reliable scores. Determining internal consistency includes measuring different versions as

per response from each respondent regarding the similar question/item within the same questionnaire or test item (Creswell, 2013).

To understand whether consistency and reliability exists in this study's dataset, the author used performed reliability analysis to determine the Cronbach's Alpha. All scales (i.e. Likert Scales) used for the 10 items/questions of the survey questionnaire were consistent.

The Cronbach's alpha of the 20 questions/items of the questionnaire used to answer the research questions and achieve the purpose of the study was 0.836. The Cronbach's alpha was a positive value indicating that there was high internal consistency levels and higher reliability in the findings gathered from the 200 study respondents. Cronbach alpha value was not negative, signifying consistency, internal consistencies and reliability of the research findings as well as each response collected from the 200 study participants was consistent. Cronbach's alpha test indicated that each item used in the questionnaire was consistent. Pallant (2005) stated that a scale that has Cronbach's alpha which is greater than 0.70 is necessary in order to create a reliable construct of numerous study variables. Therefore, there was higher reliability or internal consistency level between the 20 items of the survey questionnaire. This also shows that there was high level of internal consistency in the gathered data for the purpose of chosen scale sample size for this particular study. Table 1.1 shows the calculated the Cronbach's alpha value from 20 items of the Likert scale questionnaire in part B. Overall internal consistency was good (Cronbach's α = .836).

4.4 Impacts of Epistemological Mindsets

Descriptive Analysis

Table 2.0

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
My views, knowledge and understanding tend to affect the way I behave.	200	1	5	4.22	1.066
My Justifications, beliefs and the truths of what I know affects my perception and behaviour.	200	1	5	4.04	1.012
Epistemological mindset changes or affect the way humans think and behave.	200	1	5	4.18	1.079
I think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how we behave as humans.	200	1	5	3.99	1.056
My experiences in psychological distressful situations as a result of conflicting beliefs or thoughts tend to shape human epistemological mindsets and impact how I behave.	200	1	5	3.65	1.111
Voice of individual's beliefs or perceptions, the voice of their peers and the voice of the authority shapes our mindsets and impacts our human behaviours.	200	1	5	4.17	.875
Superstructure beliefs and basic epistemological beliefs influences human behaviour in various individual contexts.	200	1	5	3.17	.962
Cognitive processes of reasoning and thinking shapes human behaviours.	200	1	5	3.58	1.063
Motivational and cognitive states related to pre-decisional and post-decisional mind frames regulates or affects human behaviour.	200	1	5	3.84	.871
Implemental and deliberative mindsets affect human behaviour and cognition.	200	1	5	3.98	1.171
Valid N (listwise)	200				

Descriptive statistics were conducted on the data collected from the 200 participants to determine the mean and standard deviation. Based on the results, the mean of my views, knowledge and understanding tend to affect the way I behave was 4.22 and Std. Deviation = 1.066, while the mean of epistemological mindset changes or affect the way humans think and behave was 4.18 and Std. Deviation = 1.079, as shown in table 2.0. These were the highest mean values, suggesting that majority of the study participants (77%) agreed that their views, knowledge and understanding tend to affect the way they behave, and most of the participants (75.5%) also agreed that epistemologies, i.e., epistemological mindset changes or affect the way humans think and behave. These findings reveal that people's views, knowing, knowledge and understanding tend to affect the way they behave and thus, epistemologies mindset changes or affect the way humans think and behave.

The mean of "my Justifications, beliefs, and the truths of what I know affects my perception and behaviour" was 4.04 and Std. Deviation = 1.012, as shown in table 2.0. This mean was also higher suggesting that a higher number of the study participants (71% of them) believe or agree that their justifications, beliefs, and the truths of what they know affects their perception and human behaviours. In addition, the mean of "I think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how we behave as humans" was 3.99 and Std. Deviation = 1.056, as shown in table 2.0, revealing that a significant number of the study participants (70%) agree that epistemological beliefs shape human attitudes and mindsets, which collectively impacts how people behave. These results show that people's justifications, beliefs (i.e., epistemological beliefs) and the truths of what they know affects their perception and shapes development of mindsets, which ultimately impacts human behaviours.

The mean of "my experiences in psychological distressful situations as a result of conflicting beliefs or thoughts tend to shape human epistemological mindsets and impact how I behave" was 3.65 and Std. Deviation = 1.111, while the mean of "cognitive processes of reasoning and thinking shapes human behaviours" was 3.58 and Std. Deviation = 1.063, as shown in table 2.0. The mean of "voice of individual's beliefs or perceptions, the voice of their peers and the voice of the authority shapes our mindsets and impacts our human behaviours" was 4.17 and Std. Deviation = .875, as shown in table 2.0. This mean was also high suggesting that most participants agree that voice of individual's beliefs or perceptions, the voice of their peers and the voice of the authority shapes our mindsets and impacts our human behaviours.

On the other hand, the mean of "superstructure beliefs and basic epistemological beliefs influences human behaviour in various individual contexts" was 3.17 and Std. Deviation = .962, as shown in table 2.0. This variable had the lowest mean, suggesting that few study participants agreed that superstructure beliefs and basic epistemological beliefs influences human behaviour in various individual contexts. These results demonstrate that epistemological mindsets have more significant influence or impacts on human behaviour compared to epistemological beliefs.

The mean of "motivational and cognitive states related to pre-decisional and post-decisional mind frames regulates or affects human behaviour" was 3.84 and Std. Deviation = .871, while the mean of "implemental and deliberative mindsets affects human behaviour and cognition" was 3.98 and Std. Deviation = 1.171, as shown in table 2.0. These two variables had a high mean, which suggest that high number of participants agreed that motivational and cognitive states related to pre-decisional and post-decisional mind frames regulates or affects human behaviour. High number of the study participants also agreed that implemental and deliberative mindsets

affect human behaviour and cognition. These findings suggest that human mindsets inform how

people behave or act in particular situations or contexts.

T-test Analysis

Table 2.1

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
My views, knowledge and understanding tend to affect the way I behave.	200	4.22	1.066	.075
My Justifications, beliefs and the truths of what I know affects my perception and behaviour.	200	4.04	1.012	.072
Epistemological mindset changes or affect the way humans think and behave.	200	4.18	1.079	.076
I think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how we behave as human beings.	200	3.99	1.056	.075
My experiences in psychological distressful situations as a result of conflicting beliefs or thoughts tend to shape human epistemological mindsets and impact how I behave.	200	3.65	1.111	.079
Voice of individual's beliefs or perceptions, the voice of their peers and the voice of the authority shapes our mindsets and impacts our human behaviours.	200	4.17	.875	.062
Superstructure beliefs and basic epistemological beliefs influences human behaviour in various individual contexts	200	3.17	.962	.068
Cognitive processes of reasoning and thinking shapes human behaviours.	200	3.58	1.063	.075
Motivational and cognitive states related to pre-decisional and post-decisional mind frames regulates or affects human behaviour.	200	3.84	.871	.062
Implemental and deliberative mindsets affect human behaviour and cognition.	200	3.99	1.171	.083

The mean of "my views, knowledge and understanding tend to affect the way I behave" was 4.22 and Std. Deviation = 1.066, Std. Error Mean of .075, while the mean of "my Justifications, beliefs, and the truths of what I know affects my perception and behaviour" was 4.04 and Std. Deviation = 1.012, with Std. Error Mean of 0.072. The mean of "epistemologies mindset changes or affect the way humans think and behave" was 4.18 and Std. Deviation = 1.079, with Std. Error Mean of 0.076, whereas the mean of "I think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how we behave as human beings" was 3.99 and Std. Deviation = 1.056, with Std. Error Mean of 0.075, as shown in table 2.1.

