IMPACT OF PASSION ON EPISTEMIC CURIOSITY OF SCIENCE AND TECHNOLOGY SCIENTISTS IN SRI LANKA

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ABSTRACT

Innovations, inventions, new findings are crucial factors to developing the country and Epistemic Curiosity is one of the influential psychological factors to inquisitive thinking such as exploration, investigation, and learning and which is heavily associated with all aspects of human development. Within the Sri Lankan context, a low level of Epistemic Curiosity of S&T Scientists identified as a researchable area after analyzing the preliminary data and it was identified as two types of Passion namely, Harmonious and Obsessive Passion impact on Epistemic curiosity based on the current literature. The foremost objectives of the study are finding out the Positive impact of Harmonious Passion on Epistemic Curiosity of S&T Scientists in Sri Lanka and the negative impact of Obsessive Passion on Epistemic Curiosity S&T Scientists. Data were collected from the only survey by using self adminstarted questionnaires developed using a google form. Out of 339 S&T scientists, 158 S&T Scientists were selected as the sample by applying the stratified random sampling technique. This study belongs to Quantitative research methodology while multiple regression analysis was used to test the hypothesized model. The findings of the study revealed that only Obsessive Passion negatively impact on Epistemic Curiosity of S&T Scientists in Sri Lanka. However, Harmonious Passion not impacted on Epistemic Curiosity S&T Scientists in Sri Lanka. Science & Technology Scientists are really hard workers when running the project, hence, Government is able to facilitate a reasonable vacation after ending their project. As a result, Fresh workers think differently and it will lead to a decrease in Obsessive passion as increasing the Epistemic Curiosity towards finding something new and eliminating gaps in ones understanding. Plenty of Epistemic Curiosity researchers quantitatively measure this dimension. Although, it would be worth the qualitative study to deeply understanding the dimension of Epistemic Curiosity

Keywords: *Epistemic Curiosity, Harmonious Passion, Obsessive Passion, S&T Scientists*

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ABBRIVATIONS

S&T	Science and Technology
EC	Epistemic Curiosity
I-EC	Interest type Epistemic Curiosity
D-EC	Dprivation type Epistemic Curiosity

CHAPTER ONE
INTRODUCTION

1.1 Background of the study

Motivation, drive, and curiosity are popular topics in organizations as leaders strive to be productive (Hamilton, 2019). Curiosity has been categorized as a personality trait (Mussel, Spengler, Litman, & Schuler, 2012). Since the origins of psychology, curiosity has occupied a pivotal position in the study of motivation, emotion, and cognition; and disciplines as far-ranging as biology, economics, robotics, and leadership (Kashdan et al., 2018). The reach of curiosity is vast, spanning across cultural boundaries, situational contexts, and even time itself. In recognition of its importance to human behavior, early theorists conceptualized curiosity as a basic, homeostatic drive, which operates similarly to that of hunger or thirst (Hardy, Ness, & Mecca, 2017). Apart from others, curiosity has a distinct place in literature. In presenting theory and research that distinguishes curiosity from related constructs, curiosity is defined as a positive emotional-motivational system associated with the recognition, pursuit, and self-regulation of novel and challenging opportunities. (Kashdan et al., 2019).

There are four dimensions of individual curiosity. State trait curiosity, Epistemic Curiosity, Perceptual curiosity, Curiosity Exploration Inventory. State trait curiosity is further divided into two dimensions namely, state and trait curiosity. State curiosity which means the motivational state reflecting the intensity of curiosity in a particular period (Chang & Shih, 2019). Trait curiosity implies the personality trait influencing the frequency that individuals generally experience curiosity (Chang & Shih, 2019).

Perceptual curiosity also consists of types of dimensions such as Diversive Curiosity and Specific Curiosity. Diversive Curiosity can be explicated as the motivational state

for exploration activated by boredom and the desire to experience something new and exciting (Chang & Shih, 2019). Specific curiosity, The motivational state for exploration is directed by external stimuli and the need to reduce uncertainty (Chang & Shih, 2019).

Curiosity exploration inventory comprises two dimensions such as Stretching and Embracing, The motivational that makes individuals perceive difficulty and complexity as challenges and opportunities for personal growth continually accumulate new is known as stretching (Chang & Shih, 2019). Embracing is the motivational trait that makes individuals enjoy excitement and freshness by actively searching for new experiences and new things to learn (Chang & Shih, 2019).

Epistemic curiosity has been defined as a desire for knowledge that motivates inquisition and experimentation for the sake of eliminating gaps in information and solving intellectual problems, thus ensuring scholarly achievement and intellectual development (Berlyne, 1962; Litman, 2010; Litman, Hutchins, & Russon, 2010). Epistemic curiosity could further be categorized into two types namely Interest-type Epistemic Curiosity (I-EC) and Deprivation-type Epistemic Curiosity (D-EC). Interest type Epistemic Curiosity involves intellectual exploration of completely new ideas for the sake of fun, while Deprivation type Epistemic Curiosity reflects an intense need to resolve uncertainty and eliminate undesirable states of ignorance (Berlyne, 1962; Litman, 2007, 2010; Litman et al., 2010). Interest type Epistemic Curiosity is a purely intrinsic motive to obtain new knowledge, whereas Deprivation type epistemic curiosity may be conceptualized as an "integrated" motive. Among four type of curiosity, Epistemic Curiosity place the distinic place in literature due to nature of the Epitemic Curiosiyuis by examing the the circumstance where Epistemic Curiosity is pure instrinic motivation and involves feeling of interest and when it is oriented towards the elimination of unpleasant conditions of information gap and hence, also involves extrinsically regulated concern about the accuracy and relevancy newly gathered information (Chang & Shih, 2019).With the facts, Researcher investigated the valuability of Epistemic Curiosity in Sri Lankan context.

Epistemic Curiosity is caused by a different idea, belief, or attitude (Hong, Ye, & Fan, 2019). Moreover, Epistemic Curiosity can also lead to highly unexpected information challenging the coherence and completeness of our knowledge, beyond the specific

gap initially considered (Ligneul, Mermillod, & Morisseau, 2018). As well as Epistemic Curiosity was aroused by complex ideas or conceptual ambiguities (e.g. scientific theories, intellectual conundrums), which motivated asking questions or testing hypotheses to gain knowledge (Collins, Litman, & Spielberger, 2018). It is enables employees to develop a strong attentional focus on task-relevant information and thus be better able to produce ideas for solving problems at hand (Koo & Choi, 2010). As well as Epistemic Curiosity is exemplified by the scientist's search for the solution to a problem (Subaşı, 2019). Recent work has acknowledged the growing importance of professional workers' Epistemic Curiosity to organizational learning and dynamic capabilities of firms operating under rapid technological change and high levels of knowledge intensity (Liu, Jiang, Shalley, Keem, & Zhou, 2016; Van Kleef et al., 2012). Epistemic Curiosity is the desire for a particular piece of information and is often associated with motivations for academic achievement and scientific discovery (Kang et al., 2009) Hence, Accordance with Epistemic Curiosity literature there is a significant impact of Epistemic Curiosity on professional workers and Scientific's search.

1.2 Problem Statement

With an increasingly competitive global economy, science and technology is an important strategic driver to achieve balanced national development (Science & Technology Commission, 2017). It is therefore imperative that a strong commitment is made to harness the potential of science and technology as a key driver in raising the national capacity to acquire and utilize knowledge, to foster innovations, and simultaneously ensure economic development and human welfare (Science & Technology Commission, 2017). Epistemic Curiosity might able to simply be defined as the tendency to acquiring new knowledge and attempting to filling gap what is known and unknown things in fact, finding out the level of Epistemic Curiosity ought to be selected knowledge workers who seeking something new. Epistemic Curiosity is important for selecting and motivating knowledge workers who gather information (e.g., scientists, detectives, and journalists) (Wright, Clarkson, and Kardes, 2018). In Sri Lankan context only Scientists have contributed to Science and Technology sector, the references given by Science and Technology status report of Sri Lanka-

2017 therefore, With the given facts, Researcher is going to investigate level of Epistemic Curiosity of Science & Technology Scientists in Sri Lanka

Individuals with higher Epistemic Curiosity seek to explore new situations, complicates, and have a high degree of uncertainty (Ishaq et al., 2019). As mentioned Litman and Spielberger (2003) if individuals with high Epistemic Curiosity, it will lead to several positive outcomes of them. The frequency or tendency with such curiosity is felt and expresses varies from individual to individual.

Hunter, Abraham, Hunter, Goldberg and Eastwood (2016) identified the persons who are having high- Epistemic Curiosity Loadings onto a number of creativity factors, whereas Low- Epistemic Curiosity persons negative loadings onto the same factors. Kang et al, (2009) found the memory regions are with High-Epistemic Curiosity whose activity was greater in response than in response to Low- Epistemic Curiosity. Wright, Clarkson, and Kardes, (2018) Stimulated greater Epistemic Curiosity in novel information as a means of increasing one's knowledge. There are having High Epistemic Curiosity of Science and Technology Scientists who have plenty of novel information and who are having with low Epistemic Curiosity somewhat less amount of novel information acquired by them. Table 1.1 represents a quantitative analysis of the novel knowledge dissemination platforms such as the papers in a journal indexed SCI, refereed journals not indexed in SCI or SCI-Expanded, abstracts of papers presented at research conferences, monographs, books, and books chapters publication of Science and Technology scientists in Sri Lanka in the year 2017.

Table 1. 1:various categories of publications produced by scientists in S&T institutions in Sri Lanka (2017)

Sector	Number of Publications							
	Journals indexed in SCI	SCI Journals indexed in SCI Expanded	Refereed Journals not indexed in SCI or SCI expanded	Abstracts of papers presented at research conferences/Symposia	Monographs	Books	Book Chapter	Other
Agriculture	22	00	34	128	00	18	0	193
Engineering	00	11	29	209	01	00	01	08
Plantation	33	26	33	161	00	20	19	99
Medical	00	00	01	109	00	01	00	20
Other	22	00	34	128	00	18	00	193

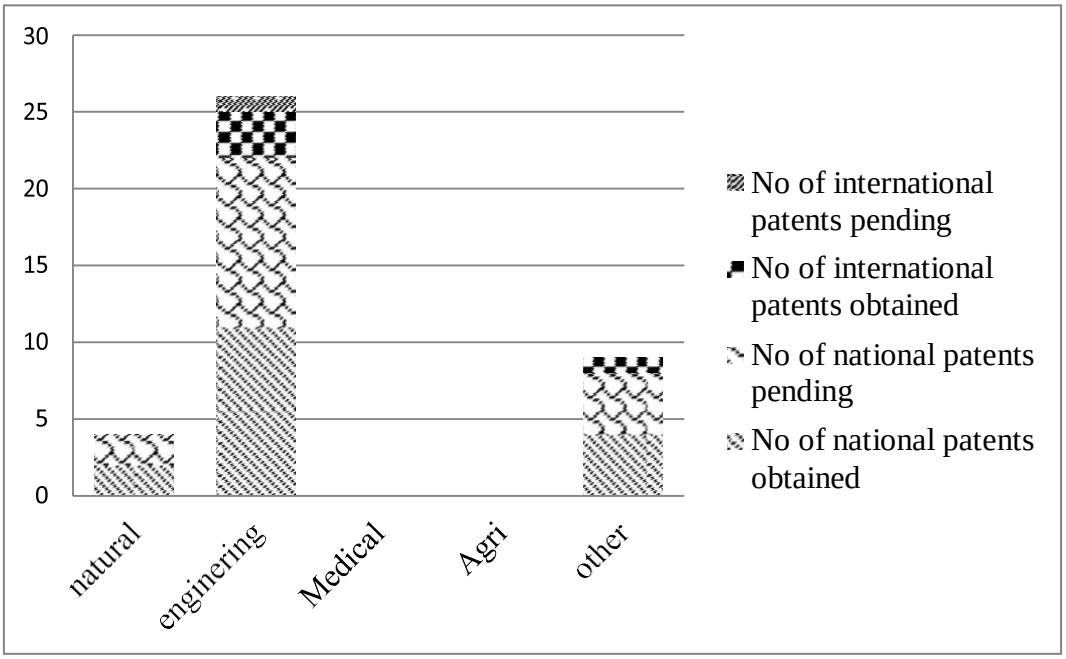
- Other includes articles in news bulletins, magazines, newsletters and newspapers.

Source: Science and Technology status report of Sri Lanka (2017). National Science and Technology Commission.

According to Table 1.1, there were no SCI journal indexed publications in the fields of Engineering, and Medical and also, when moving "Journals is indexed in SCI or SCI expanded" there were zero publications in the fields of agriculture, medical. The researcher argues the results demostrate the low level Epistemic Curiosity of Scientists to finding out something new in their relevant fields to further clarifying things better, Researcher going to conduct a Preliminary Survey.

To further highlighting the level of actual performance by referring to the number of patents registered and pending of Science and Technology Scientists, the researcher employs the Figure 1.1 by referring the Science and Technology Status report of Sri Lanka (2017).

Figure 1. 1: Number of patents registered and pending in 2017 (Scientists in Science and Technology institutions in Sri Lanka)



Source: Science and Technology Status report of Sri Lanka (2017). National Science and Technology Commission

As per Figure 1.1, There were no obtained national and international patents in the fields of Medical, The fields of agriculture and natural has obtained four patents and also, Science and Technology Scientists had acquired four international patents throughout the year in 2017 and also there are no pending international patents in fields of natural, medical, agriculture, and other and that demonstrates, Science and Technology Scientists did not acquire considerable new knowledge to disseminating the world (Appendix A). Researcher steps into these organizations to further investigating why these types of scenarios can occur. Results demonstrate that a low level of Epistemic Curiosity of professionals might able to be as grounds behind that and to further verifying things better, a preliminary survey going to be conducted.

Voulvoulis and Burgman (2019) Stipulated Science is driven by curiosity, and technology is driven by a utility, both are necessary and interdependent, and while they clearly complement each other, they can become dysfunctional when they converge. As well as Loewenstein (1994) demonstrated that views of Epistemic Curiosity as polarized between it as a motivational force for scientific discovery and

associating it with non-sanctioned behaviors such as drug use. These are the importance of Epistemic Curiosity to Science and Technology Scientists.

To identify the level of individual Epistemic Curiosity the researcher conducted the preliminary survey to Science and Technology Scientists in Sri Lanka by using a measuring instrument developed by Litman, (2008) to measure Epistemic Curiosity which is consisted of 10 items where each item was measured by using a four-point likert scale and it was distributed randomly among the 25 Scientists different in Science and Technology institutions in Sri Lanka. (See Appendix B for the pilot survey questionnaire).

Table 1.2: Level of Epistemic Curiosity of Science & Technology Scientists in Sri Lanka.

	Epistemic Curiosity
S & T Scientists level of Epistemic Curiosity	2.23

Source: Preliminary Survey Data, 2019

As per Table 1.2, the level of individual Epistemic Curiosity of S & T Scientists vary in between the anchors of some time and often with the Epistemic Curiosity level of (2.23) Science & Technology Scientists in Sri Lanka are having a low level of Epistemic Curiosity (measured by 4 point likert Scale).

