Word count: 1584

PT: ***Is there solid justification for regarding knowledge in the natural sciences more highly than knowledge in another area of knowledge? Discuss with reference to the natural sciences and on other areas of knowledge.***

Natural Science is a field aiming to learn more about natural world, creating knowledge through scientific methods. Like many other areas of knowledge (AOK), it helps humans gain understanding of the world. However, as technology and science advance, some depend excessively on natural science, leading to misconception that scientific knowledge is superior to other knowledge. Is this true? Are there concrete reasons behind this argument? How do we know that some AOKs are better than others? The question "*Is there solid justification for regarding natural science knowledge more highly than other areas of knowledge?*" suggests an underlying assumption that natural science knowledge is better than other AOK. "solid" means concrete and stable. "justification" is action of showing something is reasonable. Therefore, solid justification is strong evidence, supporting arguments. When something is regarded more highly than the others, this means it's on a higher level.

So the prompt suggests when people consider natural science better, do concrete reasons exist behind this. Due to the command term "discuss", it's crucial to provide two perspectives of the argument: there is a concrete reason and there isn't. When it comes to natural science, there might be an underlying assumption that natural science is better due to precision. However, this may not always be true. It'll be further studied and evaluated through comparison between natural science and human sciences, which studies humanities and human behavior's various aspects (Tim Woods).

Human sciences can be unpredictable as it's difficult to control. So it's generally hard to deduce concrete results from behaviors. There are so many individuals and their behaviors or

psychology varies vastly depending on the surroundings, education, culture, religion, etc. Emile Durkheim was a French sociologist, one of the founders of Sociology. His theory of suicide is prominent because it attempted to predict suicide. Durkheim made 4 categories of suicides with the relationship between the victim and society: egoistic, altruistic, fatalistic, anomic (Blogger). He theorized and provided reasons why each group commits suicide (Ajay Bhatt). This study ends with just criticizing society, ultimately not predicting which group will commit suicide, limiting prevention. This study connects to psychology. Even though the subjects were divided into groups with similar traits, suicide is difficult to prevent and the order of groups commiting suicide or which group has a higher rate of committing suicide are unpredictable. It was because certain groups underwent a sudden increase in suicidal rates at that time and decreased (Blogger). The purpose of human science is gaining understandings of individuals or groups. The ability to predict phenomena starts from gaining understanding and predictability is crucial in determining the value of knowledge, because it's an application of the knowledge to a further extent for prediction. However, human sciences' predictability can be uncertain. As unpredictability contributes to inaccuracy and large deviations, this factor of human sciences can be regarded lowly to thosee who value certainty and accuracy. Human science can be easily impacted by biases too. It's the study of humans and every human has cumulative cognitive biases from their life experiences. This indicates that subject groups can have skewed cognition, perception, stereotypes, leading to subjective data results. Knowledge is supposed to be gaining exact understandings, but loss of objectivity and uncertainty can impact people's value.

However, another study reveals strength of human science, providing an opportunity to understand humans. Human sciences study the behaviors of humans in-depth with scientific methods. It outlines and suggests how humans work and are manipulated. For example, UK's

Nudge Unit. It's an organization established within the UK's government to apply human's behavioral science to public policies (Jill Rutter). Behavioral science is used to make changes in governments' functions, and incentivize citizens to choose optimal policies (Tim Woods). During the pandemic, Nudge Unit used people's common reaction towards 'disgust' and utilized it as a stimulant to encourage hand-washing (Jill Rutter). "Nudge" means to make people behave in certain ways considering how general people approach it. It's also used in economics to trigger people's actions. Through insights and application of human science, policies, legislations, and economies can be studied further as humans have wide range of influences. Human science being incorporated into policies suggest that human science is valued highly. Humans are the subjects that initiate actions, impacting the environment and technology in various routes. Therefore, human science functions as a direct pathway to study human behavior, adding significance. Also, as human behaviors are reflected, by adding substantial knowledge on human science, it'll let optimal choices for disciplines of the public be established. Like this, human sciences shape understandings and explanations of humans. Social phenomena can be explained too. Refuting earlier argument, the reason we know that cognitive biases exist is also through studying human science. Therefore, as the study of human science elaborates, researchers will deduce hypotheses regarding cognitive biases. Also, human science uses scientific methodology like natural science. So the process of deriving a conclusion is the same as natural science, making that they are similar to each other, so no one knowledge should be particularly valued higher.