On the other hand, the mean of "my experiences in psychological distressful situations as a result of conflicting beliefs or thoughts tend to shape human epistemological mindsets and impact how I behave" was 3.65 and Std. Deviation = 1.111, with Std. Error Mean of 0.079, while the mean of "voice of individual's beliefs or perceptions, the voice of their peers and the voice of the authority shapes our mindsets and impacts our human behaviours" was 4.17 and Std. Deviation = 0.875, with Std. Error Mean of 0.062, as shown in table 2.1.

The mean of "superstructure beliefs and basic epistemological beliefs influences human behaviour in various individual contexts" was 3.17 and Std. Deviation = .962, with Std. Error Mean of.068, while the mean of "cognitive processes of reasoning and thinking shapes human behaviours" was 3.58 and Std. Deviation = 1.063, with Std. Error Mean of .075. In addition, the mean of "motivational and cognitive states related to pre-decisional and post-decisional mind frames regulates or affects human behaviour" was 3.84 and Std. Deviation = .871, with Std. Error Mean of 0.062, whereas the mean of "implemental and deliberative mindsets affects human behaviour and cognition" was 3.99 and Std. Deviation = 1.171, with Std. Error Mean of .083, as shown in table 2.1.

Table 2.2

One-Sample Test

	Test Value = 0.05				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
My views, knowledge and understanding tend to affect the way I behave.	55.299	199	.000	4.170	4.02	4.32
My Justifications, beliefs and the truths of what I know affects my perception and behaviour.	55.775	199	.000	3.990	3.85	4.13
Epistemological mindset changes or affect the way humans think and behave.	54.150	199	.000	4.130	3.98	4.28
I think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how behave as humans.	52.757	199	.000	3.940	3.79	4.09
My experiences in psychological distressful situations as a result of conflicting beliefs or thoughts tend to shape human epistemological mindsets and impact how I behave.	45.837	199	.000	3.600	3.45	3.75
Voice of individual's beliefs or perceptions, the voice of their peers and the voice of the authority shapes our mindsets and impacts our human behaviours.	66.620	199	.000	4.120	4.00	4.24
Superstructure beliefs and basic epistemological beliefs influences human behaviour in various individual contexts	45.859	199	.000	3.120	2.99	3.25

Cognitive processes of reasoning and thinking shapes human behaviours	46.978	199	.000	3.530	3.38	3.68
Motivational and cognitive states related to pre-decisional and post-decisional mind frames regulates or affects human behaviour.	61.555	199	.000	3.790	3.67	3.91
Implemental and deliberative mindsets affect human behaviour and cognition.	47.516	199	.000	3.935	3.77	4.10

Table 2.2 shows that 200 observations (N) were made. The *df* is the degrees of freedom (*df*=n-1) while *t* is the observed *n*. The Sig. (2-tailed)" value is ".000", meaning that p < .0005. The t-test revealed statistical mean difference between the study variables.

Based on the results of the t-test analysis, there was significant statistical differences between my views, knowledge and understanding tend to affect the way I behave, M= 4.22 (SD= 1.066), *t* (199) = 55.299, *p* = .000, and my justifications, beliefs and the truths of what I know affects my perception and behaviour, M= 4.04, (SD= 1.012), *t* (199) = 55.775, *p* = .000, as shown in table 2.1 and table 2.2.These t-test results reveal that human behaviours are influenced by people's views or perceptions, knowledge and understanding. These findings also show that justifications (for example, justifications about knowledge), people's beliefs, and truth impacts or shapes development of definite human behaviours. Thus, based on these findings, it is evident that epistemologies, specifically epistemological mindsets tend to have significant impacts on the way of life of human beings, for example, human behaviours.

There were significant statistical differences between epistemological mindset changes or affect the way humans think and behave, M= 4.18 (SD= 1.079), *t* (199) = 54.150, *p* = .000, and I

think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how we behave as human beings, M= 3.99, (SD= 1.056), t (199) = 52.757, p = .000, as shown in table 2.1 and table 2.2.These t-test findings demonstrate most people (study participants) believe that epistemologies, particularly epistemological mindsets play an important role in influencing the way people think and behave. Moreover, the study reveal that other people stated or believed that epistemological beliefs tend to shape human attitudes and mindsets, which significantly impacts human behaviours. Based on these findings, it is, therefore, evident that epistemological mindsets and epistemological beliefs does not only shape our attitudes but also impacts human behaviours.

The t-test findings revealed that there were significant statistical differences between my experiences in psychological distressful situations as a result of conflicting beliefs or thoughts tend to shape human epistemological mindsets and impact how I behave, M= 3.65 (SD= 1.111), t (199) = 45.837, p = .000,and voice of individual's beliefs or perceptions, the voice of their peers and the voice of the authority shapes our mindsets and impacts our human behaviours, M= 4.17, (SD= .875), t (199) = 66.620, p = .000, as shown in table 2.1 and table 2.2. These t-test results reveal that experiences of people, for example in psychological distressful situations as a result of conflicting beliefs or thoughts, as well as their epistemological mindsets have significant impacts in shaping human behaviours.

In addition, there were significant statistical differences between superstructure beliefs and basic epistemological beliefs influences human behaviour in various individual contexts, M= 3.17 (SD= .962), t (199) = 45.859, p = .000, and cognitive processes of reasoning and thinking shapes human behaviours, M= 3.58, (SD= 1.063), t (199) = 46.978, p = .000, as shown in table 2.1 and table 2.2. Lastly, there were significant statistical differences between motivational and cognitive states related to pre-decisional and post-decisional mind frames regulates or affects human

behaviour, M= 3.84 (SD= .871), t (199) = 61.555, p = .000, and implemental and deliberative mindsets affects human behaviour and cognition, M= 3.99, (SD= 1.171), t (199) = 47.516, p = .000, as shown in table 2.1 and table 2.2.Based on these findings, it is evident that epistemological beliefs (superstructure beliefs and basic epistemological beliefs), as well as cognitive processes of reasoning and thinking play important roles in influencing or shaping the way human beings behave. These t-test findings also reveal that motivational and cognitive states related to pre-decisional and post-decisional mindsets influence or impact human behaviours. In addition, these t-test results illustrate that implemental and deliberative epistemological mindsets affects human behaviours.

Answering the first research question
1) What are the impacts of epistemological mindsets?

Chi-Square Tests

Chi-Square tests were performed in SPSS using the data collected to answer the first research question, which explores the impacts of epistemological mindsets, particularly on human behaviour. The findings are presented and discussed below.

Table 2.3
Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
My views, knowledge and understanding tend to affect the way I behave. * Epistemologies mindset changes or affect the way humans think and behave	200	100.0%	0	0.0%	200	100.0%

Table 2.3 above show that table summary of the variables and number of respondents used in analysis to answer the first research question.