Based on the mentioned figures and facts it can be depicted the research problem as "**Why there is the low-level Epistemic Curiosity among the Scientists in Science and Technology institutions in Sri Lanka.**

1.3 Research Questions

Prior research has consistently recognized the importance of leadership and managerial support to employees' motivation, which is the driving force of Epistemic Curiosity towards work-related information and knowledge (Chang & Shih, 2019). In this sense, time pressure at work appears to hinder employees' willingness and ability to learn, thereby diminishing their Epistemic curiosity (Chang & Shih, 2019).

As per current literature, The level of boredom was significantly and negatively related to both types of Epistemic Curiosity (Eren & Coskun, 2016). Epistemic

Curiosity and self-efficacy have a positive correlation and reported that curiosity has a significant positive relationship with Creative Self Efficacy (Hong et al., 2019). Boredom and creative self-efficacy are the factors impact on Epistemic Curiosity in accordance with recent literature.

Moreover, in accordance with Epistemic Curiosity literature, Ruiz and León (2019) demonstrate that it could be interesting for future research to better explore the relationship between passion and these types of Epistemic Curiosity Thus, it could be interesting for future studies to even include the obsessive passion in their analysis to assess which kind of passion tends to correlate/impact better with each type of Epistemic Curiosity (Ruiz & León, 2019).

Passion is "a strong inclination toward a self-defining activity, object, concept or person that one likes, loves or highly values, and in which one invests a significant amount of time and energy"(Vallerand et al., 2003). Vallerand and colleagues propose two types of passion: Harmonious and Obsessive. Harmonious passion is a consequence of an autonomous internalization of the activity into the person's identity, and it leads to adaptive outcomes. Thus, when people are Harmoniously Passionate, they freely engage in the activity, perceive that the activity is in line with their values and other aspects of their life, and they experience positive affect and high levels of concentration, flow, and energy (Vallerand, 2015).

Obsessively Passionate people also find the activity they are passionate about meaningful and enjoyable, they feel internal or external pressure to engage in the activity, they experience negative emotions while doing it, and they show difficulties to experience flow and to remain fully concentrated on it (Ruiz & León, 2019). Ruiz and León (2019) provide evidence that the Harmonious Passion impacted with both types of Epistemic Curiosity.

Harmonious Passion positively associated Epistemic Curiosity (Ruiz & León, 2019). Forest, Mageau, Sarrazin, and Morin (2011) stipulated that the psychological mechanisms responsible for the positive impact of Harmonious Passion on psychological adjustments like need satisfaction, curiosity. On the other hand, Obsessive Passion directly and negatively predicted mental health (Forest, 2011). Generally, shown that Harmonious Passion has positive consequences and whereas,

Obsessive Passion is related to less positive or negative consequences (Vallerand et al., 2003). Forest et al. (2011) Obsessive Passion directly or negatively impact on psychological adjustments like need satisfaction, curiosity.

Based on prevailing literature, the researcher has developed research questions as follows,

- Does the Harmonious Passion Positively impact on individual Epistemic Curiosity Science and Technology Scientists in Sri Lanka?
- Does the Obsessive Passion negatively impact on the individual Epistemic Curiosity of Science and Technology Scientists in Sri Lanka?

1.4 Research Objectives

Based on research questions, the following objectives are developed by the researcher

- To find out whether there is positive impact of Harmonious passion on the individual Epistemic Curiosity of Science and Technology Scientists in Sri Lanka
- To find out whether there is negative impact of Obsessive Passion on individual Epistemic Curiosity Science and Technology Scientists in Sri Lanka

1.5 Research Hypothesis

According to the above research questions and objectives the following hypotheses were developed by the researcher by referring literature and hypotheses will test during the research study.

H_{1A}: There is Positive impact of Harmonious passion on Epistemic Curiosity of Science and Technology Scientists in Sri Lanka.

H_{1B}: There is Negative impact of Obsessive Passion on Epistemic Curiosity of Science and Technology Scientists in Sri Lanka.

1.6 Significance of the study

1.6.1 Practical Significance

Technological innovation is considered as a major source of economic growth. Economic growth refers to the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. It is conventionally measured

as the percent rate of increase in real gross domestic product, or real GDP that is why researches and innovations are very crucial being developed our country whist the matter is to there is no considerable amount of researches and innovations (Sri Lanka Science, Technology & Innovation Statistical Hand Book, 2017). This study will help to understand how to Epistemic Curiosity and two type of Harmonious and Obsessive Passion matters with S&T Scientists's researchers and Innovations. In the organizational sector or S&T institutions, once Epistemically Curious individuals are hired, their individual and organizational outcomes will depend on the extent of the person-environment fit this study may assist to do the person-environment fit through passionate activities and it may deeply valued to individuals. Epistemically Curious individuals have the potential to achieve performance excellence through high cognitive engagement and exploration; however, such efforts will be more successful when organizations share these individuals' values (Ishaq et al., 2019) and the study directed to how to share S&T Scientists' individual values how it accomplished through two type of Passion.

1.6.2 Academic Significance

Epistemic Curiosity seems to be most closely associated with the facet openness to ideas, including aspects of being open-minded, engaging in unconventional thoughts, and solving problems and thinking as an end in itself (Mussel, 2010). There is a lack of literature regarding the antecedence of the low level of Epistemic Curiosity of Science & Technology Scientists hence; this study will be able to address the existing gap.

1.7 Limitations of the Study

There are number of limitations in this study. It was hard to collect data from S&T Scientists in Sri Lanka and the study was conducted in the period of prevailing the COVID-19 pandemic throughout the world and due to this circumstance researcher was unable to visit the S&T institutes and as the result, there was low level of response rate. There was a limitation to when filling the google forms that means S&T Scientists did not express the actual feelings and psychological factors of them.

1.8 Chapter Organization

This research report constitutes five foremost chapters and which have been organized by deploying the formal methods. The first chapter contains with the background of the study, the research problem is argued with recent literature, publications of science and technology institutions, and preliminary survey conducted by the researcher besides that research question, research objective, and hypothesis and significance of the study have been discussed under the two sub-topics namely, practical and academic significance. The second chapter attaches to the literature review which includes concepts, theories, findings, and arguments of the previous researchers with regards to the Epistemic Curiosity of Science and Technology Scientists and factors affect that. The methodology of the research discussed under chapter three and sources of the data, method of data collection data presentation analytical tools are sub-parts of it. The fourth chapter is with regards to the data presentation and analysis along with the discussion of the findings and this chapter would be a crucial part of this research report. The final chapter of the research study gives a better understanding and proper conclusion to the study and future recommendations are also attached to Chapter five.

1.9 Chapter Summery

Epistemic Curiosity gets distinict place in literature. Chapter one focuses on the introduction to the research work and highly focuses on problem justification and the problem statement is derived based on the preliminary survey output. The research questions, objectives and hypotheses are developed based on the research problem. In addition to that, the significance of the study has been identified and the chapter organization is presented in chapter one.

Chapter two consists of the literature review which is an overview of existing research studies in the current research context.

CHAPTER TWO
LITERATURE REVIEW

2.1 Chapter overview

The chapter has organized to posit particular literature relevant to the prominent concept of Epistemic Curiosity and sub-concepts of passion furthermore theories, findings of prior scholars, arguments, definitions have been highlighted to prove the research gap in the literature which are a supplement for continuing this study.

2.2 Overview about Epistemic Curiosity

The psychological researches on curiosity have been started in the second half of the 20th century (Subaşı, 2019). At the same time, it is believed to be curious as the passion for knowledge and "appetite for knowledge is thought to be curiosity (YdaiBazh, Twomey, & Westermann, 2019). That means curiosity researchers thought to be curious as to the worthy psychological fact to finding something new knowledge. Berlyne, (1962) viewed curiosity as an exploratory drive in animals and humans, excited by novel stimuli. Powell, Nettelbeck and Burns, (2017) distinguished between curiosity evoked by sensory experience (perceptual curiosity) and which is caused by sensory stimulation. As the instance, the sound of something broken down as a response it quickly believed to be as the Perceptual Curiosity. Curiosity excited by knowledge and understanding (Epistemic Curiosity also called intellectual curiosity and which is caused by different idea, belief or attitudes of someone.

Then, the Researcher moved to find out remarks of curiosity. Prior research has consistently identified the importance of leadership and managerial support to employees' motivation, which is the main thrust of their curiosity towards business-

related data and information (Chang & Shih, 2019). As well as, Chang and Shih (2019) further emphasized that empowering leadership which offers employees with managerial help and force, as the outcome uplifts the employee's motivation and it is relied upon to positively affect work curiosity. In a nutshell, it can be realized management should highly focus on the possible managerial mechanisms for encouraging the employees' work curiosity. On the contrary, there is a notable fact that time pressure at work seems to obstruct the ability to learn, employees' willingness, consequently lessening induced curiosity (Chang & Shih, 2019)

Moreover, there are two versions of motivational accounts of curiosity (1) curiosity as a drive and (2) curiosity as a state of optimal arousal. Furthermore, Plenty of Epistemic Curiosity researchers have focused their attention to Curiosity-drive theory and which argued that whenever organisms encounter complex, novel, and uncertain circumstance, it is empowering to motivated or compelled to get new information and pursue in exploratory behavior to lessen the unpleasant state of uncertainty (Ishaq et al., 2019). Even if, the researcher argued that this theory can also be applied for a circumstance like violations.

The construct of curiosity is potentially important for rapid learning and it is required to manage trends in the modern workplace (Kashdan et al., 2019). Next, the researcher tries to identify why curious persons need to be in organizational context. A curious employee is positive response to changes of the organization; they are more captivated than baffled when attempting to comprehend, acknowledge and extract the unique value of new colleagues and technologies, and adaptable flexible enough to adapt methodologies and plans to new societies in the modern worldwide business sector (Kashdan et al., 2019). There is a rapidly changing world and market. Therefore, always it should be aligned with changes practicing being curious.

Epistemic curiosity has been defined as a desire for knowledge that motivates inquisition and experimentation for the sake of eliminating gaps in information and solving intellectual problems, thus ensuring scholarly achievement and intellectual development (Berlyne, 1962; Litman, 2008). In litreture, the Curiosity researcher, "Berlyne" considered as the father of curiosity. On the other hand, stereotypes are fundamentally reducing our comprehension of curiosity to the particular articulation

of it, as if interests must be as different as the Renaissance intellectuals to be qualified as Epistemically Curious (Subaşı, 2019). Stereotypes always hinder the reality and it is true not only Epistemic Curiosity but also other psychological factors. It is believed that individuals with high Epistemic Curiosity endorse two types of achievement goals: mastery goals, which are associated with curiosity for interest, and performance-avoidance goals, which are related to curiosity for deprivation (Ishaq et al., 2019). Someone is having with Epistemic Curiosity; it would be led to achieving something as well as having with goals also best for finding something new. Previous research on individual differences in Epistemic Curiosity empirically shown that it is meaningfully different and related to different personality traits motives for acquiring information, learning goals and affective experience.

The psychological factor of Epistemic Curiosity was associated with student learning, engagement, achievement goals, knowledge acquisition and deeper understanding of knowledge (Eren & Coskun, 2016). Individual with high Epistemic Curiosity more serious conditions of the curiosity over the more extensive range of situations, that promote engagement and exploratory behavior (Huck et al., 2020) as an instance, individuals with higher Epistemic Curiosity are more likely to play games for longer period of time. The crucial factor of Epistemic Curiosity impacts socialization-related learning (indirectly) technical and interpersonal job performance (Reio & Wiswell, 2000). Accordance with literature, the persons who are having with Epistemic Curiosity have a preference for thinking, problem-solving. At the same time, the psychological factor of Epistemic Curiosity was evoked by ideas namely, scientific theories and intellectual concerns, which propel testing hypotheses or asking questions to obtain knowledge (Mussel, 2012). To being Epistemically Curious, always there should be the gap between the one' understanding and motivational factor in finding something new. With the specific reference to individual dispositional propensities, so many studies have highlighted that Epistemic Curiosity critically important enhances an individual's intellectual achievements (Ntim, 2017). The researcher expresses that the construct of Epistemic Curiosity embracing intellectual achievement. That is why, in an organizational context, it should be practicing the mechanism which assists in uplifting the Epistemic Curiosity of individuals to perform well in their industries. It is theorized that Epistemic Curiosity is the driving forces that trigger the human desire to search for knowledge and

therefore assumed to be theoretically connected to inquiry attitude (Ntim, 2017). Someone who having with Epistemic Curiosity constitutes with reading and viewing the material to be more frequently, requesting information from others and thus listening to the information, restating the other's information and presenting one's own- arguments frequently (Lowry & Johnson, 2010). There is the inclination to often in sensation- seeking extraordinary psychological exercises whether for the sake of developing mastery in terms of capabilities or demonstrating great performance by keeping away from low degree competence also ideal consequences of Epistemic Curiosity (Ishaq et al., 2019).

Interest-type Epistemic Curiosity relates to circumstances where individuals do not feel they are missing any information however, perceive an opportunity to learn something that might be entertaining or interesting (Subaşı, 2019). Interest type Epistemic Curiosity individuals are curious enough to find out something new. furthermore, the scholars reporting a high level of Interest type Epistemic Curiosity keep up the better performance, however, did not learn at a quicker rate as well as allocate time towards the learning, regardless of the direction of the effort (Huck et al., 2020). In a nutshell, the individuals who have with Interest type Epistemic Curiosity have an interest in learning things without considering how much effort they should put on to that work. Therefore, the dimension could better apply with organizational context.

A novel model for information-seeking behavior was initiated by Litman, (2005) which relates Interest type and Deprivation type Epistemic Curiosity to different levels of individual's appetite for (wanting and pleasure in acquiring (Liking) new information and in here a high level of wanting new information combined with liking. Moreover, Interest type and Deprivation type Epistemic Curiosity fully moderated to the link between an individual's motivation to use a knowledge search service and forming an intention and this is with reference to the user's predisposition toward actually using it (Koo & Choi, 2010). Nonetheless, Interest type Epistemic Curiosity is a kind of pleasurable feeling of when acquiring information and herewith attached enjoyment from engagement, entertainment or aesthetic pleasure to learning new knowledge in meantime individual are in a positive mood when experiencing interest type Epistemic Curiosity, Which predicts a negative correlation with states of

anger, anxiety, and depression (Litman, 2010). The persons who are engaging with high-interest type Epistemic Curiosity put more importance on the perceived ease of use and Perceived enjoyment intention links than people with low-interest type Epistemic Curiosity (Koo & Choi, 2010).

