

# Chapter 8

## James Webb Space Telescope and Discovery Anxiety: Role of the Sources of Information

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### ABSTRACT

*The present chapter aimed to investigate the impact of information sources on anxiety related to potential discoveries by the James Webb Space Telescope (JWST). A sample of 1009 participants was surveyed, and descriptive and inferential statistical analysis was performed. Results indicated that 24.6% of the participants reported anxiety concerning JWST's discoveries, while 41.3% believed in the existence of extraterrestrial intelligence. The chapter revealed a significant correlation between information sources and anxiety towards JWST's discoveries ( $R = 0.268$ ,  $R^2 = 0.72$ ,  $Adj R^2 = 0.059$ ,  $P \leq 0.05$ ). It was discovered that library and online newspaper sources were the major contributors to such anxiety. The findings highlight the significance of information sources in shaping individuals' reactions to potential extraterrestrial discoveries. Therefore,*

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*the chapter recommends libraries and online newspapers to educate the public about JWST's findings, alleviating anxiety and promoting accurate information.*

## **INTRODUCTION**

The James Webb Space Telescope (JWST) is a huge, space-based astronomical observatory that examines the time when the universe's initial stars and galaxies originated and reionized. It was created by NASA, a prime contractor team led by Northrop Grumman Space Technology, the European Space Agency, and the Canadian Space Agency. The JWST was designed to be a follow-up mission to the extremely successful Hubble Space Telescope, allowing astronomers to glimpse the initial generations of stars. JWST, which has a massive 18-segment, 6.5-meter main mirror and an array of new infrared-sensing cameras and spectrometers, will allow us to observe younger objects in space than Hubble presently can and will aid in the analysis of the minute specks of light that Hubble cannot detect. The JWST is poised to revolutionize our understanding of the cosmos through its comprehensive examination of astronomical phenomena. The JWST has been designed to address four primary themes, each focused on a specific aspect of the universe: First Light and Reionization, Galaxies' Formation, Birth of Stars and Protoplanetary Systems, and Planetary Systems and the Origins of Life.

First Light and Reionization aim to uncover the first galaxies to form in the universe and trace the history of ionization that led to the current state of the cosmos. The Galaxies' Formation theme will shed light on the development of galaxies and dark matter over time. The Birth of Stars and Protoplanetary Systems theme focuses on the earliest stages of star formation and the development of protoplanetary systems. Finally, the Planetary Systems and the Origins of Life theme will examine the physical and chemical properties of both our solar system and extra-solar systems to gain insight into the origins of life. Each of these themes represents a significant area of astronomical inquiry and the JWST is poised to make groundbreaking contributions in each of these areas.

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