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ORIGINAL RESEARCH

Epistemology & Pseudo-Science: A general survey among school students aspiring to have a career in Medicine

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ABSTRACT

Background: Epistemological beliefs reflect an individual's beliefs about the nature of knowledge and knowing. **Aim and objectives:** Present study aimed to do a general survey among school students aspiring to have a career in Medicine regarding pseudo-scientific information. It also aimed to identify the factors contributing to the acceptance of incomplete or biased information and the role of social media in shaping students' epistemological beliefs. **Methodology:** A small survey with one AP Biology class with students between the ages of 15 and 18 who were determined to pursue a career in the field of medicine in the near future. The google forms were analyzed thematically using the framework approach. **Results**: Most students after responding to the survey gave very little regard to the fact that articles they see online are not always 100% accurate and they blindly decide to rely on this information provided to them. A significant number of respondents acknowledged the influential role of social media in shaping their perspectives. Many students admitted to unquestionably accepting information without considering its accuracy, reflecting a troubling reliance on pseudo-scientific content. **Conclusion**: Prevalence of pseudo-science among high school students requires a multifaceted approach. By instilling critical thinking skills and promoting media literacy, educators can empower the younger generation to navigate the information age with discernment. This research sheds light on the challenges and opportunities in reshaping epistemological beliefs in the digital era.

Keywords: Epistemology, pseudo-Science, survey, school students, social media.

INTRODUCTION

It is typical human nature to think that we are always correct even without knowing where the knowledge we contain is from or why we have it in the first place. Epistemology or "The theory of Knowledge" as some might say is purely based on evidence and proven fact followed through by the scientific method. This is what people should be more focused on rather than finding random articles online containing only 2% of the truth. This is especially common with high school students because they "believe" they know scientific facts and evidence, this would be a direct result of Pseudo - Science since they are basing truth on someone else's opinion. By analyzing different kids' mindsets and the information they provide we gain an understanding of why students tend to think this way. I conducted a small survey with one AP Biology class with students between the ages of 15 and 18 who were determined to pursue a career in the field of medicine in the near future. The google forms were analyzed thematically using the framework approach. Most students after responding to the survey gave very little regard to the fact that articles they see online are not always 100% accurate and they blindly decide to rely on this information provided to them. After this consensus was reached I followed up with the students and they were all at first showing humility, but later on understood that it is necessary to fact check any site that provides them with scientific claims for later on. A common response in the survey was that most of the students are on social media apps. They get most of their information from those platforms before even trying to find other credited sources. Perhaps social media's influence on the young generation might have played a bigger role in colluding students' thinking than most people

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consider. Pseudo - Science has much to do with patience since rather than going on the web and finding as well as searching through different sources to get information students would rather see a notification of a recent event on Instagram for “accurate information” and this shows great concern. The patience that students have at these ages reflect the knowledge they consume since they are in such a competitive environment.

Human nature's proclivity for self-assurance and the inherent need to question the origin and validity of knowledge form the backdrop against which this research is conducted. Epistemology, often referred to as "The theory of Knowledge," advocates for evidence-based understanding derived through the scientific method.

Problem Statement

The pervasive influence of pseudo-science, characterized by unverified claims and incomplete information, poses a significant challenge to the pursuit of genuine knowledge. High school students, in particular, are susceptible to forming beliefs based on incomplete online articles, raising concerns about the factors influencing their epistemological stance.