Deprivation type Epistemic Curiosity is actuated circumstances when feel they are lacking information that is considered essential to improving their understanding (Subaşı, 2019). That is why. Individuals who having with Epistemic Curiosity attempt to eliminate the gap in understanding. Although within the person level Deprivation Epistemic Curiosity had negligible effects on performance, sensitivity to information-knowledge gaps might play an important role as a self-regulatory variable (Huck et al., 2020). Litman, (2010) reported Deprivation type Epistemic Curiosity to be more related to the level of the state- curiosity and there is a higher impact on information-seeking behavior than interest type Epistemic Curiosity. It is true that Information seeking behavior means that always expecting the information to be filling the gaps. That is why there is a high impact of deprivation type Epistemic Curiosity rather than the Interest type Epistemic Curiosity. People with high Deprivation type Epistemic Curiosity highly impact only on the perceived easiness of use intention than people in low Deprivation type Epistemic Curiosity (Koo & Choi, 2010).

This has been involved with reduction of uncertainty, specific exploration, acquiring information that is missing from an existing knowledge set and performance-oriented learning and Deprivation type Epistemic Curiosity reflects as the desire for accurate knowledge and involves concerns about reducing one's ignorance. Deprivation type Epistemic Curiosity motivates seeking specific, objectively correct and relevant knowledge in order to rectify the uncertainty as well as acquiring new information is rewarding because it reduces negative feelings attributed to uncertainty (Litman, 2010).

Ishaq et al., (2019) conducted research regarding the Epistemic Curiosity and Perceived workload in Pakistan context and to be collected data from various organizations, including the public sector and R&D organizations, banks, and higher education institutions. Junior Students from seven Chinese high schools participated in the Epistemic Curiosity of knowledge searching study conducted by Huang, Wang,

Zhou, and Zhang (2010). Eren and Coskun (2016) have done the research study to find out impact of student level of boredom on Epistemic Curiosity by using sample as the students who are in primary school, middle school and high school in Turkey. The role of creative self-efficacy and Epistemic Curiosity were studied by the Hong et al, (2019) in Taiwan context and STEM fashion designers used as the sample of this study..

Prior researchers of Epistemic Curiosity are discussing the literature gaps to investigating in the future. Ishaq et al., (2019) Stressed negative outcomes of Epistemic curiosity as a whole to better understand this construct, while both Interest type Epistemic Curiosity and Deprivation type Epistemic Curiosity have been validated in the corporate sector and also further mentioned the impact of Epistemic Curiosity on variables, such as job satisfaction, job commitment, Leader-member exchange and other, to better conceptualize this construct in the work. Huang and Wang (2015) declared it will be important to examine the factors structure of the revised interest and Deprivation Epistemic Curiosity model and the measurement invariance of the scale with more varied groups.

2.3 Overview about the Passion

Vallerand et al. (2003) defined passion is enthusiasm as a tendency toward a movement that individuals like, find significant and in which they contribute time and energy. The concept of passion has a long philosophical history. However, in psychology, it is only recently that researchers have tackled the concept of passion towards the activity (Forest, 2011). Moreover, In the case of an autonomous internalization, the action stays under the control of the individual and it opens pathways to Harmonious Passion, whereas a controlled internalization leads to the development of an Obsessive Passion where the activity “control” the individual (Forest, 2011)

To further understand the passion researcher is able to provide an instance. People who are passionate about golf do not only play golf, they have incorporated this activity into their lifestyle and they perceive themselves as a golfer. Early literature, researchers have argued that passion is an active ingredient well- being (Burke & Fiksenbaum, 2009), and entrepreneurial success (Cardon, Wincent, Singh, & Drnovsek, 2009). Furthermore, a type of passion Harmonious Passion is linked to

positive consequences while Obsessive Passion is related to less positive or negative consequences (Vallerand & Fernet, 2008). The researcher argued that someone is having with Harmonious Passion is better than the having with Obsessive Passion towards the activities in case of Harmoniously Passionate Individual has normally done their assigned task without the forcing. Vallerand et al., (2003) rely on Self-Determination Theory (Deci & Ryan, 1987, 2000) to distinguish between a Harmonious and Obsessive type of Passion and propose that the type of internalization (eg, autonomous and controlled) associated with people's activity engagement influences the type of Passion that will emerge.

Harmonious Passion can be defined as a motivational force leading the individual to choose to engage in his or her activity (Forest, 2011). The persons who are having with Harmonious Passion freely devotes time and energy to the activity while remaining in control of his or her engagement as well as this creates a sense of volition and personal endorsement about pursuing the activity (Vallerand et al., 2003). Furthermore, which is in harmony or in balance with other life areas and the activity takes in the individual's identity and daily life which in turn generates conflicts between passionate activity and other life areas. Often, the psychological factor of Passion, especially in its Harmonious form, thus seems to be an important motivational force that can promote well-being, vitality, and flow (Forest, 2011). Harmonious Passion at the work was also related to an optimal human functioning variable such as concentration, sense of control, vitality, affective commitment and autotelic experience (Forest, 2011). On the other hand, one crucial explanation for the effect of Harmonious Passion on the intrapersonal outcomes may have to do with the fact that engaging in the activity and in the same time which leads to the cumulative experience of positive affect, which over time translates into increased satisfaction and subjective well-being (Vallerand & Fernet, 2008). Harmonious Passion toward an activity refers to a motivational tendency to hopefully and freely engage in the activity and this type of Passion regulates highly involving, time- consuming activities that are coherent with individuals' other life domains, values, and self- concept (Blanchard, 2003). Harmonious Passion results from an autonomous internalization of the activity into the person's identity and autonomous internalization occurs when

individuals freely accepted the activity as important for them without any contingencies attached to it (Vallerand et al., 2003).

Obsessive Passion can even make the person dependent on his or her activity and this, in turn, creates rigid persistence in the activity, leading people to engage in the passionate activity even when the circumstances surrounding activity engagement make it ill-advised or counterproductive (ex. People with an obsessive passion are more likely to engage in their activity when injured (Rip, Fortin, & Vallerand, 2006). Obsessive Passion to be negatively related to need satisfaction and also this type of Passion was unrelated to need satisfaction but instead was directly and negatively linked to psychological adjustment (Vallerand et al., 2003). Obsessive Passion was negatively related to mental health and weakly positively related to autotelic experience (Forest, 2011). Nevertheless, Obsessive Passion, controlled internalization of the activity into one's identity while an internalization originates from intrapersonal and/ or interpersonal pressure either because certain contingencies are attached to the activity such as feelings of social acceptance or self- esteem, or because the sense of excitement derived from activity engagement becomes uncontrollable (Vallerand et al., 2003).

Future studies include investigating intra- and interpersonal antecedents that promote Harmonious Passion and prevent Obsessive Passion (Forest, 2011). Blanchard (2003) emphasized research could model these gender differences and their influences on the link between passion for the Internet and interpersonal relationships. Ydaibazh et al. (2019) saw Epistemic Curiosity as an intrinsically motivated "Passion" that individuals have to acquire information. Schmitt (2008) stated ''curious object'' is one that is out of the ordinary, in a way that may provoke wonder.

There is also a common use of ''wonder'' to refer to a passion that is different from Epistemic Curiosity. Gelfert (2018) rationally demonstrated Epistemic Curiosity is recognized as indispensable in carrying our inquiries beyond the narrow range of immediate practical interests; at the same time, it is seen as being naturally constrained by the way it is embedded within the wider network of the various passions, which in turn reflect aspects of our own social and cognitive process.

2.4 Relationship between Passion and Epistemic Curiosity

Epistemic curiosity is that it is biological effect of maturation, of a piece with the natural reduction in the intensity of feelings however two type of Passion come comes with age (Schmitt, 2008). Vallerand et al., (2003) Stressed that passion highly predicts cognitive process such as Epistemic Curiosity. Forest (2011) mentioned that Epistemic Curiosity correspond to different information seeking activities and various self-directional learning goals and Epistemic Curiosity empower through the both type of Harmonious and Obsessive Passion. (Ruiz & León, 2019) revealed that in accordance with Epistemic Curiosity literature, it could be interesting for future research to better explore the relationship between passion and these types of Epistemic Curiosity. Thus, it could be interesting for future studies to even include the Obsessive Passion in their analysis to assess which kind of passion tends to correlate/impact better with each type of Epistemic Curiosity (Ruiz & León, 2019). The scholars of Epistemic Curiosity have investigated the association between Harmonious Passion and Epistemic Curiosity and the association between Obsessive Passion and Epistemic Curiosity is recommended as a future research gap in the literature. Moreover, there is a contextual gap because, in the Sri Lankan context, there are no researches related to Epistemic Curiosity two type of passion.

2.5 Chapter Summery

The second Chapter has consisted of the valuable knowledge concerned with the literature background of this study as well as throughout this Chapter thoroughly presented an overview of discussing factors of Research Conceptual Model. Accordance with previous Literature, there are no researches related to Epistemic Curiosity of Science and Technology Scientists in Sri Lanka whilst somewhat of researches is conducted to finding out the level of Epistemic Curiosity of University Undergraduates in a world context. Therefore, this study assists in filling the gap of the existing body of knowledge as well as the contextual gap. Upcoming Chapter of Chapter three provides the information about the methodology of the research study.

CHAPTER THREE
METHODOLOGY

3.1 Chapter Overview

The Chapter consists of the methodology of the research study and under this being discussed research site, conceptualization and operationalization, research approach, research design, sample design, the source of the data, data collection procedure, data analysis and presentation methods, time frame and summary of the chapter. Research methodology is a way to systematically solve the research problem and it not only describes the research methods but also considers the logic behind the methods that are used in the context of the research.

3.2 Conceptualization and Operationalization

3.2.1 Conceptual Framework

The Conceptual Framework explains the path of a research grounds it firmly in theoretical constructs and the overall aim of the framework is to make research findings more meaningful, acceptable to the theoretical constructs in the research field and ensures generalizability (Adom, Hussein, & Joe, 2018)

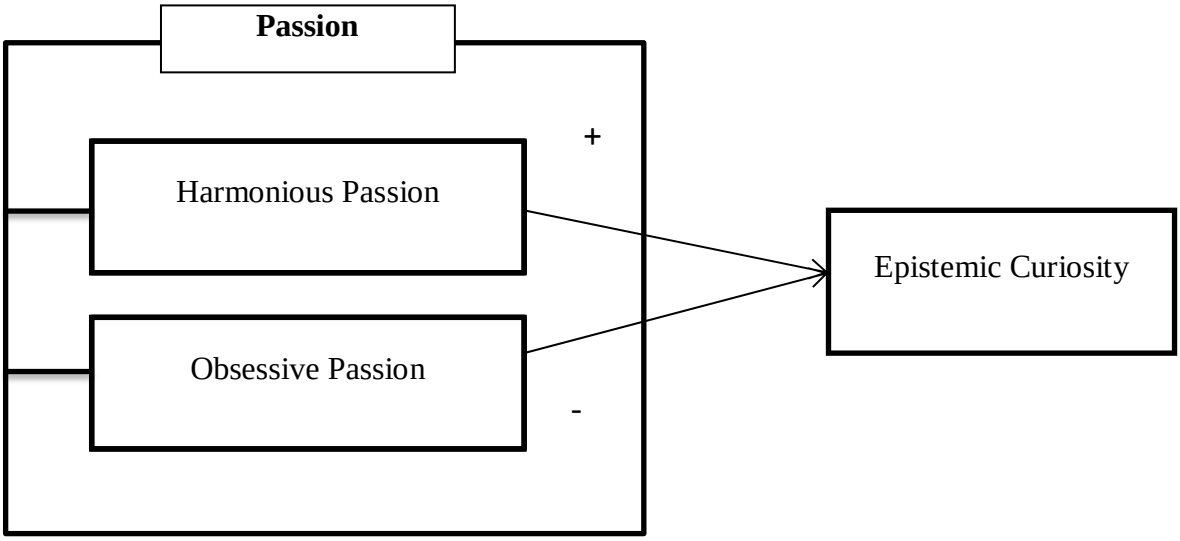


Figure 3. 1: Conceptual Framework
Source: Developed by researcher, 2020

Table 3. 1: Conceptualization

Variables	Definitions	Source
Epistemic Curiosity	desire for knowledge that motivates inquisition and experimentation for the sake of eliminating gaps in information and solving intellectual problems, thus ensuring scholarly achievement and intellectual development.	(Litman, 2008)
Harmonious Passion	Motivational force leading the individual to choose to engage in his or her activity and the individual thus freely devotes time and energy to the activity while remaining in control of his or her engagement.	(Vallerand et al., 2003)
Obsessive Passion	Defined as controlled internalization of an activity in one's identity that creates an internal pressure to engage in the activity.	(Vallerand et al., 2003)

Source: Researcher developed based on literature review, 2020

3.2.2 Operationalization

To understand the difference between the variables the research differences first must be understood to use the variables properly within the research framework and the variables are then operationalized by finding a measurable, valid, and quantifiable index for the variable including both dependent and independent variables (Tariq, 2016). On the other hand, operationalization defined as a concept to render it measurable is done by looking at the behavioral dimensions, facets, or properties denoted by the concept.

Table 3. 2: Operationalization

Variables	Dimension	indicators	Statement	Source
Curiosity	**Epistemic Curiosity**	Mastery learning	7	(Litman, 2008)
		Diversive Exploration	8	
		Learning something completely new	9	
		Motivational Knowlegde seeking	10	
		Enjoyment	11	
		pleasurable states of interest	12	
		Performance - approach success	13	
		Performance -avoidance failure	14	
		Reduction of uncertainty	15	
		states of ignorance	16 (R)	

passion	**Harmonious Passion**	Challenge	17	(Vallerand et al., 2003)
		Positive emotions	18	
		Strong inclination	19	
		Inclusion in the self	20	
		Concentration on activities	21	
		Control the activities	22	
		task engagement	23	
	Obsessive Passion	Prevented from the engaging activity	24 (R)	(Vallerand et al., 2003)
		Not being able to experience pleasure in the competing activities	25	
		Distracted when working on the activity	26 (R)	
		Negative feelings on the activities	27 (R)	
		Conflict with other activities	28	
		Anxiety	29	
		Autonomy	30	

Source: Researcher developed based on literature review, 2020

3.3 Philosophical stance

3.3.1 Research Philosophy

These include assumptions about the realities that encounter in the research (Ontological assumptions), about human knowledge (Epistemological assumptions). These assumptions inevitably shape how to understand the research questions, the methods used, and how to interpret the findings (Roessler, 2004). Ontology refers to assumptions about the nature of reality (Saunders, Lewis, & Thornhill, 2019). In business, perspective ontology determines how to see the world of business and management. Objectivism incorporates the assumptions of the natural sciences, arguing social reality and ontologically, objectivism embrace realism (Saunders et al., 2019). Subjectivism incorporates assumptions of the arts and humanities (Saunders et al., 2019). With the objective of the research, the researcher uses the quantitative research method in the research reports and positivism depends on quantifiable observations that lead to statistical analyses as well as throughout in this study researcher is independent and purely objective. Therefore, the researcher underpins the positivism as a research philosophy in the case of this study working with an observable social reality.

3.4 Research Approach

The approach is the extent to which the researcher clears about the theory at the beginning and important questions raises regarding the research design (Saunders et al., 2019). There are two approaches known as inductive (developing a theory) and deductive (Testing a theory). And the deductive approach is used to test an existing theory and hypotheses. The deductive approach is the process by which arrived at a reasoned conclusion by a logical generalization of a known fact (Sekaran, 2003). The researcher comes to a reasonable conclusion after a study of a certain phenomenon and this is going forward in accordance with the quantitative research approach. The study is basically testing the theory not developing the theory. Therefore, the research conducted based on the deductive approach.