Table 2.4
Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	757.951[a]	16	.000
Likelihood Ratio	445.631	16	.000
Linear-by-Linear Association	183.951	1	.000
N of Valid Cases	200		

a. 15 cells (60.0%) have expected count less than 5. The minimum expected count is .18.

Table 2.5

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	1.947	.000
	Cramer's V	.973	.000
N of Valid Cases		200	

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Regression Analysis

Regression analysis was conducted to determine the impacts of epistemological mindsets on human behaviour using implemental and deliberative mindsets affects human behaviour as a dependent variable and justifications, beliefs and the truths of what people know as the Predictors (Constant). The results of the regression analysis are presented and discussed in the following sections.

Table 2.6

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.522[a]	.273	.269	1.001

a. Predictors: (Constant), My Justifications, beliefs and the truths of what I know affects my perception and behaviour

b. Dependent Variable: Implemental and deliberative mindset affects human behaviour and cognition.

Table 2.7

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74.423	1	74.423	74.224	.000[b]
	Residual	198.532	198	1.003		
	Total	272.955	199			

a. Dependent Variable: Implemental and deliberative mindset affects human behaviour and cognition.

b. Predictors: (Constant), My Justifications, beliefs and the truths of what I know affects my perception and behaviour

Table 2.8

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.543	.292		5.281	.000
	My Justifications, beliefs and the truths of what I know affects my perception and behaviour	.604	.070	.522	8.615	.000

a. Dependent Variable: Implemental and deliberative mindset affects human behaviour and cognition.

A multiple regression was run to predict the impacts of epistemological mindsets: how mindsets affects human behaviour, using questionnaire items or variables. The variables, which include implemental and deliberative mindset affects human behaviour and cognition as the dependent variable, and my justifications, beliefs and the truths of what I know affects my perception and behaviour as the predictors: (Constant) were statistically significant ($p < 0.005$).These variables statistically significantly predicted implemental and deliberative mindset, which affects human behaviour and cognition, $F (1, 198) = 74.224$, $p < .005$, $R^2 = .073$, as shown in table 2.6 and 2.7. The coefficient for my justifications, beliefs and the truths of what I know affects my perception and behaviour, *B = .604, t = 8.615, p = .000,* was statistically significantly to the implemental and deliberative mindset affects human behaviour and cognition, $p < .005$, as shown in table 2.8. The variable (my justifications, beliefs and the truths of what I know affects my perception and behaviour) added statistically significantly to the prediction of the effects or impacts of implemental and deliberative mindset (epistemological mindsets) on human behaviour. These regression findings reveal that justifications, beliefs, and the truths of what people know is used to predict and understand how implemental and deliberative mindsets (epistemological

mindsets) influence or impac human behaviour. Therefore, based on these results, the study concludes that epistemological mindsets, which encompasses justifications, beliefs and the truths of what people know (i.e., knowledge and its justifications) affect human behaviour. In addition, justifications, beliefs, and the truths of what people know predicts implemental and deliberative mindsets, which affect human mindsets. These study findings evidently show that epistemological mindsets predict or affects human behaviour; hence answering the first research question.

Table 2.9

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.15	4.57	3.98	.612	200
Residual	-2.961	1.644	.000	.999	200
Std. Predicted Value	-3.005	.949	.000	1.000	200
Std. Residual	-2.957	1.641	.000	.997	200

a. Dependent Variable: Implemental and deliberative mindset affects human behaviour and cognition.

The predicted value of the dependent variable stating that implemental and deliberative mindset affects human behaviour and cognition had a mean of 3.98 (Std. Deviation = .612), as shown in table 2.9. These findings suggest that implemental and deliberative mindset affects human behaviour; hence, the study concludes that epistemological mindsets have significant impacts on human behaviour.

Histogram

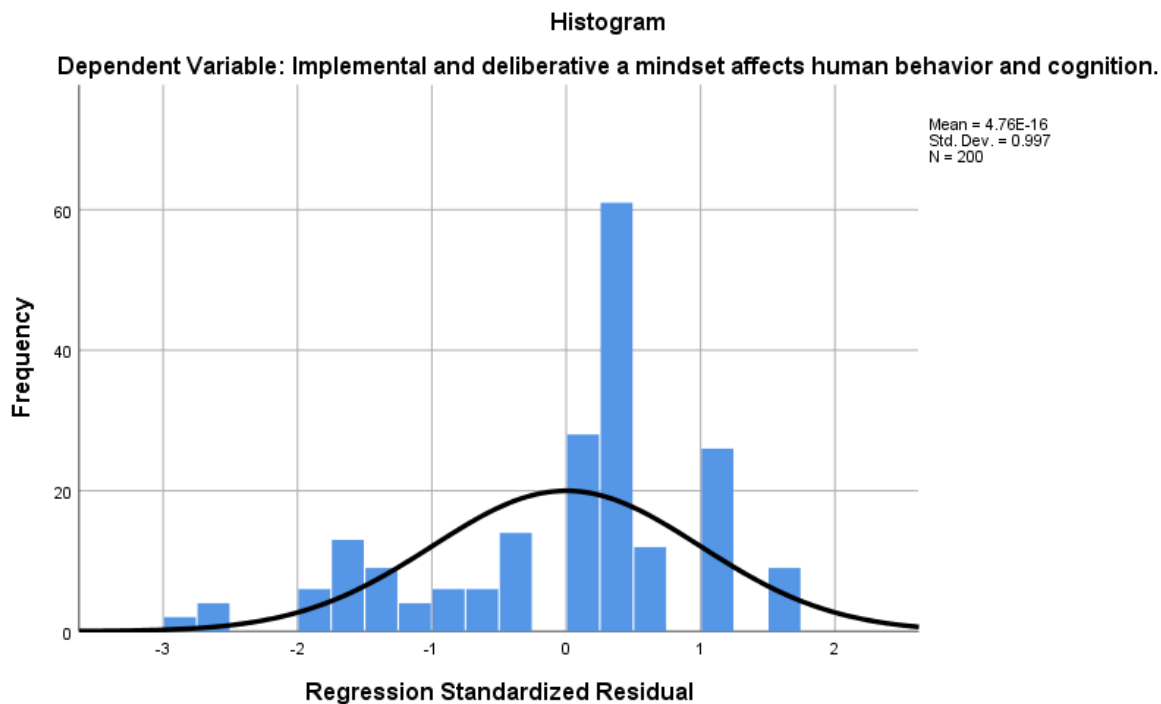Dependent Variable: Implemental and deliberative a mindset affects human behavior and cognition.

Figure 3. Histogram

The histogram also shows that most people agree or believe that implemental and deliberative mindset affects human behaviour, as shown in figure 3. Based on these findings, it is evident that epistemological mindsets including implemental and deliberative mindsets affects human behaviour.