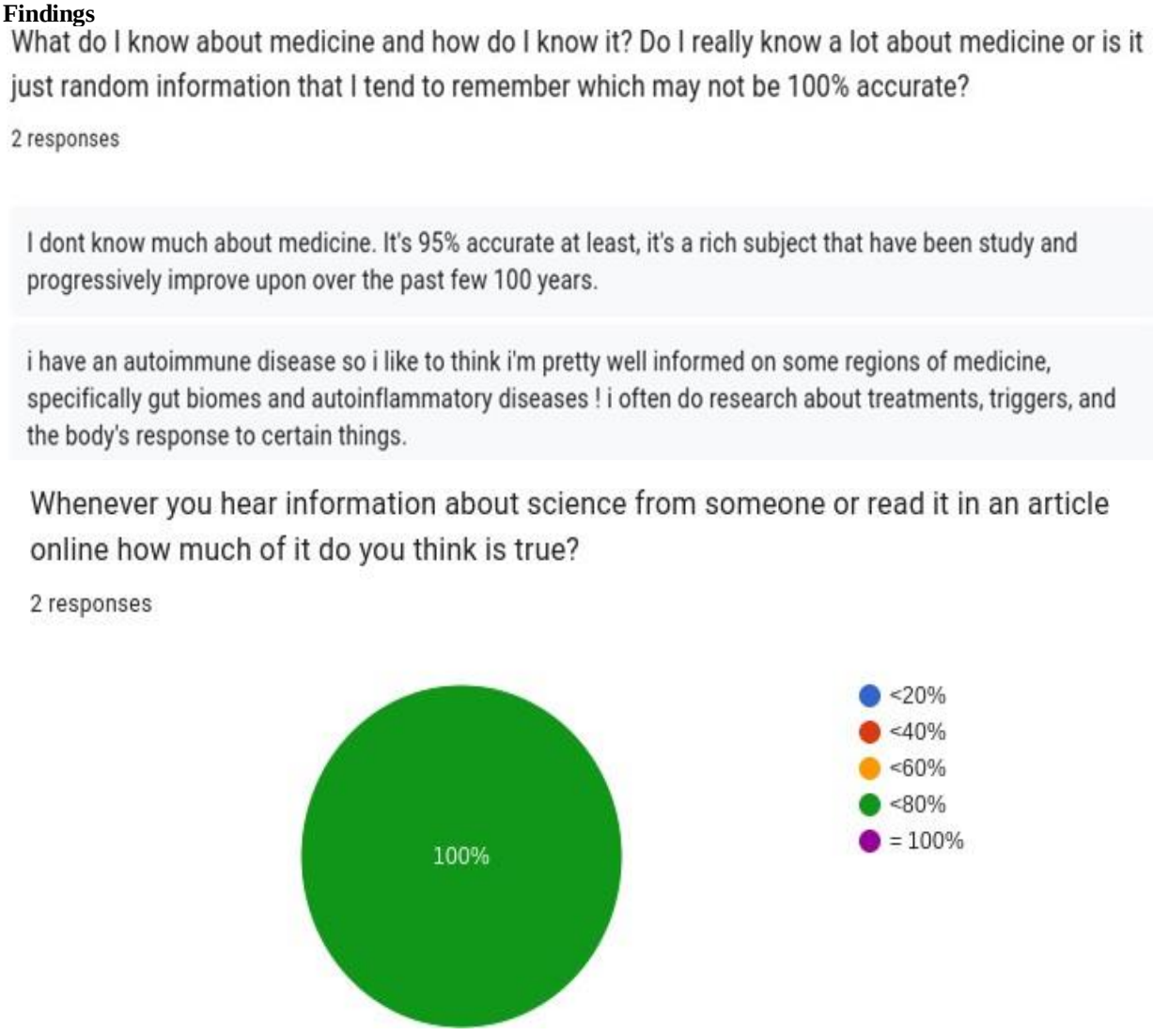
Objectives

1. Explore the extent of high school students' reliance on pseudo-scientific information.
2. Identify the factors contributing to the acceptance of incomplete or biased information.
3. Investigate the role of social media in shaping students' epistemological beliefs.
4. Examine the implications of impatience on knowledge acquisition among high school students.

Methodology

To investigate this phenomenon, a survey was administered among students aged 15 to 18 enrolled in an Advanced Placement (AP) Biology class, all of whom expressed aspirations for a career in medicine. The survey, conducted through Google Forms, utilized the framework approach for thematic analysis.