3.4.1 Research Methodology

Qualitative and quantitative methodologies can be used appropriately with any research paradigm (Saunders et al., 2009). Further, they noted that quantitative

researches use deductive approach with predetermined, structured models as goal of investigation following positivism philosophy. Therefore, in the current study, the researcher has used quantitative research methodology.

3.4.2 Research Strategy

Research strategy is defined as a road map towards the goal of research and how to achieve this goal to answer research questions (Cummings & Patel, 2009). There is some sort of research strategies such as experiment, survey, case study, action research, Grounded theory, Ethnography, archival research. A survey strategy is usually associated with the deductive approach. It is the most common strategy for business and management research. It is employed to get feedback about who, what, where, how much and how many questions. With the mentioned facts, the Survey strategy was used for this study.

3.4.3 Research Method

Research methods are the methods used for data collection in research. Research methods involve questionnaires, interviews, case studies, observation, and experiments. Researches methods are mainly used to gather information so that the researcher can find answers to the research problem (Saunders et al., 2019). Questionnaire studies can be used in the systematic collection of information and it is a commonly used method of quantitative research. Therefore, Questionnaires are employed as methods of data collection.

3.5 Time Horizon

A study has able to been done in which data are gathered just once, perhaps over days or weeks or months, to answer a research question. Such studies are called one-shot or cross-sectional studies (Sekaran, 2003). Whereas, longitudinal studies defined as the researcher might want to study people or phenomena at more than one point in time to answer the research question (Sekaran, 2003). With the time constraints of the research study, the researcher collects the data at once. Therefore, the cross-sectional time horizon most congruent for this study.

3.6 Sample Design

3.6.1 Population

Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran, 2003). The population of this study is Science and Technology Scientists in Sri Lanka and they consist of the known population. There are having 13 research and Technology Institutes and their internal scientists (339 Scientists) are used as the population of this study (Science & Technology Commission, 2017).

3.6.2 Sample

Probability sampling is also called random sampling or representative sampling. In this case, every member of the population has the non-zero probability of being included in the sample. Institutions wise, Scientists are in the S&T Institutions. There are infinite numbers of the population. Therefore, stratified random sampling was used as the sample selection procedure. The sample size is determined by using Morgan's table to getting more reliable information.

Table 3.3: Institutions: Number of Scientists being selected from Research and Technology Institutions

Science and Technology Institutions	No of Scientists	Calculations	Sample size
National Science Foundation	62	62/339*181	33
NANCO Pvt Limited	23	23/339*181	12
National Institute of Fundamental Studies	30	30/339*181	16
Arthur C Clark Institution for modern Technologies (ACCIMT)	35	35/339*181	18
Industrial Technology Institute	73	73/339*181	39
Medical Research Institute Sri Lanka	19	19/339*181	10
Sri Lanka Institute of Nanotechnology	19	19/339*181	10
Hector Kobbekaduwa Agrarian Research and Training Institute	22	22/339*181	12
Sri Lanka Standard Institute	06	06/339*181	03

Sri Lanka Accreditation Board for Conformity Assessment	00	00/339*181	00
Bandaranayke Memorial Ayurvedic Research Institute	00	00/339*181	00
National Engineering, Research and Development Centre	54	54/339*181	28
National Research Council	00	00/339*181	00
Total			**181**

Source: Reports from each institutions, 2016, 2017

3.7 Source of data

primary data is one that is collected for the first time by the researcher while secondary data is the data already collected or produced by others (Ajayi, 2017). Primary data is factual and original data to being investigated. Hence, rationally Researcher argues primary data source is the most relevant source for obtaining the data

3.8 Unit of Analysis

The Unit of analysis is the person or object from which the researcher understanding different issues of the unit of analysis (Kumar, 2018). It includes individuals, groups of individuals, countries, technologies and objects that are the aim of the investigation. Individuals are the most common unit of analysis, but various research problems can be answered more accurately through the analysis of other types of units (Kumar, 2018). With the objectives of the research, the Individual level of analysis is employed in this study. At an individual level being investigated behaviors, perception, attitude or opinion of the individuals (Kumar, 2018).

3.9 Data Collection Methods

3.9.1 Questionnaire

The questionnaire is used to collecting the data and which constitutes two parts. The first part is developed to obtaining demographic information of Science and Technology Scientists in Sri Lanka and the Second part posits the measurement scales developed by Litman (2008) to measure Epistemic Curiosity and this is consists of 10 items (1-Almost never, 2- sometimes, 3- often, 4- almost always). Passion scale

was developed by Vallerand et al. (2003) and 14 items are there to measure the the two type of Harmonious Passion (1- Not agree to all, 2-Very slightly agree, 3- Slightly agree, 4- Moderately agree 5- Mostly agree, 6- Strongly agree, 7-Very strongly agree)

Ishaq et al. (2019) Investigated the Epistemic Curiosity and Perceived workload by using the Litman (2008)'s Epistemic Curiosity scale. The role of identity processes in Harmonious and Obsessive and link to optimal functioning in society is studied by Bouizegarene, Bourdeau, Leduc, Houlfort, and Vallerand (2017) by using the passion scale. Ruiz and León (2019) have used the both of Epistemic Curiosity scale and Passion scale th investigating the relationship between Passion and Epistemic of teachers.

3.9.1.1 Reliability

The reliability of Interest type Epistemic Curiosity and Deprivation type Epistemic Curiosity are $\alpha = .89$, $\alpha = .79$ respectively (Litman, 2008). And also it is higher than the acceptable level of ($\alpha \geq .70$). The Passion scale consists of 14 items and which is developed by Vallerand et al., (2003). Acceptable level of reliability of both the Obsessive Passion ($\alpha = .89$) and Harmonious Passion ($\alpha = 79$).

3.9.1.2 Validity

Vlidate of the Passion scale measured by the Conformity factor analysis ($p < 0.001$), non-normed fit index (NNFI) = .912.comprative fit index (CIF)= .926 Root-mean square error of approximation (RMSEA)= 0.073, the factor soluation was proper and the factors were well defined (all factors loadings were significant) (Vallerand et al., 2003). Validate of the Epistemic Curiosity scale measured by the rotated factor loading MFI>0.90 and CFI and NNFI > 0.95 (Litman, 2008).

3.10 Data Analysis and Presentation Tools

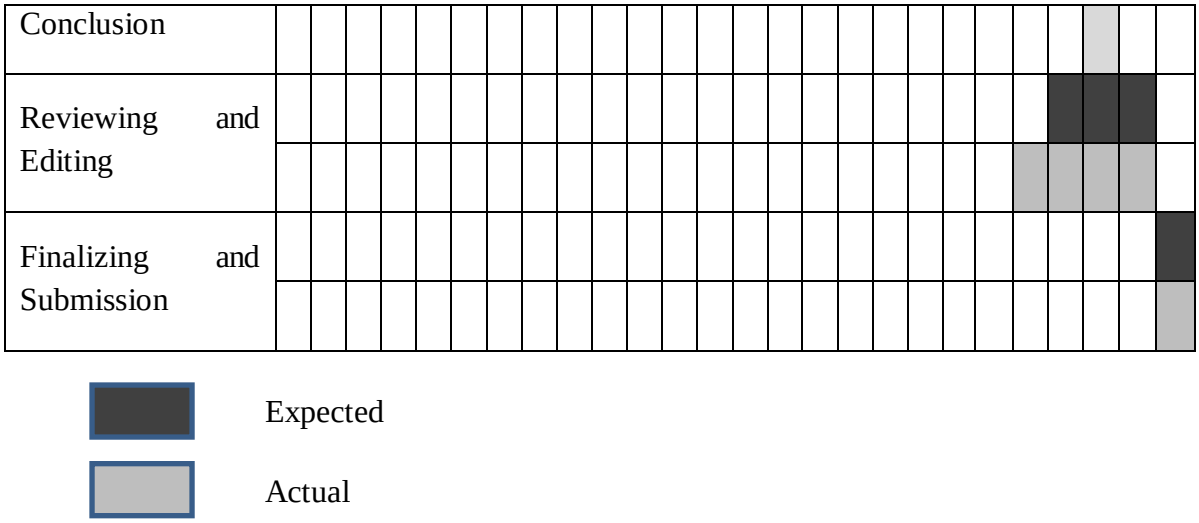
The demographic information of the questionnaire shown by the pie charts, boxplots, bar chart scatter plots and also contingency table can be used as the output of the data analysis. The conceptual framework consists of two variables namely, passion (Harmonious Passion and Obsessive Passion) and Epistemic Curiosity (Interest type Epistemic Curiosity and Deprivation type Epistemic Curiosity). The researcher uses correlation analysis to identify that there is a relationship between Passion and

Epistemic Curiosity. Based on that, the researcher developed the objective being to find out whether there are impacts of Harmonious and Obsessive Passion on Epistemic Curiosity of science and Technology Scientists in Sri Lanka. To achieve this research objective Multiple Linear regression was used as statistical techniques.

3.11 Time Frame

Table 3.4: Time frame

Months & Weeks / Activities	**March**				**April**				**May**				**June**				**July**				**August**				**September**	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
Study the site background																										
Conduction of the preliminary survey and identify the research problem																										
Introduction																										
Review the literature																										
Research Methodology																										
Data Collection																										
Data Analysis																										
Finding and																										



3.12 Chapter Summary

Chapter three concerns with methodology of the study in which research study was carried out. The philosophy of the research was positivism philosophy since the researcher considered the observable social reality. Furthermore, the researcher selected the deductive research approach as the research purpose was explanatory one and the census strategy was used by the researcher. Hereon forth, chapter four explains the way of analyzing the collected data and the interpretation based on the result of the analysis.

CHAPTER FOUR
DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

The aim of this chapter is to provide a clear picture of the study and logically present the data. This chapter discusses sample profile, regression analysis hypotheses testing results, testing model adequacy, finally discussion on results of the chapter.

4.2 Distribution of Sample Profile

In here, the researcher has collected some demographic information such as Gender, Age, Tenure, and Number of publications/innovation done by S&T Scientists.

The researcher has sent 206 emails among scientists who work at the science and Technology Institutions in Sri Lanka. However, the researcher would be able to collect only 158 responses and the analysis was done base on these 158 responses and the response rate was 70% (158/206*100).

4.3 Demographic Composition of the Respondents

To deeply analyzing the data of the sample, the researcher collected the demographic information of them. Figure 4.1 demonstrates the age distribution of the sample.

4.3.1 Gender distribution of the sample

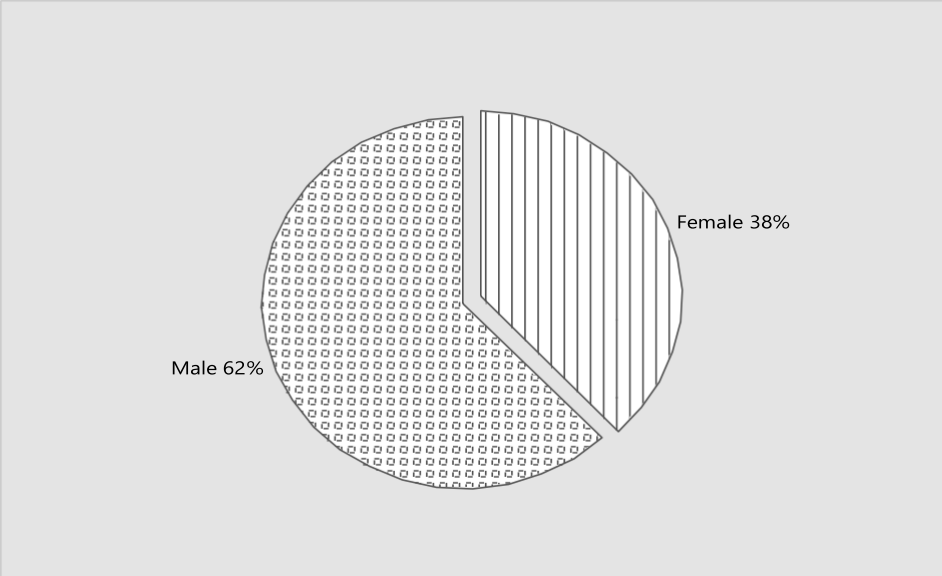


Figure 4. 1: Gender distribution of the sample

Source: Survey, S & T Institutions in Sri Lanka, 2020

As per Figure 4.1, 62% of Scientists are male, and rests are female Scientists (38%) in Science & Technology Institute in Sri Lanka.

4.3.2 Age distribution of the sample

Figure 4.2 reflects the age distribution of the sample to be gotten a clear picture of how to disperse the age categories.

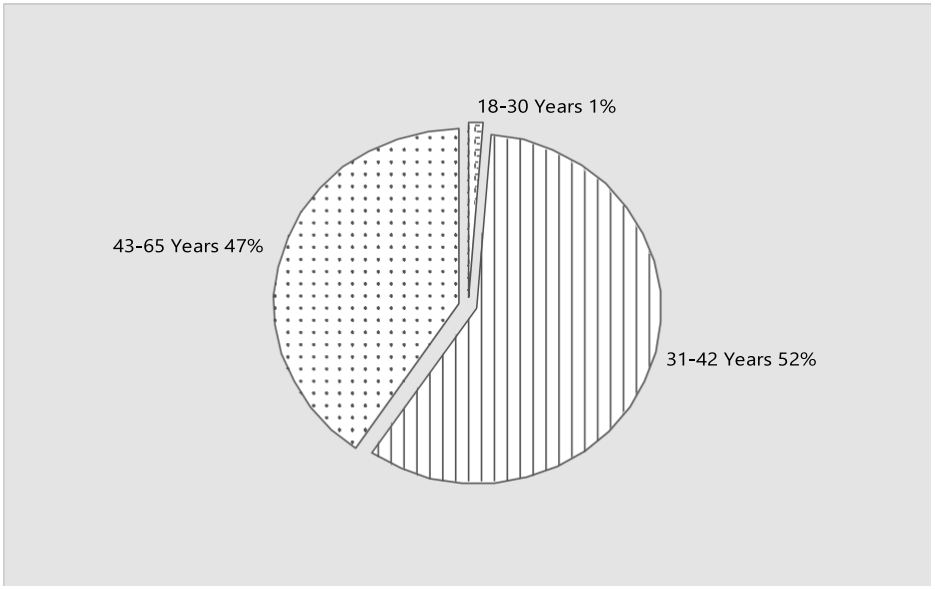


Figure 4. 2: Age distribution of the sample

Source: Survey, S&T Institutions in Sri Lanka

ogy Scientists are in the age range of 31-42 years. 1% of Science and Technology Scientists belong to the age category of 18-

30 years and the rest of other Science & Technology Scientists (47%) are in the age category of 43-65 years.