4.5. How Mindsets affect Human Behaviour

Descriptive Analysis

Table 3.0

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Mindsets, which is the presumptions we cling to concerning the essential flexibility of the individual attributes, shapes or impacts human behaviour.	200	1	5	4.07	1.136
Mindsets form mental frameworks, which shapes individual views and impacts their human behaviours.	200	1	5	4.03	1.014
Fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour.	200	1	5	3.16	.953
I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth.	200	1	5	3.99	1.054
Attitudes shapes mindsets, and mindsets influences human behaviours.	200	1	5	3.65	1.111
I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire.	200	1	5	4.15	.878
Mindsets also shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave.	200	1	5	4.05	1.113
I tend to adopt a human behaviour that is consistent with my current mindset.	200	1	5	3.58	1.063
The elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour.	200	1	5	3.83	.867
Mindsets shape perceptions of trait-pertinent cues, which moderate or affects human behaviour.	200	1	5	4.23	1.064
Valid N (listwise)	200				

Descriptive statistics were conducted on the data collected from the 200 participants to determine the mean and standard deviation regarding the participants' responses on how mindsets affect human behaviour. The study findings show that the mean of "mindsets, which is the presumptions we cling to concerning the essential flexibility of the individual attributes, shapes or impacts human behaviour" was 4.07and Std. Deviation=1.136, while the mean of "mindsets forms mental frameworks, which shapes individual views and impacts their human behaviours" was 4.03and Std. Deviation =1.014, as shown in table 3.0. These higher mean values suggest that a higher number of the study participants (71.5%) agreed mindsets, which is the presumptions we cling to concerning the essential flexibility of the individual attributes, shapes or impacts human behaviour, while 70.5% of them agreed that mindsets form mental frameworks, which shape individual views and impacts their human behaviours. These findings show that mindsets form mental frameworks, which shapes individual views and impacts their human behaviours. Moreover, study results reveal that mindsets shapes human behaviour.

The mean of "fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour" was 3.16 and Std. Deviation =.953, as shown in table 3.0. This was the lowest mean, suggesting that a small number of study participants (29.5%) agreed that fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour. This low mean was attributed to the more than half (50.5%) of the study participants stated that they neither agree or disagree whether fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour. Perhaps this variable was difficult for most of the study participants to understand due to the complex terms used.

On the other hand, the mean of "I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth" was 3.99 and Std. Deviation = 1.054, while the mean of "attitudes shapes mindsets, and mindsets influences human behaviours" was 3.6 and Std. Deviation = 1.111, as shown in table 3.0. These findings show that the variable stating that I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth had a high mean, suggesting that most of the study participants (70%) agree that cultivation of a growth mindset have positive and significant impacts on human behaviours. Moreover, more than half of the study participants (59%) agreed (strongly agreed and agreed) that attitudes shapes mindsets, and mindsets influences human behaviours. Based on these findings, it is evident that attitudes shapes mindsets, and mindsets influence human behaviours. It is also evident that cultivation of a growth mindset has positive and significant impacts on human behaviours and personality growth.

The study findings show that the mean of "I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire" was 4.15 and Std. Deviation = .878, as shown in table 3.0. This variable had a higher mean value, suggesting that majority of the study participants (77%) agree that they have the tendency of changing their intentions or attitudes and mindsets in order to achieve specific human behaviour they desire.

Similarly, the mean of "mindsets also shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave" was 4.05 and Std. Deviation = 1.113, as shown in table 3.0. This variable also had a higher mean value, suggesting that majority of the study participants (72%) agree and believe that mindsets also shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave. These findings reveal that people tend to change their intentions or attitudes and mindsets in order to achieve specific and

desirable human behaviour. The findings also reveal that mindsets tend to shape thought habits and beliefs of people, which in turn affect what people do, feel, think, as well as how they behave. Thus, it is evident that mindset play an important role in impacting or affecting human behaviours.

The mean of "I tend to adopt a human behaviour that is consistent with my current mindset" was 3.58 and Std. Deviation = 1.063,as shown in table 3.0, suggesting that more than half (59.5%) of the study participants agree that they tend to adopt a human behaviour that is consistent with their current mindset. Based on this finding, it is evident that the current state of mindset or the overall mindset tend to shape the development of human behaviours that people adopt or have.

The mean of "mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour" was 3.83 and Std. Deviation = .867, as shown in table 3.0, this high mean suggest that human behaviours exhibited by people is shaped by mindset such as explicit and implicit principles, as well as beliefs, and values they hold.

The mean of "mindsets shapes perceptions of trait-pertinent cues, which moderate or affects human behaviour" was 4.23 and Std. Deviation = 1.064, as shown in table 3.0. This variable had the highest mean, suggesting that the highest number of the study participants (77.5%) agree that mindsets shapes perceptions of trait-pertinent cues, which moderate or affects human behaviour. Thus, it is evident that mindsets shapes perceptions of trait-pertinent cues of people, which impacts their human behaviours.

T-test Analysis
Table 3.1

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Mindsets, which is the presumptions we cling to concerning the essential flexibility of the individual attributes, shapes or impacts human behaviour.	200	4.07	1.136	.080
Mindsets form mental frameworks, which shapes individual views and impacts their human behaviours.	200	4.04	1.014	.072
Fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour.	200	3.16	.953	.067
I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth.	200	3.99	1.054	.075
Attitudes shapes mindsets, and mindsets influences human behaviours.	200	3.65	1.111	.079
I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire.	200	4.15	.878	.062
Mindsets also shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave.	200	4.06	1.113	.079
I tend to adopt a human behaviour that is consistent with my current mindset.	200	3.58	1.063	.075
The elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour.	200	3.84	.867	.061
Mindsets shape perceptions of trait-pertinent cues, which moderate or affects human behaviour.	200	4.23	1.064	.075

The mean of "mindsets, which is the presumptions we cling to concerning the essential flexibility of the individual attributes, shapes or impacts human behaviour" was 4.07 and Std. Deviation = 1.136, with Std. Error Mean of 0.080, while the mean of "mindsets form mental

frameworks, which shapes individual views and impacts their human behaviours" was 4.04 and Std. Deviation =1.014 with Std. Error Mean of .072, as shown in table 3.1.

The "fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour" had a mean of 3.16 and Std. Deviation = 0.953 with Std. Error Mean of .067, whereas the variable stating that "I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth" had a mean of 3.99 and Std. Deviation = 1.054, with Std. Error Mean of 0.075, as shown in table 3.1.

The mean of "attitudes shapes mindsets, and mindsets influences human behaviours" was 3.65 and Std. Deviation = 1.111, with Std. Error Mean of 0.079, while the mean of "I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour" I desire was 4.15 and Std. Deviation = .878, with Std. Error Mean of 0.062, as shown in table 3.1.

The mean of "mindsets shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave" was 4.06 and Std. Deviation = 1.113, with Std. Error Mean of 0.079, while the mean of "I tend to adopt a human behaviour that is consistent with my current mindset" was 3.58 and Std. Deviation = 1.063, with Std. Error Mean of 0.075, as shown in table 3.1.

The mean of "the elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour" was 3.84 and Std. Deviation = .867, with Std. Error Mean of 0.061, whereas the mean of "mindsets shape perceptions of trait-pertinent cues,

which moderate or affects human behaviour" was 4.23 and Std. Deviation = 1.064, with Std. Error

Mean of .075, as shown in table 3.1.