Findings



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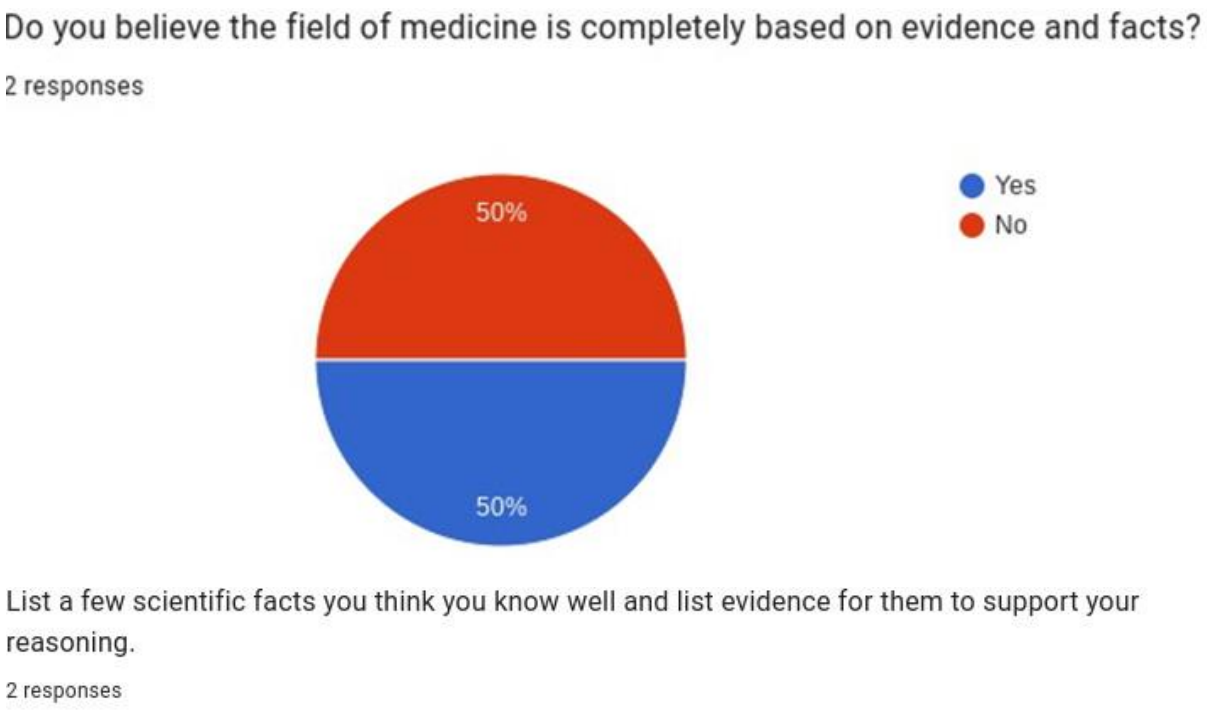

List a few scientific facts you think you know well and list evidence for them to support your reasoning.

2 responses

I know the basic stuffs. One of my favorite is attachment theory, it's the theory of how us as human grow up and interact with the environment to form our subconsioucous and emotions/personality.

environmental factors, such as infections, diet, and exposure to certain chemicals can trigger autoimmune responses in people with genetical inheritance of certain genes!
- studies have suggested a link between gut microbiota composition and autoimmune diseases like inflammatory bowel disease (IBD).

many autoimmune diseases have a "gender bias", which means its more commonly found in biological women. (bc of hormones!!)
- systemic lupus erythematosus (SLE) is about 9 times more common in women.

people with one autoimmune disease are at an increased risk of developing other autoimmune diseases
- evidence: my joint, thyroid, and sinus inflammations LMFAO

Blind Trust in Online Information

Thematic analysis of the survey data revealed a disconcerting trend among students, indicating a minimal level of skepticism towards online articles. Many students admitted to unquestionably accepting information without considering its accuracy, reflecting a troubling reliance on pseudo-scientific content.

Social Media Influence

A significant number of respondents acknowledged the influential role of social media in shaping their perspectives. The survey highlighted that a considerable portion of students obtains information primarily from social media platforms, often foregoing the diligence of seeking information from credible sources.

Implications of Impatience

The allure of pseudo-science is exacerbated by students' impatience, with many expressing a preference for instantaneous information consumption through social media notifications. This impatience reflects the competitive environment in which students navigate their academic journeys.

The Need for Critical Thinking

While initial survey responses indicated a lack of awareness regarding the accuracy of online information, follow-up discussions emphasized the importance of instilling critical thinking skills. Encouraging a critical approach to knowledge acquisition is pivotal in fostering a discerning epistemological stance.

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Social Media's Educational Responsibility

Recognizing the profound impact of social media, there is a need for collaboration between educational institutions and social media platforms to promote accurate information dissemination. Incorporating media literacy into the curriculum can equip students with the tools to navigate the digital landscape responsibly.

CONCLUSION

In conclusion, addressing the prevalence of pseudo-science among high school students requires a multifaceted approach. By instilling critical thinking skills and promoting media literacy, educators can empower the younger generation to navigate the information age with discernment. This research sheds light on the challenges and opportunities in reshaping epistemological beliefs in the digital era.

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