4.3.3 Distribution of Science & Technology scientists by their Institutions

Then the researcher needs to identify the Institution wise response of S&T Scientists. Figure 4.3 developed for that.

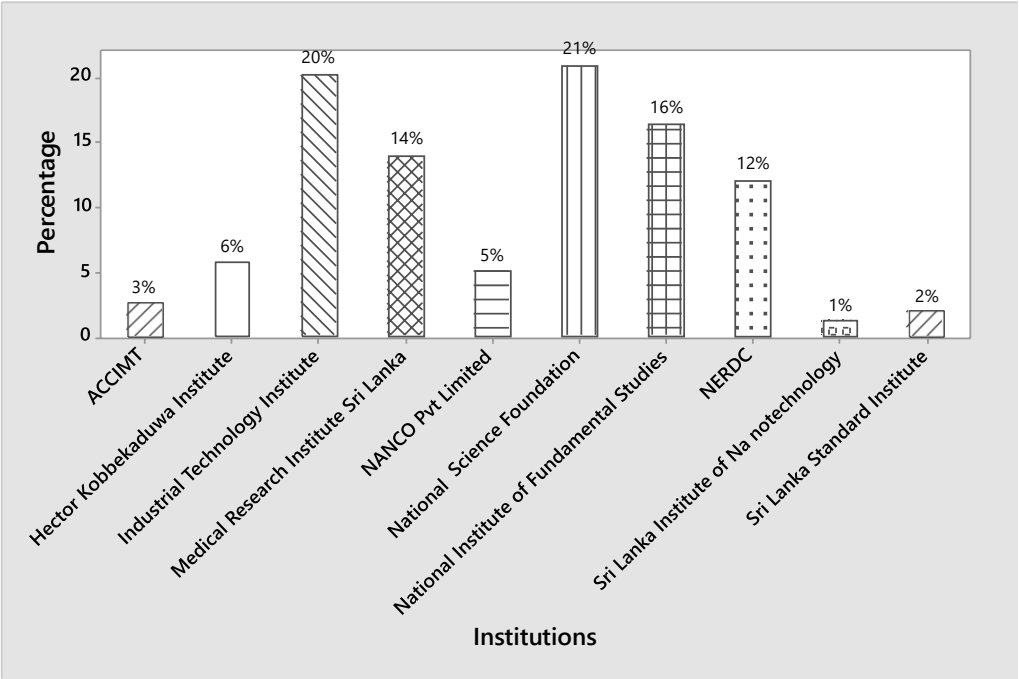


Figure 4. 3: Distribution of Science & Technology Scientists by their Institutions

Source: Survey, S & T Institutions in Sri Lanka, 2020

As per Figure 4.3, the Majority (21%) of Science & technology Scientists belong to the National Science Foundation. The second highest (20%) S&T Scientists are attached to Industrial Technology Institute. 1% of S&T Scientists from Sri Lanka Institute of Nanotechnology. 14% and 16% of the S&T Scientists are working in Medical Research Institute and National Science Foundation respectively.

4.3.4 Tenure of Science & Technology Scientists

There may be a possibility to change the circumstance in accordance with the tenure of S&T Scientists. Therefore, the researcher developed Figure 4.4.

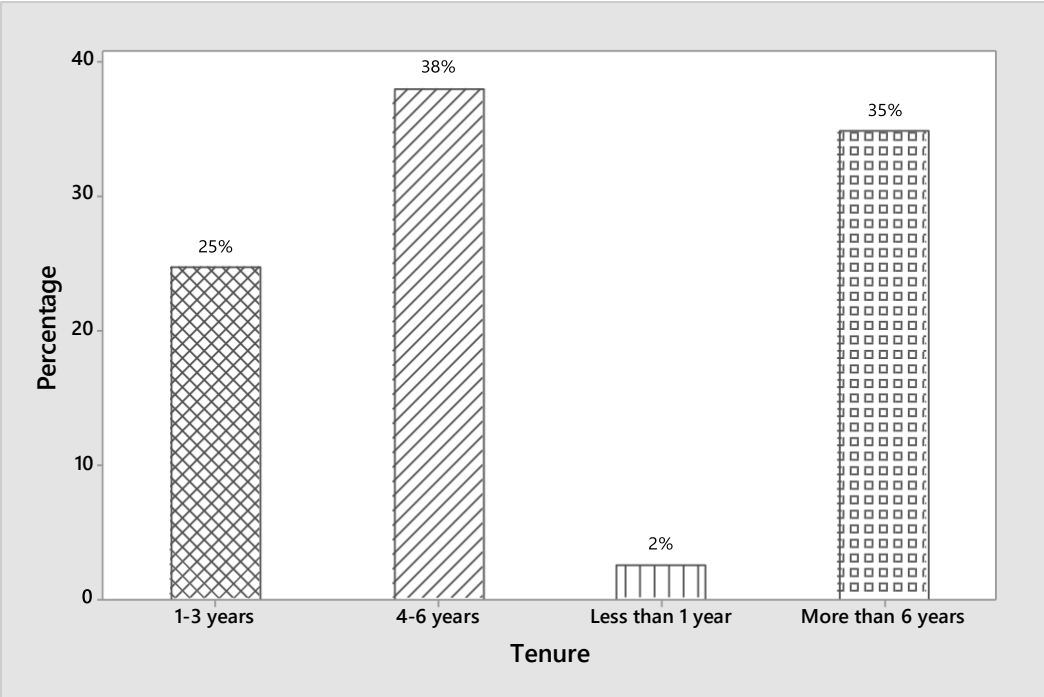


Figure 4. 4: Tenure of Science & Technology Scientists

Source: Survey, S&T Institutions in Sri Lanka, 2020

According to Figure 4.4, the Majority (38%) of S&T Scientists have 4-6 years of experience as scientists in S&T Institutes. 3% of Science & Technology Scientists have less than one year of experience as scientists, as well as considerable number (38%) of S&T Scientists, have more than 6 years of experience as a scientist in the S&T institution in Sri Lanka.

4.3.5 Publications/Innovations etc.. done by Science & Technology Scientists

Publications/Innovations etc. done by S&T Scientists shows in Figure 4.5. It is developed to further analysis of the sample data.

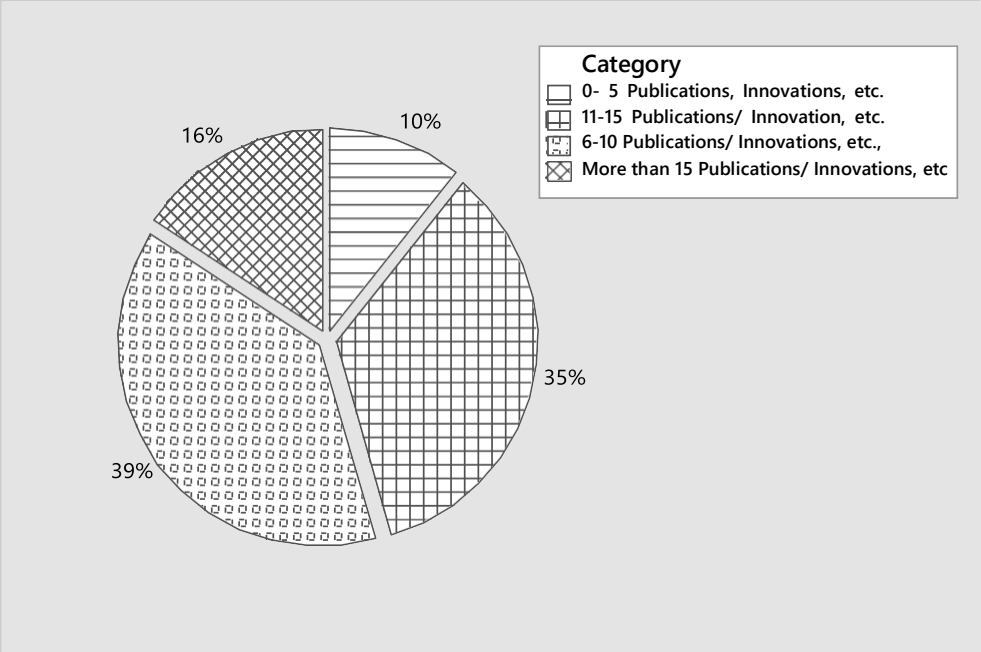


Figure 4. 5: Publications/ Innovations etc. done by Science & Technology

Source: Survey, S&T Institutions in Sri Lanka, 2020

By analyzing the publication and Innovations done by S&T Scientists, the researcher expected to study the degree of curiosity to find out something new. According to Figure 4.5, 39% of S & T Scientists have done the 6-10 Publications/ Innovations, etc, and 11-15 Publications and Innovations are done by 35% of Science & Technology Scientists in this Sample. Only 16% of Science & Technology Scientists have done more than 15 publications/ Innovations etc. reflecting the low degree of curiosity.

4.4 Descriptive Statistics

Mainly, there are two types of analyses involved in statistical findings. Namely, descriptive and inferential. In descriptive statistics, the researcher only describes the finding of the collected data and it involves the description of data in terms of frequencies, proportions, mean, median, quartiles, standard deviation, etc. (Hussain, 2014). The researcher used mean and standard deviation to demonstrating the findings of collected data.

Table 4. 1: Descriptive statistics

Variables	Mean	Standard Deviation
Epistemic Curiosity	2.26	0.33
Harmonious Passion	3.41	0.51
Obsessive Passion	4.15	0.50

Source: Survey, S&T Institutions in Sri Lanka, 2020

As per Table 4.1, the average level of Epistemic Curiosity of Science & Technology scientists is 2.26 which shows that they have a low level of Epistemic Curiosity. The mean value is in within the anchors of "Sometimes" and "often" and it is very close to "sometimes". That means Science and Technology Scientists have a low level of Epistemic Curiosity. The Epistemic Curiosity level increased or decreased by the range of 0.33

3.41 mean value demonstrated the low level of Harmonious Passion of Science & Technology Scientists and there is a 0.51 standards deviation. The mean value is in between the anchors of slightly agree and moderately agree. It is stressing the somewhat lower level of passion is with the S&T scientists in Sri Lanka. As well as,

4.15 of the mean value of Obsessive Passion declared that Science and Technology Scientists in Sri Lanka have a somewhat high level of Obsessive Passion in order to there is a 0.50 of standard deviation value (Appendix D)

4.5 Reliability and Validity analysis

4.5.1 Reliability Analysis

Sekaran (2003) explained that reliability is a measurement which indicates the stability and accuracy of measuring instrument and that helps to assess the goodness of the measures. Therefore, Sekaran & Bougie, (2016), stated that the most common measure of scale reliability is the Cronbach's alpha and also the value of Cronbach's alphas were all above 0.60. Further, Cronbache's value less than 0.60 is considered to be low, 0.70 level acceptable, and over 0.80 good. Thus, by using Cronbach's alpha, the researcher conducted the reliability analysis.

Table 4. 2: Cronbach's Alpha Values of variables

Cronbach's Alpha Values of variables

Variable	Cronbach's Alpha Value	Item remained	Item Deleted
Epistemic Curiosity	0.699	4	6
Harmonious Passion	0.602	4	2
Obsessive Passion	0.693	3	3

Source: Survey, S&T Institutions in Sri Lanka, 2020

According to Table 4.2, Six items from Epistemic Curiosity were removed since Field (2009) has stressed researcher can delete items to improve the reliability if item deleted values of Cronbach's alpha is greater than the overall Cronbach's alpha value and after deleting the items Cronbach's alpha value of Epistemic Curiosity got the 0.699. The Cronbach's alpha value of Harmonious Passion took the 0.602 after deleting the two items and 0.693 Cronbach's alpha value taken by the Obsessive Passion after deleting the 3 items. The overall Cronbach's alpha values of Epistemic Curiosity, Harmonious Passion and Obsessive Passion are in somewhat of low level than acceptable (0.7) However, Epistemic Curiosity and Obsessive Passion's Cronbach's alpha are very close to 0.7 (Appendix E)

4.5.2 Validity Test

Validity is measured by employing KMO and Bartlett's Test. The minimum value of the test should be 0.5 (Sekaran & Bougie, 2016). Table 4.3 shows the values of the KMO and Bartlett's test values for measuring the validity.

Table 4. 3: Results of the validity test

Variable	KMO and Bartlett's Value	P-Value
Epistemic Curiosity	0.512	0.000
Harmonious Passion	0.678	0.000
Obsessive Passion	0.507	0.000

Source: Survey, S&T Institutions in Sri Lanka, 2020

According to table 4.3, the value of KMO and Bartlett's test of variables higher than the value of 0.500 and it has become significant since the output P- values of all

variables are less than the critical P value (0.05) (Appendix F). Then, the scale identifies as a validity scale.

4.6 Test of normality

If the data are equally distributed either side of the highest frequency it is symmetrically distributed and data can be plotted as a bell-shaped curve, is known as the normal distribution (Saunders et al., 2019) Many parametric tests are based on the assumption of normality, which assumes the sampling distribution of the population parameter is normally distributed (Wesolowski & Thompson, 2018). There are three ways to check whether data are normally distributed or not. Which are Anderson darling, Shapiro-Wilk test, and Kolmogorov Smirnov test. However, the Shapiro-wilk test has significantly high power to detect differences from normality. Therefore, the Shipiro-wilk test may significant values when the Kolmogorov-Sminov test does not (Wesolowski & Thompson, 2018).

Table 4. 4: Results of Test of Normality

Shipiro- wilk test		
Epistemic Curiosity	P value	Statistics
	0.1	0.999

Source: Survey, S&T Institutions in Sri Lanka, 2020

As per Table 4.4, since the output p-value (0.1) of the shapiro-wilk test is greater than the critical p-value (0.05), there is not enough evidence to reject Ho (Epistemic curiosity follows a normal distribution) Therefore, it can be concluded that Epistemic Curiosity follows a normal distribution with a 95% level of confidence (Appendix G).

4.6.1 Correlation Analysis

A correlation coefficient enables to quantify the strength of the linear relationship between two ranked or numerical variables (Saunders et al., 2019). The coefficient(r) can take on a value between -1 and +1. The value of +1 represents a perfect positive correlation. This means that the two variables are precisely related and that, as values of one variable increase, the values of the other variable will increase. On the other hand, a value of +1 represents a perfect negative correlation.

Table 4. 5: Results of Correlation Analysis

Variable	Epistemic Curiosity	
	P-Value	Pearson Correlation Coefficient (r)
Harmonious Passion	0.46	0.007
Obsessive Passion	0.01	-0.167

Source: Survey, S&T Institutions in Sri Lanka, 2020

As mentioned in Table 4.5, Since the output "P" value (0.46) of Harmonious Passion is higher than the critical "P" value (0.05) there is no enough evidence to reject H_0 (There is no correlation between Epistemic Curiosity and Harmonious Passion of S&T Scientists). Therefore, with the 95% level of confidence, it can be concluded that there is no correlation between Epistemic Curiosity and Harmonious Passion of Science & Technology Scientists. As well as, Since the output "P" value of Obsessive Passion (0.01) is less than the critical "P" value (0.05) there is enough evidence to reject H_0 (There is no correlation between Epistemic Curiosity and Obsessive Passion of S&T Scientists). Therefore, with 95% confidence, it can be concluded that there is a correlation between Epistemic Curiosity and Harmonious Passion and there is a -0.167 person product-moment correlation declared that there is a negative correlation between Epistemic Curiosity Obsessive Passion of S&T Scientists (Appendix H).