Conversely, natural science has strengths for "high values", and Mendel's theory provides concrete reasoning. Mendel, a biologist, established the law of inheritance using peas. For 7

years, he raised over 10,000 peas and cross-bred them. He cateogrized peas external features and deduced a law proving “dominant and recessive traits", which means two pure-breeds’ offspring will have either trait, not a blend of two (Sam Wong). He found allele’s certain ratio. This knowledge is still used today, especially in genetics. It became the foundation of genetics and inheritance, encouraging further research. Mendel’s law supports that natural science is hardly biased or manipulated. It’s possible to conduct experiments with a large number of samples for natural science because subjects cannot have thoughts or behaviors, impacting experiments. So in natural sciences, once a law or theory is set, it doesn’t change often. Unlike natural science, the focal point of human science is ‘humans’, where humans are difficult to control as multiple factors affect behaviors. A factor that can be considered highly in natural science is predictability. In natural sciences, hypothesis is supported by consistent evidence. Natural science’s value comes from being a universally shared knowledge, free from biases. Being universally common refers to knowledge free from regional or cultural limitations, having power of mutual connections and understandings. Natural science is important in knowledge-developing process because the public can obtain accurate information built from nearly unmanipulated evidence and science methods. Due to this strength, South Korea government has provided 70 billion KRW to support five science-specialized districts (HJ Kim), acting as a solid justification that natural science is prioritized.

However, ‘solid justification’ doesn’t only exists in natural sciences as natural science has flaws. For instance, Lord Kelvin’s calculation of Earth’s Age doesn’t support that natural sciences are better than other AOKs. He used deductive reasoning, which is natural science’s methodology of acquiring a specific argument from a general rule. Kelvin, a prominent physician for thermodynamics, calculated Earth’s age using thermodynamics physics. His calculations

were off and excluded the Earth's geological processings time (Charles Stephen). So this calculation couldn't correctly determine Earth's age despite using scientific reasoning, falsifying the estimated age. He couldn't prove that the estimation was correct and in natural science, without solid evidence substantiating a theory or hypothesis, it's ineffective. This demonstrates inaccuracies could occur in natural science. Even when scientific methodology is followed, if the result is inaccurate, the whole study becomes insignificant. Natural science is an area of knowledge that values objective, solid answers. Just theoretical value without evidence is meaningless. It can be deduced that rough estimations and imprecision could occur in natural sciences. Kelvin was a famous at that time and misused his reputation to support his wrong calculations, assuming his results were correct. This led to some biases included in the experiment's process too. This implies that natural science isn't completely free from biases and how the process could actually be influenced by scientist's status, previous works, and desires. Furthermore, to make theories and hypothesis in natural sciences, estimated guesses have to be made. However, certainty and reliability of these guesses cannot be determined. Therefore, the knowledge producing process can be inaccurate, uncertain and be impacted by the scientist. In natural science where objectivity and certainity is valued, these could impact people's perception and values.

Solid justification is important as it provides concrete evidence, supporting particular perceptions. It's why people start some valuing knowledges. It's important to evaluate why one knowledge is regarded higher than the other to prevent biases. Once knowledge is valued highly, people will have stronger favoritism towards it, narrowing learning experiences and hindering diverse opportunities.

Instead of preferring one AOK over others, balancing knowledge is important. Two AOKs should be incorporated and harmonized together. Human science is important as it inquires further about human behaviors and fields influenced by humans. There are 70 billion people, and although human science cannot predict all and may be biased, it's an opportunity to study humans and applications. There are many areas associated with Human sciences, like business, economics, psychology, politics, etc. Natural science is vital as it shows natural world's orders and relationships. It's mostly objective as the subjects are less likely to be influenced by surroundings and produces concrete, universal concepts. However, it can be inaccurate, have biased process, and insignificant without reliable evidence. Overall, both human sciences and natural sciences have strengths and weaknesses. Through weighing two, obtaining various perspectives towards knowledge and growing as an impartial, knowledgeable inquirer is possible.

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