Table 3.2

One-Sample Test

	Test Value = 0.05				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Mindsets, which is the presumptions we cling to concerning the essential flexibility of the individual attributes, shapes or impacts human behaviour	50.025	199	.000	4.020	3.86	4.18
Mindsets form mental frameworks, which shapes individual views and impacts their human behaviours.	55.559	199	.000	3.985	3.84	4.13
Fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour.	46.132	199	.000	3.110	2.98	3.24
I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth.	52.812	199	.000	3.935	3.79	4.08
Attitudes shapes mindsets, and mindsets influences human behaviours.	45.837	199	.000	3.600	3.45	3.75
I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire.	66.019	199	.000	4.100	3.98	4.22
Mindsets also shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave.	50.901	199	.000	4.005	3.85	4.16

I tend to adopt a human behaviour that is consistent with my current mindset.	46.895	199	.000	3.525	3.38	3.67
The elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour.	61.746	199	.000	3.785	3.66	3.91
Mindsets shape perceptions of trait-pertinent cues, which moderate or affects human behaviour.	55.542	199	.000	4.180	4.03	4.33

Based on the t-test analysis, there was significant statistical differences between mindsets, which is the presumptions we cling to concerning the essential flexibility of the individual attributes, shapes or impacts human behaviour, M= 4.07 (SD= 1.136), t (199) = 50.025, p = .000, and mindsets form mental frameworks, which shapes individual views and impacts their human behaviours, M= 4.03, (SD= 1.014), t (199) = 55.559, p = .000, as shown in table 3.1 and table 3.2. These t-test results demonstrate that mindsets shape or affects human behaviour. These study findings also reveal that mindsets create mental frameworks that influence individual perceptions and affect the way people behave.

The t-test findings show that there was a significant statistical difference between "fixed mindsets regarding cooperation or concession capabilities, personality, intelligence" and "abilities impacts human behaviour", M= 3.16 (SD= .953), t (199) = 46.132, p = .000, and I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth, M= 3.99, (SD= 1.054), t (199) = 52.812, p = .000, as shown in table 3.1 and table 3.2. These t-test findings reveal fixed mindsets affects human behaviour.

There was a significant statistical difference between "attitudes shapes mindsets, and mindsets influences human behaviours", M= 3.65 (SD= 1.111), t (199) = 45.837, p = .000, and "I

have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire", M= 4.15, (SD= .878), t (199) = 66.019, p = .000, as shown in table 3.1 and table 3.2. These study findings reveal that our attitudes as humans shapes the development of definite human mindsets, which, in turn, influences or affects the way human beings behave. The t-test results also demonstrate that people tend to change their mindsets or attitudes to achieve particular or desirable set of human behaviours.

In addition, there was a significant statistical difference between "mindsets also shapes thoughts, habits and beliefs of people, which in turn affect what people do, feel, think and behave", M= 4.06 (SD= 1.113), t (199) = 50.901, p = .000, and "I tend to adopt a human behaviour that is consistent with my current mindset", M= 3.58, (SD= 1.063), t (199) = 46.895, p = .000, as shown in table 3.1 and table 3.2. Based on these t-test results, most people (study participants) stated that mindsets shape their habits, thoughts and beliefs, which influence their mindsets and impact their human behaviours. The t-test findings also demonstrate that human beings have the tendency of adopting behaviours, which are consistent with their mindsets. These findings reveal that it is generally evident that mindsets greatly affect or influence behaviours of various people.

Similarly, there was a significant statistical difference between the "elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour", M= 3.84 (SD= .867), t (199) = 61.746, p = .000, and "mindsets shape perceptions of trait-pertinent cues, which moderate or affects human behaviour", M= 4.23, (SD= 1.064), t (199) = 55.542, p = .000, as shown in table 3.1 and table 3.2. These t-test findings show that mindsets including explicit and implicit principles, beliefs, and values people hold tend to moderate, shape and affects their human behaviours.

Second research question
2. What are the impacts of mindsets on human behaviour?

Chi-Square Tests

Chi-Square tests were performed in SPSS using the data collected to answer the second research question, which investigates how mindsets affect human behaviour. The findings are presented and discussed below.

Table 3.3

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Mindsets form mental frameworks, which shapes individual views and impacts their human behaviours. * Mindsets also shape perceptions of trait-pertinent cues, which moderate or affects human behaviour.	200	100.0%	0	0.0%	200	100.0%

Table 3.3 above show that table summary of the variables and number of respondents used in analysis to answer the second research question, which is to determine how mindsets affect human behaviour.

Table 3.4

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	260.283[a]	16	.000
Likelihood Ratio	155.881	16	.000
Linear-by-Linear Association	96.221	1	.000
N of Valid Cases	200		

a. 15 cells (60.0%) have expected count less than 5. The minimum expected count is .12.

Table 3.5

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	1.141	.000
	Cramer's V	.570	.000
N of Valid Cases		200	

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trait-pertinent cues, which moderate or affects human behaviour, which was statistically significant, $\chi 2\,(16) = 260.283$, $p < .005$. These Chi-Square findings reveal that the study participants agree that mindsets form mental frameworks, which shapes individual views and impacts their human behaviours. These findings also demonstrate that mindsets also shape perceptions of trait-pertinent cues, which moderate or affects human behaviour. These results reveal that mindsets, which form mental frameworks that shapes individual views and perceptions of trait-pertinent cues, affects human behaviours; hence, these findings answer the second research question and concludes that mindsets significantly affect human behaviour.

Regression Analysis

Regression analysis was conducted to determine how mindsets affect human behaviour on human behaviour using the elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour as a dependent variable and Attitudes shapes mindsets, and mindsets influences human behaviours, as well as I tend to adopt a human behaviour that is consistent with my current mindset as the Predictors (Constant). The results of the regression analysis are presented and discussed in the following sections.

Table 3.6

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.410[a]	.168	.160	.795

a. Predictors: (Constant), Attitudes shapes mindsets, and mindsets influences human behaviours, I tend to adopt a human behaviour that is consistent with my current mindset.
b. Dependent Variable: The elements of the mindsets such as explicit and implicit principles, beliefs, and values drives or shapes individual behaviour.

Table 3.7

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25.123	2	12.562	19.888	.000[b]
	Residual	124.432	197	.632		
	Total	149.555	199			

a. Dependent Variable: The elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual are behaviour.
b. Predictors: (Constant), Attitudes shapes mindsets, and mindsets influences human behaviours, I tend to adopt a human behaviour that is consistent with my current mindset.

Table 3.8

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.459	.226		10.879	.000
	I tend to adopt a human behaviour that is consistent with my current mindset.	.176	.060	.216	2.945	.004
	Attitudes shapes mindsets, and mindsets influences human behaviours	.204	.057	.262	3.568	.000

a. Dependent Variable: The elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour.

A multiple regression was run to predict the how mindsets affects human behaviour, using questionnaire items or variables. The variables, which include the elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour as the dependent variable, and I tend to adopt a human behaviour that is consistent with my current mindset, as well as attitudes shapes mindsets, and mindsets influences human behaviours as the predictors: (Constant) were statistically significant ($p < 0.005$). These predictors (variables) statistically significantly predicted how mindsets affects human behaviour, $F_{(2, 197)} = 19.888$, $p < .005$, $R^2 = .168$, as shown in table 3.6 and 3.7.