4.6.2 Multiple Regression Analysis

Regression enables to an assessment of the strength of the relationship between a numerical dependent variable and one or more numerical independent variables (Field, 2009). Once again, where these data have been selected from a sample, the sample must have been selected at random (Field, 2009). The process of circulating the co-efficient of determination and regression equation using one independent variable is normally termed simple linear regression analysis. Calculating a coefficient of multiple determination and regression equation using two or more independent variables is termed multiple regression analysis (Field, 2009).

The researcher analyzed the impact of 2 variables which are Harmonious Passion and Obsessive Passion on the dependent variable of the Epistemic Curiosity of Science and Technology Scientists in Sri Lanka. In this study, there are two independent

variables. Therefore, the researcher applied the multiple regression analysis for further analysis of the data. Regression analysis is conducted by using the backward elimination method.

Table 4. 6: Multiple Regression Output

	Model	Coefficient	P-value
1	Constant	2.518	0.000
	Harmonious Passion	0.045	0.280
	Obsessive Passion	-0.122	0.006
2	Constant	2.657	0.000
	Obsessive Passion	-0.108	0.008

Source: Survey, S&T Institutions in Sri Lanka, 2020

As per Table 4.6, multiple linear regression shows the 2 models form here. In the first model since the output P-value of Harmonious Passion (0.280) is higher than the critical P-value (0.05) hence, there is not enough evidence to reject H_0 (There is no impact of Harmonious Passion on Epistemic Curiosity of S&T Scientists). Therefore, with a 95% level of confidence, it can be concluded that there is no impact of Harmonious Passion on Epistemic Curiosity of S&T Scientists. Thus, the independent variable of Harmonious Passion was removed from the first model. Then the researcher used to model two for next analysis.

In the second model since the Output p-value of Obsessive Passion (0.008) is less than the critical p-value (0.05), there is enough evidence to reject H_0. (H_0: There is no negative impact of Obsessive passion on Epistemic Curiosity of Science & Technology Scientists) There is a negative coefficient value (-0.108) of the regression coefficient. Therefore, a 95% level of confidence it can be concluded that there is negative impact of Obsessive Passion on Epistemic Curiosity of Science Technology Scientists. Thus, the second model can be accepted as the fitted model after eliminating the insignificance Variable of Harmonious Passion and now there is only one independent variable (Appendix I)

4.6.3 The goodness of Fitted Model

The goodness of fit (GOF) of a statistical model describes how well it fits into a set of observations and GOF indices summarize the discrepancy between the observed

values and the values expected under a statistical model (Maydeu-olivares, Forero, & Catalunya, 2010). In a nutshell, R square demonstrates the extent to which the independent variables in the model explain the variation in the dependent variable. In this study only one independent variable was significant. Therefore, Research used R square value to show the goodness of fitted model.

Table 4. 7: Coefficient of Determination

Model	R square
2	0.053

Source: Survey, S&T Institutions in Sri Lanka, 2020

According to Table 4.7, since the R^2 value in model 1 is 0.053 explained that 0.053 of the variation of the Epistemic Curiosity explain through Obsessive Passion of Science and Technology Scientists. In can be concluded that the fitted model is a poorly fitted model. (Appendix I).

4.6.4 Analysis of variation (ANOVA)

Field (2009) indicated that ANOVA describes the model is significant or not and it predicts the dependent variable. If the output P-value is less than the critical P-value of 0.05 the model is significant (Field, 2009)

Table 4. 8: Results of ANOVA

Model	P-value
2	0.008

Source: Survey, S&T Institutions in Sri Lanka, 2020

According to table 4.8, since the output P-value (0.008) of analysis of variation of the fitted model 2 is less than critical p-value (0.05), there is enough evidence to reject H_0. (H_0: Fitted model is not significant). Therefore with a 95% level of confidence, it can be concluded that the fitted model 2 is significant (Appendix I)

4.6.5 Test of Model Adequacy

To generalize the regression model to the population, it needed to fulfill several assumptions (Field, 2009). If the assumptions are violated, it cannot be generalized the findings to the population. Therefore the researcher ensured the applicability of the below assumptions prior to generalizing the findings of the research study.

4.6.5.1 Normality Test of Residuals

In the model, it is assumed that the residuals are random, normally distributed variable with a mean of 0. In a nutshell, it demonstrates that the difference between the model and the observed data are most frequently zero or very close to zero (Field, 2009).

Table 4. 9: Normality Test of Residuals

Kolmogorov-Smirnov Test	
Normality test	P-value
residuals	0.097

Source: Survey, S&T Institutions in Sri Lanka, 2020

As mentioned in table 4.9, Since the output p-value of the Kolmogorov-smirnov test is greater than the critical P-value (0.05), there is not enough evidence to reject H_0 (H_0: Residuals follows a normal distribution). Therefore, it can be concluded that that residuals are normally distributed (Appendix J).

4.6.5.2 Test of Randomness of Errors

For any two observations, the terms of the residual should be uncorrelated (or independent) and this is sometimes described as a lack of autocorrelation as well as this is tested by the Durbin-Watson test (Field, 2009). The Durbin Watson tests the serial correlations between errors and value should be 2 or close to 2 (Field, 2009).

Table 4. 10: Durbin Watson Statistics

Variable	Durbin-Watson statistics
Residuals	1.833

Source: Survey, S&T Institutions in Sri Lanka, 2020

As per table 4.10, since the Durbin Watson statistics of model 2 is closed to 2, it can be concluded that residuals are randomly distributed (Appendix I).

4.6.5.3 Constant of error variance

Predictor variables at each level, the variance of the residual terms should be constant and this means that each level of the predictor should have the same variance (Homoscedasticity) In fact, the variance is very unequal there is said to heteroscedasticity (Field, 2009).

According to the residuals vs fitted graph (Appendix K), there is no constant variation of residuals. There is no pattern in residuals. Hence, it can be concluded that the residuals are suffering from the problem of heteroscedasticity.

4.6.5.4 The error means close to zero

The error means close to zero declared that the adequacy of the model (Field, 2009).

According to Standardized Residuals vs. Observation Order (Appendix L), all of the data points vary between 0.4 to -0.5. It can be concluded that the error means is not very close however it is closed to zero.

4.6.5.5 Influential Observation

Standard residuals values less than -2 or greater than 2 can be identified as extreme cases or influential observations (Field, 2009). Keeping influential observations in a developed model is not good. Therefore the researcher removes those observations and returns the regression to get the final fitted model.

Table 4. 11: Standardized Residuals

Residuals	Minimum	Maximum
	-1.868	1.784

Source: Survey, S&T Institutions in Sri Lanka, 2020

Asper table 4.11 demonstrates that minimum and maximum values of standardized residuals are within the +2 and -2. Therefore it can be concluded that there is no unusual observations (Appendix M).

4.6.6 Fitted Regression Model

Here, only one independent variable is significant. Therefore, the researcher uses the simple linear regression model equations further analysis.

$$E(Y_i / X_i) = \hat{\beta}_o + \hat{\beta}_1 x_i + \varepsilon_i$$

Y_i = Epistemic Curiosity

X_1 = Obsessive Passion

β_0, β_1 = Regression Coefficients

ε_i = Random Error

As per the fitted regression output, the researcher developed the fitted regression equation as below mentioned.

Epistemic Curiosity = 2.657-.108 Obsessive Passion

According to Fitted Regression Equation 4.1, if the S & T Scientist is not having Obsessive Passion their Epistemic Curiosity will be 2.657 units. If Obsessive Passion of Science Technology Scientists is increased by a unit, the Epistemic Curiosity of S&T Scientists in Sri Lanka will be decreased to 0.108 units.

4.7 Discussion

The foremost objectives of this study are to finding out the positive impact of Harmonious passion on the Epistemic Curiosity of Science & Technology Scientists in Sri Lanka and to finding out negative impact of Obsessive Passion on the Epistemic Curiosity of Science & Technology Scientists in Sri Lanka. However, after analyzing the data, it was found that there was no impact of Harmonious Passion on Epistemic Curiosity there was negative impact Obsessive Passion on Epistemic Curiosity of S&T Scientists in Sri Lanka,

Although, Harmonious Passion on the Epistemic Curiosity, results provide evidence that the Harmonious Passion correlated/impact on the Epistemic Curiosity (Ruiz & León, 2019). However, there is a contextual difference between studies. Hence, in the Sri Lankan context, there is no impact on Harmonious Passion on Epistemic Curiosity of Science & Technology Scientists in Sri Lanka. Monetary contribution provided by the government is somewhat of low level as well as there is no received the rewards as much as S&T Scientists expect. That is what; S&T Scientists do not use their Harmonious passion that would be the reason for nothing to having the impact of Harmonious Passion on Epistemic Curiosity of S&T Scientists in Sri Lanka.

The negative impact of Obsessive Passion on Epistemic Curiosity of Science & Technology Scientists was significant after analyzing the data. Obsessive Passion added to the model based on the future direction given by Ruiz-Alfonso & León, 2019 (it could be interesting for future studies to even include the obsessive passion in their analysis to assess which kind of passion tends to correlate/impact better with each type of Epistemic Curiosity. In a Nutshell, the Researcher Expresses that the future

direction given the Ruiz & León, 2019 is true. This is the first study of finding the impact of Obsessive Passion on Epistemic Curiosity of Science and Technology Scientists in Sri Lanka. Thus, the results would be valuable for future researchers of Epistemic Curiosity.

CHAPTER FIVE
CONCLUSION AND FUTURE RECOMENDATIONS

5.1 Introduction

This chapter deals with concluding the research findings in relation to the established research objectives. Moreover, suggestions and directions for future researchers are included depending on the findings of the research.

5.2 Conclusion

This study aims to identify the impact of Harmonious Passion and Obsessive Passion on Epistemic Curiosity of Science & Technology Scientists in Sri Lanka. Preliminary survey results encourage the researcher to study further about the low-level of Epistemic Curiosity of Science Technology Scientists. In a nutshell, Epistemic Curiosity means the curiosity to acquiring new knowledge and filling the gap which is known and unknown. Plenty of Epistemic Curiosity researchers have used the Undergraduates as their population whereas the researcher argued that this dimension could also be able to use to measure the Epistemic Curiosity of Science & Technology Scientists in Sri Lanka. The researcher used the commonly used Epistemic Curiosity scale to measure the epistemic curiosity of Science & Technology Scientists in Sri Lanka. Passion is used as the independent variable of the research based on the current literature. Passion is measured by using the two dimensions namely, Obsessive Passion Harmonious Passion. A multiple regression model was used to find out the influence of each independent variable on dependent variables. According to the key finding of this study, it reveals that Obsessive Passion has negative impact on the Epistemic Curiosity of Science Technology Scientists in Sri Lanka while there is no impact of Obsessive Passion on the Epistemic Curiosity of Science & Technology Scientists in Sri Lanka.

5.3 Implications of the research

5.3.1 Managerial Implications

With the development of the world, knowledge is an investable fact, and finding new knowledge and eliminate gaps in one's s understanding also important to be developed in the world. Curiosity is viewed as the exploratory drive in animals and humans, excided by novel stimuli. The development of each and every country depends on innovations, Inventions and Technological advancements. Science and Technology Scientists are one of the key personnel to finding out something new and on the other hand, to finding out something new, there should be the attitude or curiosity or inner motivations to do so. In this context, there is somewhat low level of Epistemic Curiosity of Science and Technology scientists in Sri Lanka.

The researcher employed one of the curiosity dimensions of Epistemic Curiosity which has been tested in many contexts. Here in this Context, the researcher could be able to prove the validity of the model. These two types of Harmonious and Obsessive Passion are associated differently with affective and behavioral outcomes. Harmonious type, which is associated with positive outcomes, and a more obsessive type, which leads to negative consequences (Forest, 2011). Science & Technology Scientists should have the self-trust and competencies to performing well, even though, obsessive passion comes to trust themselves less and less in case of behavior is entirely based upon the emotions felling of the moment and embracing self-defeating-state. When Science and Technology Scientists are having with Obsessive Passion, They are engaging with regret and neglect.

Epistemic Curiosity is the most valuable intellectual property for the Science and Technology Scientists in Sri Lanka. Sri Lankan Government can increase the degree of Epistemic Curiosity by reducing the Obsessive Passion of Science & Technology Scientists in Sri Lanka. Obsessive Passion is crucial if that government wishes to promote and maintain S&T Scientist's mental health and optimal functioning. Schedule real breaks (like lunch with colleagues, or a break to hit the gym) can also be recommended to decreasing the level of Obsessive Passion and block out time after work or it is facilitating on weekends for family friends and activities that enjoyed them. As result, a fresh mind may lead to a higher level of Epistemic Curiosity.

Science & Technology Scientists are really hard workers when running the project, Hence, Government is able to facilitate a reasonable vacation after ending their project. As a result, Fresh workers think differently and it will lead to a decrease in Obsessive passion as increasing the Epistemic Curiosity towards finding something new and eliminating gaps in ones understanding and don't let them bring work home, it is completely impossible to access work when leaving work.

Moreover, it should be facilitating to change their attitude and thinking patterns by conducting the motivational programs, training and development programs these types of Well-developed programs would also be one of the best options to convincing the advantages of self-motivation towards the self-learning of Science and Technology Scientists in Sri Lanka. Often, investing too much time on a project will lead to negative core self. The more additional things outside of the work may contribute positive feeling and it will lead to turning obsessive Passion into Harmonious

It is good to celebrate the victories of Science & Technology Scientists and there should be developed the proper performance measuring scale to being engaged with harmoniously rather than obsessively with activities in parallel to that motivation and enthusiasm will be affected too high in their Epistemic Curiosity. And the government can practice the selection mechanism for the project that means, It should be priorities the consent of Science & Technology scientists to implementing the project/ research or other types of activities and their consent would increase the Epistemic Curiosity whereas decrease the Obsessive Passion.

5.4 Future Direction

The dimension of Epistemic Curiosity can able to be applied to each and every type of knowledge worker in every context other than the scientists, Undergraduates. The negative concequences of Epistemic Curiosity is also a researchable area that means the knowledge workers who are having with high-level Epistemic Curiosity, there can be finding out the negative concequences. Plenty of Epistemic Curiosity researchers quantitatively measure this dimension. Although, it would be worth the qualitative study to deeply understanding the dimension of Epistemic Curiosity.

It would be better to study the factors affecting Obsessive Passion on reducing the adverse impact of it. Existing literature argued that the Harmonious Passion is good to have. Even though, Future researchers can qualitatively study the real status of it. As well as, it is good to identify the mediating affect between the Passion and Epistemic Curiosity).

REFERENCES

Adom, D., Hussein, E. K., & Joe, A., Agyem. (2018). Theoretical and conceptual framework :mandatory ingredients theoretical and conceptual framework : mandatory ingredients. *Academy of Management Review*, *34*(3), 511–532.

Ajayi, V. O. (2017). Primary Sources of Data and Secondary Sources of Data, 1–6.

Berlyne, D. E. (1962). Uncertainty and epistemic curiosity. *British Journal of Psychology* , *53*, 27–34.

Blanchard, C. (2003). Harmonious and Obsessive Passion for the Internet : Their Associations With the Couple' s Relationship *'*. 197–221.

Bouizegarene, N., Bourdeau, S., Leduc, C., Houlfort, N., & Vallerand, R. J. (2017). Self and Identity We are our passions : The role of identity processes in harmonious and obsessive passion and links to optimal functioning in society. *Self and Identity*, *68-88*, 1–19.

Burke, R. J., & Fiksenbaum, L. (2009). Work motivations, work outcomes, and health: Passion versus addiction. *Journal of Business Ethics*, *84*(2), 257–263.

Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, *34*(3), 511–532.

Chang, Y. Y., & Shih, H. Y. (2019). Work curiosity: A new lens for understanding employee creativity. *Human Resource Management Review*, *29*(4), 0–1.

Collins, R. P., Litman, J. A., & Spielberger, C. D. (2018). The measurement of perceptual curiosity. *Journal of Personality and Social Psychology*, *68-88*.

Cummings, L., & Patel, C. (2009). Chapter 3 Research methodology. 53–87.

Deci, E. L., & Ryan, R. M. (1987). The Support of Autonomy and the Control of Behavior. *Journal of Personality and Social Psychology*, *53*(6), 1024–1037

Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268.

Eren, A., & Coskun, H. (2016). Students ’ level of boredom , boredom coping strategies , epistemic curiosity , and graded performance. *Human Resource*

Management Review, 06-71.

Field, A. (2009). *Discovering Statistics Using SPSS (3rd ed.)*. London: SAGE Publications.

Forest, J. (2011). " Work is My Passion ": The Different Affective , Behavioural , and Cognitive Consequences of Harmonious and Obsessive Passion toward Work. *40*, 27–40.

Forest, J., Mageau, G. A., Sarrazin, C., & Morin, E. M. (2011). "Work is my passion": The different affective, behavioural, and cognitive consequences of harmonious and obsessive passion toward work. *Canadian Journal of Administrative Sciences*, *28*(1), 27–40.

Greener, S. (2008). Business Research Methods. *A Comparative Analysis*, (23), 32-45 .

Hamilton, D. (2019). Developing and testing inhibitors of curiosity in the workplace with the Curiosity Code Index (CCI). *Heliyon Journal*, *5*(1), 11-85.

Hardy, J. H., Ness, A. M., & Mecca, J. (2017). Outside the box: Epistemic curiosity as a predictor of creative problem solving and creative performance. *Personality and Individual Differences*, *104*, 230–237.

Hong, J.-C., Ye, J.-H., & Fan, J.-Y. (2019). STEM in Fashion Design: The Roles of Creative Self-Efficacy and Epistemic Curiosity in Creative Performance. *Eurasia Journal of Mathematics, Science and Technology Education*, *15*(9).

Huang, D., & Wang, L. (2010). Gender Difference in Motives of Knowledge Searching : Measurement Invariance and Factor Mean Comparison of the Interest / Deprivation Epistemic Curiosity. 258–263.

Huang, D., Wang, L., Zhou, M., & Zhang, J. (2010). Gender difference in motives of knowledge searching: Measurement invariance and factor mean comparison of the interest/deprivation epistemic curiosity. *Proceedings - 2010 IEEE 2nd Symposium on Web Society*, 258–263.

Huck, J. T., Day, E. A., Lin, L., Jorgensen, G., Westlin, J., & Iii, J. H. H. (2020). The Role of Epistemic Curiosity in Game-Based Learning : Distinguishing Skill Acquisition From Adaptation. *Human Resource Management Review, 34-56*.

Hunter, J. A., Abraham, E. H., Hunter, A. G., Goldberg, L. C., & Eastwood, J. D. (2016). Personality and boredom proneness in the prediction of creativity and curiosity. *Thinking Skills and Creativity*, *22*, 48–57.

Hussain, M. (2014). Descriptive statistics - presenting your results I Descriptive statistics - presenting your results I Qualitative Variable Analysis : Types of Statistical Analyses. 23, 54-66 .

Ishaq, E., Bashir, S., Khan, A. K., Hassan, M. M., & Zakariya, R. (2019). Epistemic curiosity and perceived workload: a moderated mediation model of achievement striving and overwork climate. *The International Journal of Human Resource Management*, *0*(0), 1–24.

Kang, M. J., Hsu, M., Krajbich, I. M., Loewenstein, G., McClure, S. M., Wang, J. T. Y., & Camerer, C. F. (2009). The wick in the candle of learning: Epistemic curiosity activates reward circuitry and enhances memory. *Psychological Science*, *20*(8), 963–973.

Kapur, R. (2018). Research Methodology : Methods and Strategies Research Methodology : Methods and Strategies. (39), 34-54.

Kashdan, T. B., Goodman, F. R., Disabato, D. J., McKnight, P. E., Kelso, K., & Naughton, C. (2019). Curiosity has comprehensive benefits in the workplace: Developing and validating a multidimensional workplace curiosity scale in United States and German employees. *Personality and Individual Differences*, 35, 45-65.

Kashdan, T. B., Stiksma, M. C., Disabato, D. D., McKnight, P. E., Bekier, J., Kaji, J., & Lazarus, R. (2018). The five-dimensional curiosity scale: Capturing the bandwidth of curiosity and identifying four unique subgroups of curious people. *Journal of Research in Personality*, *73*, 130–149.

Koo, D. M., & Choi, Y. Y. (2010). Knowledge search and people with high epistemic curiosity. *Computers in Human Behavior*, *26*(1), 12–22.

Kumar, S. (2018). Analysis in a Business Research. *Journal of General Management Research*, *5*(2), 70–82.

Ligneul, R., Mermillod, M., & Morisseau, T. (2018). From relief to surprise: Dual control of epistemic curiosity in the human brain. *Journal of Neuro*, *181*, 490–500.

Litman, J. A. (2005). Curiosity and the pleasures of learning: Wanting and liking new information. *Cognition and Emotion*, *19*(6), 793–814.

Litman, J. A. (2007). Curiosity as a feeling of interest and feeling of deprivation : the I / D model of curiosity. 149–156.

Litman, J. A. (2008). Interest and deprivation factors of epistemic curiosity. *International Journal for Quality in Health Care*, *44*, 1585–1595.

Litman, J. A. (2010). Relationships between measures of I- and D-type curiosity, ambiguity tolerance, and need for closure: An initial test of the wanting-liking model of information-seeking. *Personality and Individual Differences*, *48*(4), 397–402.

Litman, J. A., & Spielberger, C. D. (2003). Measuring epistemic curiosity and its diversive and specific components. *Journal of Personality Assessment*, *80*(1), 75–86.

Liu, D., Jiang, K., Shalley, C. E., Keem, S., & Zhou, J. (2016). Motivational mechanisms of employee creativity: A meta-analytic examination and theoretical extension of the creativity literature. *Organizational Behavior and Human Decision Processes*, *137*, 236–263.

Loewenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin*, *116*(1), 75–98.

Lowry, N., & Johnson, D. W. (2010). Epistemic curiosity, feeling-of-knowing, and exploratory behaviour *The Journal of Social Effects of Controversy on Epistemic Curiosity , Achievement , and Attitudes*. (15), 37–41.

Maydeu-olivares, A., Forero, C. G., & Catalunya, U. I. De. (2010). Goodness-of-Fit Testing Author ' s personal copy Goodness-of-Fit Testing, 45-65.

Mussel, P. (2010). Epistemic curiosity and related constructs: Lacking evidence of discriminant validity. *Personality and Individual Differences*, *49*(5), 506–510.

Ntim, S. (2017). Epistemic Curiosity, Conceptual Ambiguity and Cognitive Conflict: Do these Implicate Students Exploratory Behavior? *Psychology and Cognitive Sciences – Open Journal*, *3*(4),

Powell, C., Nettelbeck, T., & Burns, N. R. (2017). The incremental validity of intellectual curiosity and confidence for predicting academic performance in advanced tertiary students. *Personality and Individual Differences*, *116*, 51–56.

Reio, T. G., & Wiswell, A. (2000). Field investigation of the relationship among adult curiosity, workplace learning, and job performance. *Human Resource Development Quarterly*, *11*(1), 5–30.

Rip, B., Fortin, S., & Vallerand, R. J. (2006). The relationship between passion and injury in dance students. *Journal of Dance, Medicine & Science*, *10*, 14–20.

Roessler, R. T. (2004). The Illness Intrusiveness Model: Rehabilitation Implications. *Journal of Applied Rehabilitation Counseling*, *35*(3), 22–27.

Ruiz-Alfonso, Z., & León, J. (2019). Teaching quality: relationships between passion, deep strategy to learn, and epistemic curiosity. *School Effectiveness and School Improvement*, *30*(2), 212–230.

Saunders, M., Lewis, P., & Thornhill, A. (2019). Chapter 4: Understanding research philosophy and approaches to theory development. *In Research Methods for Business Students*.

Schmitt, F. F. (2008). The epistemic value of curiosity It is a commonplace that curiosity facilitates education and inquiry , and even success in learning and discovery. *Personality and Individual Differences*, *58*(2), 125–148.

Science and Technology status report of Sri Lanka (2017), Science and Technology Commission .

Sekaran, U. (2003). Research and Markets: Research Methods for Business - A Skill Building Approach.

Sekaran, Uma, & Bougie, R. (2016). Research methods for business, A skill-Building Approach (Seventh Edition). .

Subaşı, A. (2019). A Dynamic Systems Theory of epistemic curiosity. *New Ideas in Psychology*, *54*, 8–14.

Tariq, M. U. (2016). Operationalizing Variables in Theoretical Frameworks *: A Comparative Analysis, 1(1)*

Vallerand, R. J., & Fernet, C. (2008). The Role of Passion for Teaching in Intrapersonal and Interpersonal Outcomes. *100*(4), 977–987.

Vallerand, R. J., Mageau, G. A., Ratelle, C., Léonard, M., Blanchard, C., Koestner, R.., Marsolais, J. (2003). Les Passions de 1'Âme: On Obsessive and Harmonious Passion. *Journal of Personality and Social Psychology*, *85*(4), 756–767.

Van Kleef, G. A., Homan, A. C., Beersma, B., Van Knippenberg, D., Van Knippenberg, B., & Damen, F. (2012). Searing sentiment or cold calculation? the effects of leader emotional displays on team performance depend on follower epistemic motivation. *IEEE Engineering Management Review*, *40*(1), 73–94.

Voulvoulis, N., & Burgman, M. A. (2019). The contrasting roles of science and technology in environmental challenges. *Critical Reviews in Environmental Science and Technology*, *49*(12), 1079–1106.

Wright, S. A., Clarkson, J. J., & Kardes, F. R. (2018). Circumventing resistance to novel information: Piquing curiosity through strategic information revelation. *Journal of Experimental Social Psychology*, *76*, 81–87.

YdaiBazh, M., Twomey, K., & Westermann, G. (2019). Curiosity and Exploration. *Reference Module in Neuroscience and Biobehavioral Psychology*, (16), 1–11.

APPENDIXES

Appendix A: Number of patents registered and pending in 2017 (Scientists in Science and Technology institutions in Sri Lanka)

	No of national patent	No of national patents pending	No of international patent	No of international patent pending
Natural	02	02	00	00
Engineering	11	11	03	01
Medical	00	00	00	00
Agriculture	00	00	00	00
Other	04	04	01	00

Appendix B: Preliminary Survey questionnaire

Preliminary Survey

I am K.W.P.N.Kulathissa, an undergraduate of Department of Business Management, Faculty of Management Studies, Sabaragamuwa University of Sri Lanka, at present, study in year IV semester I. Please be kind enough to extend your valued support by filling the questionnaire. I assured that the collected data will only be used for the research purpose and will not be disclosed to any other party. Your valued support in regard is highly appreciated and it will enable me to conduct this research successfully.

Please give (**X**) in the appropriate box.

1. Age

Male	
Female	

2. Gender

18-30	
30-42	
43-60	

3. Marital Status

Married	
Unmarried	

4. Tenure (Work experience in the present organization)

Less than 1 year	
1-3 years	
4-5 years	
More than 5 years	

No		Almost Never	Sometimes	Often	Almost Always
	Epistemic curiosity				
1	Enjoy exploring new ideas				
2	Enjoy learning about subjects that are unfamiliar to me				
3	Find it fascinating to learn new information				
4	Learn something new, like to find out more about it				
5	Enjoy discussing abstract concepts				
6	Hours on a problem because I cannot rest without answer				
7	Conceptual problems keep me awake thinking about solutions				
8	Frustrated if I cannot figure out problem, so I work even harder				
9	Work like a fiend at problems that I feel must be solved				
10	Brood for a long time to solve problem				

Appendix C: Final Survey Questionnaire

Survey Questionnaire

I am K.W.P.N.Kulathissa, final year undergraduate of Department of Business Management, Faculty of Management Studies, Sabaragamuwa University of Sri Lanka. This survey is conducted to find out impact of Harmonious and Obsessive Passion on the individual Epistemic Curiosity of Science and Technology Scientists in Sri Lanka. Please be kind enough to extend your valued support by filling the questionnaire. I assured that the collected data will only be used for the research purpose and will not be disclosed to any other party. Your valued support in regard is highly appreciated and it will enable me to conduct this research successfully.

Part A

Please give (**X**) in the appropriate box.

1. Gender: Male ☐ Female ☐

2. Age:

18-30 Years	
31-42 Years	
43-60 Years	

3. Name of your Institution:

Science and Technology Institutions	
National Science Foundation	
NANCO Pvt Limited	
National Institute of Fundamental Studies	
Arthur C Clark Institution for modern Technologies (ACCIMT)	
Industrial Technology Institute	
Medical Research Institute Sri Lanka	
Sri Lanka Institute of Nanotechnology	
Hector Kobbekaduwa Agrarian Research and Training Institute	
Bandaranayke Memorial Ayurvedic Research Institute	

Sri Lanka Accreditation Board for Conformity Assessment	
Sri Lanka Standard Institute	
National Engineering, Research and Development Centre	
National Research Council	

5. Tenure (Work experience in the present organization):

Less than 1 year	
1-3 years	
4-6 years	
More than 6 years	

6. Number of publications/ innovation done by yourself:

0- 5 Publications	
6-10 Publications	
11-15 Publications	
More than 15 Publications	

Part B

For each of the statements below, please place a **CROSS** (**X**) in the box which mostly reflects your view about the statement

Item No		Almost Never	Sometimes	Often	Almost Always
7	Enjoy exploring new ideas				
8	Enjoy learning about subjects that are unfamiliar to me				
9	Find it fascinating to learn new information				
10	Learn something new, like to find out more about it				
11	Enjoy discussing abstract concepts				
12	Hours on a problem because I cannot rest without an answer				
13	Conceptual problems keep me awake thinking about solutions				
14	Frustrated if I cannot figure out a problem, so I work even harder				
15	Work like a fiend at problems that I feel must be solved				
16	Brood for a long time to solve a problem				

Item No		Not agree to all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
17	This activity allows me to live a variety of experiences							
18	The new things that I discover with this activity allow me to appreciate it even more.							
19	This activity allows me to live memorable experiences							
20	This activity reflects the qualities I like about myself							
21	This activity is in harmony with the other activities in my life							
22	For me it is a passion, that I still manage to control							
23	I am completely taken with this activity							
24	I cannot live without it.							
25	The urge is so strong. I can't help myself from doing this activity							
26	I have difficulty imagining my life without this activity							
27	I am emotionally dependent on this activity							
28	I have a tough time controlling my need to do this activity.							
29	I have almost an obsessive feeling for this activity							
30	My mood depends on me being able to do this activity							

Thank you for your Contribution!