The coefficient "I tend to adopt is a human behaviour that is consistent with my current mindset", $B = .176$, $t = 2.945$, $p = .004$, was statistically significant to the elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour, $p < .005$, as shown in table 3.8. Moreover, the coefficient for attitudes shapes mindsets, and mindsets influences human behaviours, $B = .204$, $t = 3.568$, $p = .000$, was statistically

significantly to the elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour, $p < .005$, as shown in table 3.8. The variables (I tend to adopt a human behaviour that is consistent with my current mindset, as well as attitudes shapes mindsets, and mindsets influences human behaviours) added statistically significantly to the prediction of how mindsets affect human behaviour. These regression results reveal that people's attitudes, explicit and implicit principles, beliefs, and values shapes mindsets, which ultimately affects human behaviours. It also shows that people usually adopt human behaviours that are consistent with their mindsets; therefore, it is evident that mindsets shapes and affects human behaviour. These regression findings evidently show how mindsets affects human behaviour; hence answering the second research question.

Table 3.9

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.84	4.36	3.83	.355	200
Residual	-2.573	1.984	.000	.791	200
Std. Predicted Value	-2.802	1.484	.000	1.000	200
Std. Residual	-3.237	2.497	.000	.995	200

a. Dependent Variable: The elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour.

The predicted value of the dependent variable stating that the elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behaviour had a mean of 3.83 (Std. Deviation = .355), as shown in table 3.9. These results reveal that mindset, which is influenced or shaped by individual attitudes, explicit and implicit principles, beliefs, and values, affects human behaviour. Therefore, these results show and proves how   mindsets affects human behaviour.

Histogram

Dependent Variable: The elements of the mindset such as explicit and implicit principles, beliefs, and values drives or shapes individual's behavior.

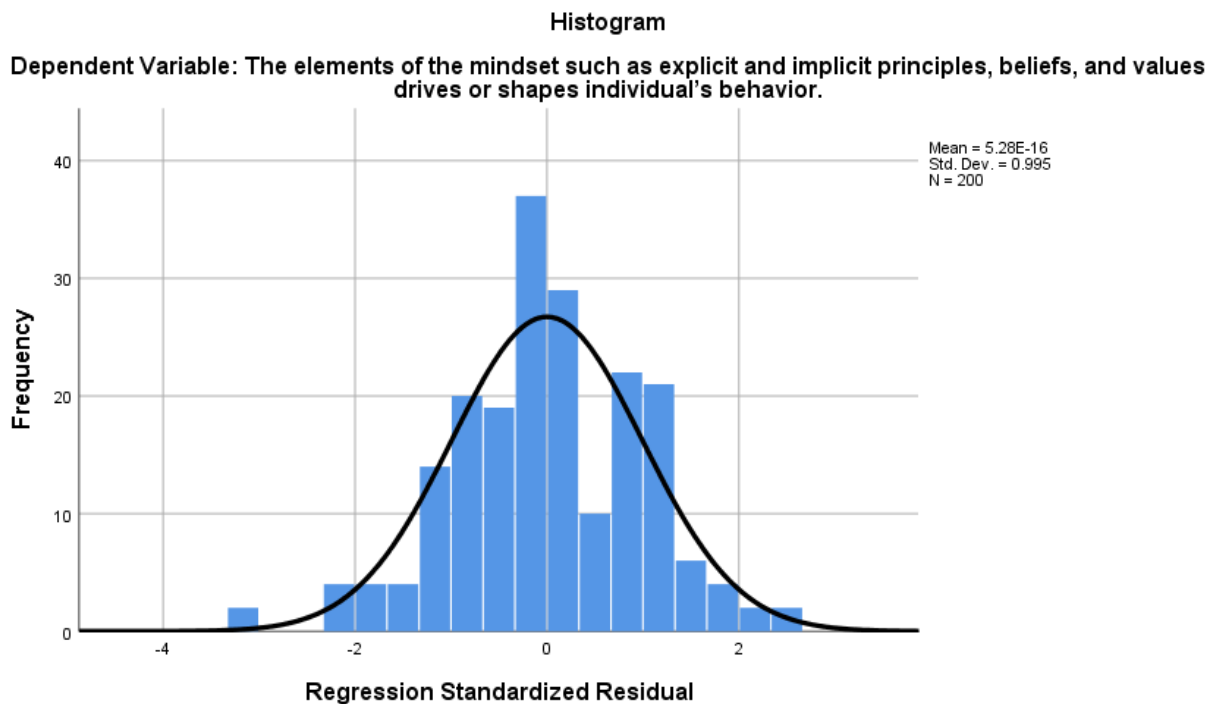Mean = 5.28E-16
Std. Dev. = 0.995
N = 200

Figure 4. Histogram

        The histogram illustrates that majority of the study participants (people) agree that mindset, which includes its elements, affects human behaviour, as shown in figure 4. Thus, these findings, it is evident that mindsets affect human behaviour.

4.6 Hypothesis Testing

Hypothesis 1: Epistemological mindsets have positive and significant impacts on human behaviour

Correlation Analysis
Correlation analysis were conducted to test and validate the first hypothesis

Table 4.0
Correlations

		My views, knowledge and understanding tend to affect the way I behave.	Epistemologies mindset changes or affect the way humans think and behave
My views, knowledge and understanding tend to affect the way I behave.	Pearson Correlation	1	.961**
	Sig. (2-tailed)		.000
	N	200	200
Epistemologies mindset changes or affect the way humans think and behave	Pearson Correlation	.961**	1
	Sig. (2-tailed)	.000	
	N	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson's (bivariate) correlation analysis showed a significant and positive correlation between my views, knowledge and understanding tend to affect the way I behave and epistemologies mindset changes or affect the way humans think and behave ($r = 0.961$, $n = 200$, $p = .000$). The correlation is significant at the 0.01 level (2-tailed), as shown in table 4.0 above. These correlation findings suggest most study participants stated that their views, knowledge and understanding tend to affect the way they behave. The findings also suggest that epistemologies mindset changes or affect the way humans think and behave. Based on the results of this correlation analysis, the study reveals that their views, knowledge and understanding tend to affect the way they behave and epistemologies mindset changes or affect the way humans think and behave.

These results validate and proves the first hypothesis (H1), stating that epistemological mindsets have positive and significant impacts on human behaviour.

Table 4.1
Correlations

		My Justifications, beliefs and the truths of what I know affects my perception and behaviour	I think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how we behave as humans.	Implemental and deliberative mindset affects human behaviour and cognition.
My Justifications, beliefs and the truths of what I know affects my perception and behaviour	Pearson Correlation	1	.254**	.522**
	Sig. (2-tailed)		.000	.000
	N	200	200	200
I think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how we behave as humans.	Pearson Correlation	.254**	1	.219**
	Sig. (2-tailed)	.000		.002
	N	200	200	200
Implemental and deliberative mindset affects human behaviour and cognition.	Pearson Correlation	.522**	.219**	1
	Sig. (2-tailed)	.000	.002	
	N	200	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson's (bivariate) correlation analysis showed a significant and positive correlation between my justifications, beliefs, and the truths of what I know affects my perception and behaviour, and I think epistemological beliefs shape human attitudes and mindsets, which

collectively impacts how we behave as humans ($r = 0.254$, $n = 200$, $p = .000$). The correlation is significant at the 0.01 level (2-tailed), as shown in table 4.1 above. In addition, there was a significant and positive correlation between my justifications, beliefs and the truths of what I know affects my perception and behaviour, and implemental and deliberative mindsets affects human behaviour and cognition ($r = 0.522$, $n = 200$, $p = .000$). The correlation is significant at the 0.01 level (2-tailed), as shown in table 4.1 above. There was also a significant and positive correlation betweenI think epistemological beliefs shape human attitudes and mindsets, which collectively impacts how we behave as humans and Implemental and deliberative mindsets affects human behaviour and cognition ($r = 0.219$, $n = 200$, $p = .002$). The correlation is significant at the 0.01 level (2-tailed), as shown in table 4.1 above. These correlation results suggest that people's justifications, beliefs (i.e., epistemological beliefs) and the truths of what they know, as well as their attitudes affects their perception and human behaviours. Epistemological beliefs shapes or affects human attitudes and mindsets. Moreover, these findings reveal that implemental and deliberative mindsets affect human behaviour. Based on these findings, it is evident that epistemological mindsets affect human behaviour, validating the first hypothesis (H1) stating that epistemological mindsets have positive and significant impacts on human behaviour.

Hypothesis 2. There is positive and significant relationship between mindsets and human behaviour.

Correlation Analysis

Correlation analysis were conducted using the data collected to test and validate or prove the second study hypothesis, which states that there is positive and significant relationship between mindsets and human behaviour.

Table 5.2

Correlations

		I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire.	Mindsets shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave.	Mindsets shape perceptions of trait-pertinent cues, which moderate or affects human behaviour.
I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire.	Pearson Correlation	1	.238**	.361**
	Sig. (2-tailed)		.001	.000
	N	200	200	200
Mindsets shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave.	Pearson Correlation	.238**	1	.163*
	Sig. (2-tailed)	.001		.021
	N	200	200	200
Mindsets shape perceptions of trait-pertinent cues, which moderate or affects human behaviour.	Pearson Correlation	.361**	.163*	1
	Sig. (2-tailed)	.000	.021	
	N	200	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Based on the Pearson's (bivariate) correlation analysis, the study found a significant and positive correlation between "I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire", and "mindsets shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave" (r = 0.238, n = 200, p = .001). The correlation is significant at the 0.01 level (2-tailed),as shown in table 5.0 above. Similarly, there was a significant and positive correlation between I have the tendency of changing my intentions or attitudes and mindsets in order to achieve specific human behaviour I desire, and mindsets shape perceptions of trait-pertinent cues, which moderate or affects human behaviour (r = 0.361, n = 200, p = .000). The correlation is significant at the 0.01 level (2-tailed), as shown in table 5.0 above. In addition, there was there was a significant and positive correlation between mindsets shapes thought habits and beliefs of people, which in turn affect what people do, feel, think and behave, and mindsets shape perceptions of trait-pertinent cues, which moderate or affects human behaviour(r = 0.163, n = 200, p = .021). The correlation is significant at the 0.05 level (2-tailed), as shown in table 5.0 above. These correlation analyses reveal that people tend to change their intentions or attitudes and mindsets in order to achieve specific human behaviour they desire. The study findings also demonstrate that mindsets shapes thought habits and beliefs of people as well as perceptions of trait-pertinent cues, which in turn affect human behaviours. Thus, validating the second study hypothesis (H2) and concludes that there is positive and significant relationship between mindsets and human behaviour.

Table 5.1

Correlations

		Fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour.	I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth.
Fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour.	Pearson Correlation	1	.232**
	Sig. (2-tailed)		.001
	N	200	200
I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth.	Pearson Correlation	.232**	1
	Sig. (2-tailed)	.001	
	N	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

The results of correlation analysis show that there is positive and significant between fixed mindsets regarding cooperation or concession capabilities, personality, intelligence and abilities impacts human behaviour, and I think cultivation of a growth mindset have positive and significant impacts on human behaviours and personality growth ($r = 0.232$, $n = 200$, $p = .001$). The correlation is significant at the 0.01 level (2-tailed), as shown in table 5.0 above. These study findings reveal that fixed mindsets and growth mindsets affect human behaviour. As a result, the study recommends that people should cultivate growth mindsets as this will play an important role in personality growth as well as in shaping their human behaviours to achieve the human

behaviours they desire. Based on these findings, the study concludes that fixed and growth mindsets affect human behaviour in different ways; hence validating the second study hypothesis (H2).

CHAPTER 5. DISCUSSION OF THE RESEARCH FINDINGS AND CONCLUSIONS

5.1 Introduction

This chapter offers the discussion of the study discussions and the conclusions drawn based on the study results. Moreover, this chapter will include discussion of the findings in relation to the literature. It also identifies body of knowledge this study adds to this research domain to fill the existing research gap.

5.2 Discussion of the findings in relation to the literature

The study investigated the impacts of epistemological mindsets and found that individual's views, knowing, knowledge and understanding tend to affect the way people behave, act or think; therefore, the study concludes that epistemological mindsets affect human behaviours. These study findings are consistent with Elby, (2011), Martin, (2014),Dickie, (2016), and (Hofer and Pintrich, 1997) literature findings stating that epistemologies and epistemological mindsets affect the way of life of human beings.

The study findings revealed how epistemological mindsets affect human behaviour. In this regard, the study found that people's justifications, beliefs and the truths of what they know affects the way people behave as it shapes their mindsets. In addition, the study found that epistemological beliefs shape human mindsets, which ultimately impacts how people behave. Thus, the study concludes that justifications, beliefs (i.e., epistemological beliefs), knowledge and truth of what is known shapes mindsets, which, in turn, affect human behaviour. These findings are consistent with

Barry and Halfmann, (2016), Rague, (2017) and Dweck & Dweck, (2017) study findings documented in the literature.

The findings of descriptive and inferential statistics (t-test analysis) also reveal that justifications, i.e., arguments about knowledge, what people know or understand, and beliefs shapes the development of certain human behaviours. Based on these findings, the study concludes that epistemologies, specifically epistemological mindsets, affect human behaviours. It also concludes that epistemological mindsets and epistemological beliefs shape human attitudes and affect human behaviours. These study findings are consistent with the ideologies of the coherentism theory proposed by Dancy, (1991).These findings are also consistent with Fumerton, (2009), BonJour, (2010), Miller et al., (2008), and Dweck & Dweck, (2008; 2017) literature findings documented in this study's literature review section.

The descriptive and inferential statistics (t-test analysis) results reveal that individual experiences in psychological distressful situations as a result of conflicting beliefs or thoughts tend to shape human epistemological mindsets, which affect their human behaviours. These study findings are consistent with Harmon-Jones, (2019) and Morvan, & O'Connor, (2017) findings discussed in the literature review chapter.