Appendix D: Descriptive Statistics

Descriptive Statistics

	N	Mean	Std. Deviation
Epistemic	158	2.2620	.33091
Harmonious	158	3.4195	.50596
Obsessive	158	4.1564	.50496
Valid N (listwise)	158		

Appendix E: Reliability analysis

Reliability of Epistemic Curiosity

Reliability Statistics

Cronbach's Alpha	N of Items
.699	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2	6.57	3.597	.511	.620
E3	6.42	3.367	.566	.584
E8	6.49	3.525	.464	.648
E9	6.57	3.610	.405	.687

Reliability of Harmonious Passion

Reliability Statistics

Cronbach's Alpha	N of Items
.602	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
H3	14.01	7.185	.356	.550
H4	14.04	6.132	.425	.509
H5	13.94	6.365	.415	.515
H6	13.97	7.560	.291	.580
H7	13.96	7.030	.304	.576

Reliability of Obsessive Passion

Reliability Statistics

Cronbach's Alpha	N of Items
.693	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
O2	12.7025	8.542	.447	.646
O3	12.5570	8.873	.497	.620
O4	12.5823	8.245	.530	.596
O7	12.8734	7.576	.453	.653

Appendix F: Validity

Validity of Epistemic Curiosity

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.512
Bartlett's Test of Sphericity	Approx. Chi-Square	306.018
	df	6
	Sig.	.000

Validity of Harmonious Passion

KMO and Bartlett's Test

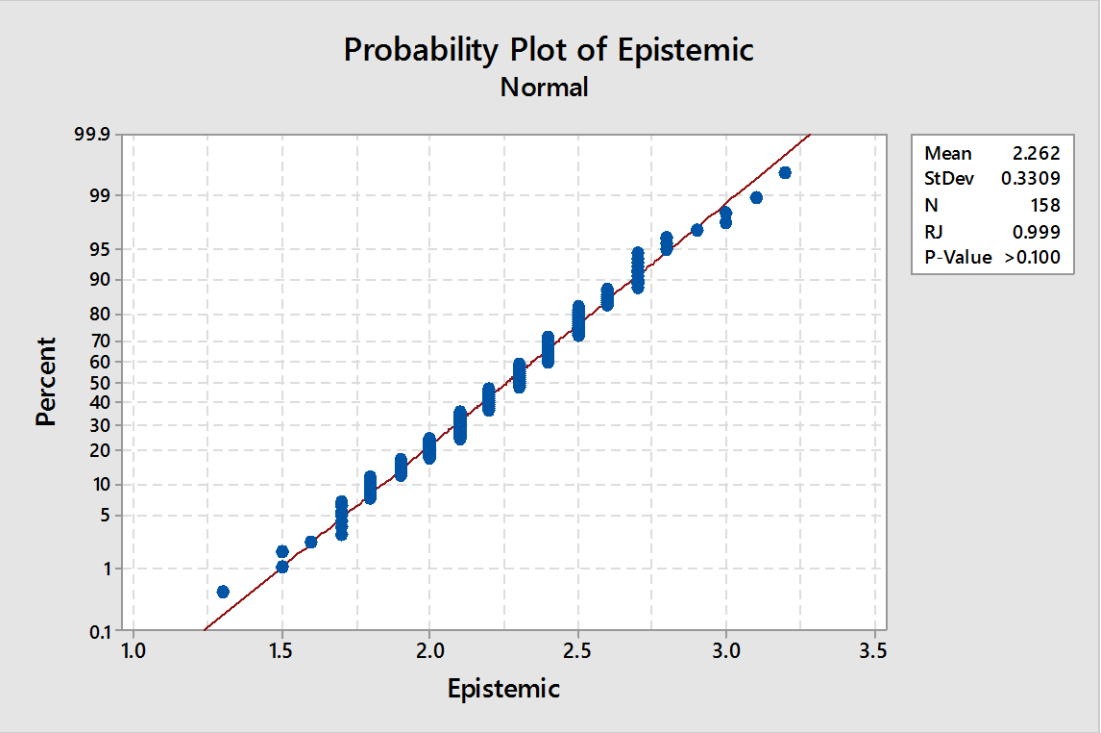
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.678
Bartlett's Test of Sphericity	Approx. Chi-Square	74.347
	df	10
	Sig.	.000

Validity of Obsessive Passion

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.507
Bartlett's Test of Sphericity	Approx. Chi-Square	201.018
	df	6
	Sig.	.000

Appendix G: Normality test of Epistemic Curiosity



Appendix H: Correlation

Correlations

		Epistemic	Harmonious	Obsessive
Epistemic	Pearson Correlation	1	.007	-.167*
	Sig. (1-tailed)		.465	.018
	N	158	158	158
Harmonious	Pearson Correlation	.007	1	.044
	Sig. (1-tailed)	.465		.293
	N	158	158	158
Obsessive	Pearson Correlation	-.167*	.044	1
	Sig. (1-tailed)	.018	.293	
	N	158	158	158

*. Correlation is significant at the 0.05 level (1-tailed).

Appendix I: Regression Analysis

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Obsessive, Harmonious[b]	.	Enter
2	.	Harmonious	Backward (criterion: Probability of F-to-remove >= .100).

a. Dependent Variable: Epistemic

b. All requested variables entered

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.454	2	.227	4.214	.017[b]
	Residual	6.954	129	.054		
	Total	7.409	131			
2	Regression	.391	1	.391	7.239	.008[c]
	Residual	7.018	130	.054		
	Total	7.409	131			

a. Dependent Variable: Epistemic

b. Predictors: (Constant), Obsessive, Harmonious

c. Predictors: (Constant), Obsessive

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.248[a]	.061	.047	.23219	.061	4.214	2	129	.017	
2	.230[b]	.053	.045	.23235	-.009	1.179	1	129	.280	1.834

a. Predictors: (Constant), Obsessive, Harmonious

b. Predictors: (Constant), Obsessive

c. Dependent Variable: Epistemic

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.518	.190		13.220	.000	2.142	2.895					
	Harmonious	.045	.041	.093	1.086	.280	-.037	.127	.071	.095	.093	.992	1.008
	Obsessive	-.112	.040	-.238	-2.781	.006	-.192	-.032	-.230	-.238	-.237	.992	1.008
2	(Constant)	2.657	.141		18.780	.000	2.377	2.937					
	Obsessive	-.108	.040	-.230	-2.691	.008	-.188	-.029	-.230	-.230	-.230	1.000	1.000

a. Dependent Variable: Epistemic

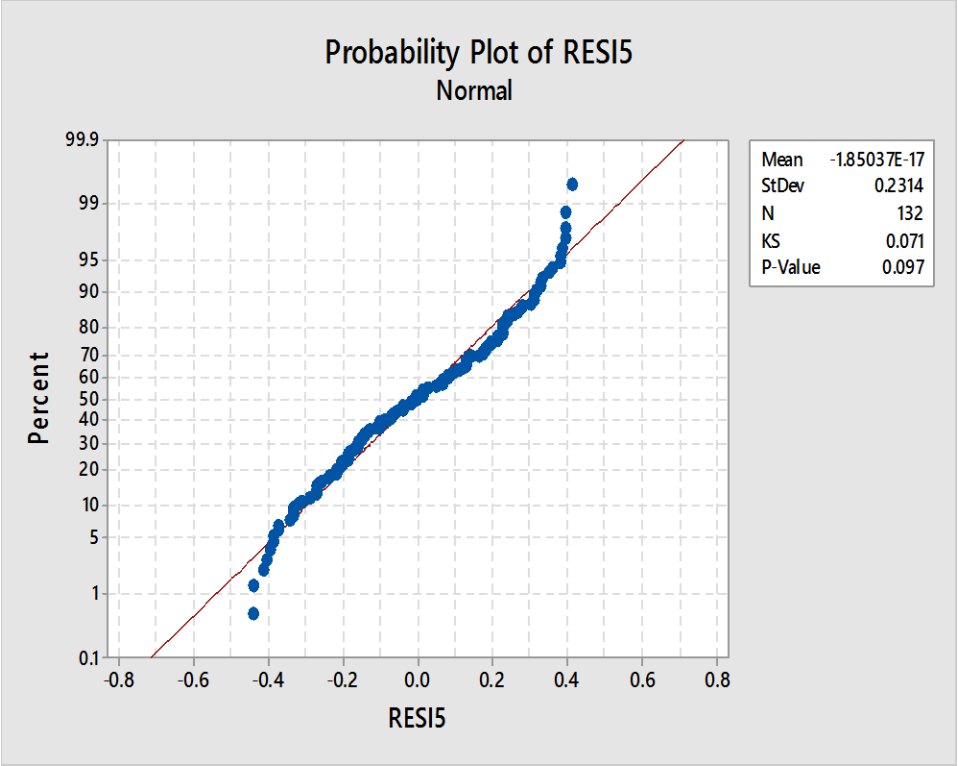
Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
2	Harmonious	.093[b]	1.086	.280	.095	.992	1.008	.992

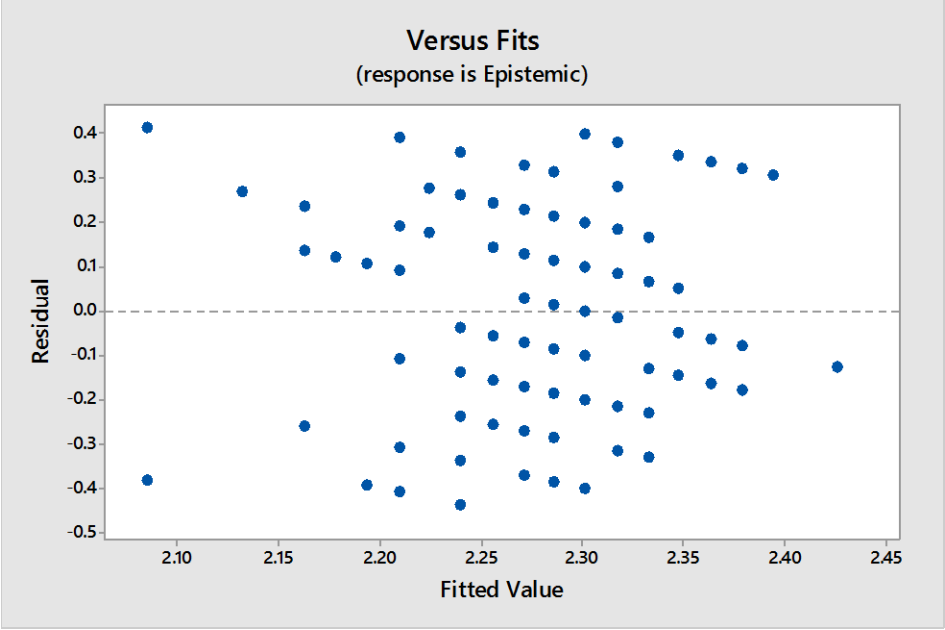
a. Dependent Variable: Epistemic

b. Predictors in the Model: (Constant), Obsessive

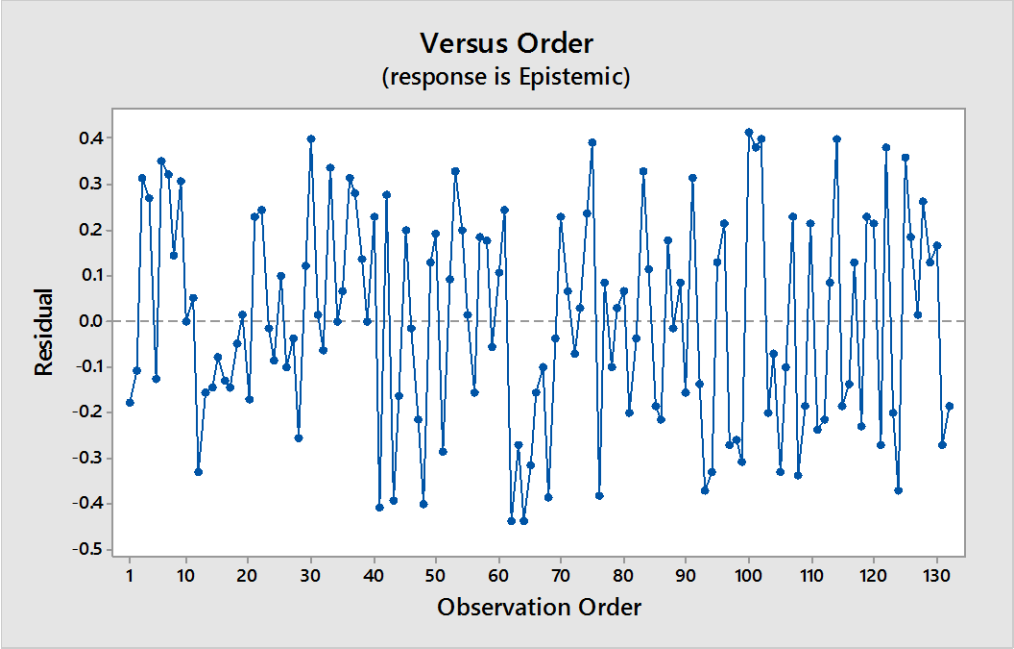
Appendix J: Normality of Residuals



Appendix K: Residuals vs fitted values



Appendix L: Standardized Residuals vs. Observation Order



Appendix M: Residuals Statistics

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.0854	2.4253	2.2803	.05462	132
Std. Predicted Value	-3.568	2.655	.000	1.000	132
Standard Error of Predicted Value	.020	.075	.027	.010	132
Adjusted Predicted Value	2.0369	2.4335	2.2801	.05549	132
Residual	-.43992	.41457	.00000	.23146	132
Std. Residual	-1.893	1.784	.000	.996	132
Stud. Residual	-1.905	1.886	.000	1.006	132
Deleted Residual	-.44515	.46308	.00017	.23591	132
Stud. Deleted Residual	-1.924	1.905	.000	1.009	132
Mahal. Distance	.012	12.730	.992	1.958	132
Cook's Distance	.000	.208	.010	.025	132
Centered Leverage Value	.000	.097	.008	.015	132

a. Dependent Variable: Epistemic