Moreover, the study found that cognitive processes of reasoning and thinking, voice of individual's beliefs or perceptions, the voice of their peers and the voice of the authority also shapes peoples' mindsets, affecting their human behaviours. These research findings are consistent with Hofer and Pintrich, (1997) and Justin (2016) literature findings discussed in chapter 2. The study also found that epistemological beliefs including superstructure beliefs and basic epistemological beliefs affect human behaviour in various individual contexts. My study findings are similar to Shamshiri et al. (2016) study findings discussed in the literature review chapter of

this study. Based on these findings, the study concludes both epistemological mindsets and beliefs affect shape or affect human behaviour. However, epistemological mindsets have more significant influence or impacts on human behaviours than epistemological beliefs. The findings are also consistent with Deweck (2017) and Martin (2014) findings discussed in the literature review chapter.

Based on the t-test analysis and descriptive analysis, the study found that implemental and deliberative mindsets affect human behaviour. Similarly, motivational and cognitive states related to pre-decisional and post-decisional mind frames regulated was found to affect human behaviour; hence, the study concludes that human mindsets or mind frames shape how people behave or act, affecting their human behaviours in diverse contexts. These study findings are consistent with Armor & Taylor, (2003) study results. Based on these findings concludes that epistemological mindsets affect human behaviour.

The study also examined how mindsets affect human behaviour and found that mindsets form or creates mental frameworks, which shapes and impacts the way behave or how people behave. Hence, the study concludes that mindsets affect human behaviour. These study results are consistent with Dweck (2015; 2017) and Decker (2016) findings discussed in the literature review chapter.

Based on the descriptive statistics and inferential statistics (t-test analysis), the study found that fixed mindsets and growth mindsets affect human behaviour and thus, the study concludes that human beings should cultivate more of growth mindsets than fixed mindsets, which will have positive impacts or effects on their human behaviours. The study also found that people tend to change their mindsets in order to achieve specific human behaviour they desire, suggesting that mindsets play an important role in affecting human behaviours. These study findings are consistent

with Dweck, (2006; 2008; Dweck, & Dweck, (2017), Eason (2014), (Kray & Haselhuhn, (2007),Moore, & Glasgow, (2017), Allen, (2016) Robins & Pals, (2002), and Spinath et al. (2003) literature findings discussed in the literature review chapter.

In addition, the study found that mindsets shape thought habits and beliefs of people, which in turn affect human behaviour. Thus, the study concludes that different beliefs, thoughts, attitudes, perceptions shapes human mindsets, which ultimately affect human behaviour. Thus, the study concludes that mindsets shapes perceptions of trait-pertinent cues of people, which impacts their human behaviours. These study results are consistent with Dweck, (2017) and Heslin, Keating, & Minbashian, (2017) discussed in the literature review chapter.

The study also found that the state of mindsets usually affects or impact human behaviour. Moreover, mindset such as explicit and implicit principles, as well as beliefs, and values also affect human behaviour. These findings are similar to Bresciani and Sola, (2006) and Dweck, (2008) literature findings discussed in the literature review chapter. Thus, the study concludes that mindsets play an important role in affecting or shaping human behaviours.

Finally, in order to answer the first research question, which examines the impacts of epistemological, Chi-Square tests and regression analysis were conducted in chapter 4. The Chi-Square findings showed that epistemological mindsets, which is usually shaped by individual views, justifications of knowledge, knowing, and understanding or even attitudes, affect the way humans think and behave. Moreover, the findings of multiple regression analysis illustrated that epistemological mindsets affect human behaviour and it can, therefore, be used to predict human behaviour or how people behave. These findings (multiple regression and Chi-Square findings) provided answers to the first research question and thus, the study concluded that epistemological mindsets have significant impacts on human behaviour, which answers the first research question.

These study findings fill the existing research gap and adds a body of knowledge in this research domain by illustrating the impacts of epistemological mindsets, and concluded that epistemological mindsets affect human behaviour.

In addition, in order to answer the second and the last research question, which examines how mindsets affect human behaviour, Chi-Square tests and regression analysis were conducted in chapter 4. Based on the Chi-Square and regression findings, the study concludes that mindsets significantly affect how human beings behave. Mindsets, which is often shaped human views, attitudes, traits or personality, beliefs, understanding, and justifications of knowledge, as well as explicit and implicit principles affect their human behaviours. These study findings fill the existing research gap and adds a body of knowledge in this research domain by illustrating how mindsets affect human mindsets.

5.3. Conclusion.

In conclusion, the study found that epistemological mindsets affect human behaviour. Moreover, the study also concludes that mindsets have significant impacts in shaping or affecting human behaviour. Due to the limited time-scale of this research in context with the field of research, researcher chose to limit the research scope and decided to use one particular region, which was convenient as the target population. Majority of the study participants (40.0%) were aged between 30 and 39 years and the least study participants (2.0%) were aged between 18 and 20 years. The highest percentage (45%) of study participants' level of education recorded have master's degree or were pursuing masters in Philosophy. The Cronbach's alpha of 0.836 indicated that there were high internal consistency levels and higher reliability in the findings gathered from the 200 study respondents. These Chi-Square findings answered the first and second research question and conclude that epistemological mindsets affect human behaviour. Regression analysis

that was also conducted evidenced that epistemological mindsets including implemental and deliberative mindsets affects human behaviour. Correlation Analysis was conducted to test the validity of the first and second hypothesis that Epistemological mindsets have positive and significant impacts on human behaviour.

CHAPTER 6. NEW PHILOSOPHY OR THEORY, STUDY RECOMMENDATIONS AND AREAS OF FUTURE RESEARCH

6.1 Introduction

This chapter offers the creation of a new philosophy/theory/school of thought, study recommendations and areas for future research studies based on the study results.

6.2 Creation of a new philosophy/theory/school of thought.

The study findings filled the existing literature gap identified in chapter 1 and 2, created a new philosophy/theory/school of thought. In this regard, the study created and evidently demonstrated that epistemological mindsets affect human behaviour. The study also added a new body of knowledge to existing literature review in this research domain by revealing that human mindsets shape perceptions of trait-pertinent cues, values, habits and beliefs, which ultimately affect their human behaviours. In conclusion, epistemological mindsets (mindsets) affect human behaviour and human beings tend to model their mindsets, which would lead to creating of new human behaviour patterns aimed at achieving definite human behaviour. In terms of a new theory, the study has created new theory of mindset, which will offer theoretical framework and explanation of how mindsets affect human behaviour.

6.3 Study Recommendations

Based on the study findings, the study offers the following recommendations:

1. Since the study proved that mindsets affect human behaviour, the study proposes that human beings need to cultivate growth mindsets or cultivate positive mindsets, which will lead to positive human behaviours and personality growth

2. The study also recommends that organisations should focus on developing their employee's epistemological mindsets to enhance their performances, working relationships, as well as achieve better human behaviours.

6.4 Areas for future research studies

1. The study suggest that future research studies should focus on how factors shape human mindsets.

2. The study also proposes that future research studies should be conducted to explore how mindsets impact or affect personality traits of human beings

Lastly, the study suggests that future research studies should focus on cultivation of mindsets beyond growth, fixed, and benefit mindsets, and to include the literary work from The Mamba Mentality (K. Bryant 2018) which deals with work ethic, resilience, and consistent excellence.

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