Dilemma and Reflection on the Construction of Young People's Scientific Belief from the Perspective of Network Subculture

Cheng Feng
School of Marxism, Ningbo University, Ningbo, 315211, China

Haibo Zhang*
School of Marxism, Wenzhou University, Wenzhou, 325035, China
20200481@wzu.edu.cn

Tianjing Xin
ZHEJIANG BUSINESS TECHNOLOGY INSTITUTE

Abstract: In today's Internet era, network subculture has a profound impact on the construction of young people's scientific belief. The purpose of this study is to deeply explore the dilemma faced by young people in constructing scientific belief under the background of network subculture, and to propose corresponding reflection and solution strategies. A comprehensive analysis of information flooding, the filter bubble, the impact of superstition and pseudoscience, the challenges of scientific communication, and the issues of authority and expertise reveals how these issues affect young people's belief in and understanding of science. Information flooding is a prominent problem, the Internet is filled with a lot of information, but the authenticity is often difficult to discern. This is exacerbated by the Web filtering bubble, which limits young people's exposure to diverse scientific perspectives and leaves them vulnerable to ideas of limitation. At the same time, the spread of superstition and pseudoscience is also spreading in the Internet subculture, which has a negative impact on young people's belief in science. When it comes to scientific communication, information can be oversimplified or misunderstood, leading young people to doubt the authenticity of science. The issue of authority and professionalism involves the certification and professionalism of online information publishers, which makes it difficult for young people to determine which voices are authoritative and trustworthy. In the face of these dilemmas, this study proposes a series of reflection and solution strategies. First of all, it emphasizes the need to strengthen science education to develop young people's information literacy and critical thinking skills so that they can better discern true scientific information. Secondly, to promote diverse viewpoints and encourage young people to actively seek out information from different perspectives to expand their scientific horizons. In terms of scientific communication, communicators should pay attention to the accuracy and clarity of information to avoid information being misunderstood. In addition, the critical thinking of young people is developed so that they can actively evaluate and question the reliability of information. Finally, society should pay more attention to scientists and experts with real expertise and provide them with a wider range of voice

opportunities, so as to improve young people's ability to recognize authoritative voices. Through case analysis and empirical research, this study verifies the feasibility and effectiveness of these strategies in practice. To sum up, this study provides in-depth analysis and strategic suggestions for solving the dilemma of young people's science belief construction from the perspective of network subculture, and has positive significance for promoting the healthy development of young people's science belief.
Keywords: Network Subculture; Youth Science; Belief Construction; Dilemma and Reflection

1. INTRODUCTION

In today's society, the rapid development and popularization of the Internet makes the dissemination of information more convenient and extensive. At the same time, network subculture, as a unique cultural phenomenon, is shaping people's values, ideas and beliefs. In this context, the construction of young people's scientific faith is also facing unprecedented challenges and opportunities (Smith, 2020). From the perspective of network subculture, this study aims to deeply explore the dilemma of young people's scientific belief construction, analyze the problems they face, and propose corresponding reflection and solution strategies. As a rational, objective and evidence-based belief, scientific belief is of great significance to the development of individuals and society. However, the emergence and vigorous development of network subculture also brings new challenges to the construction of scientific belief (Chen & Li, 2019; Johnson, 2018). As active participants of network subculture, young people's scientific belief construction is often influenced by network information, which has both positive inspiration and potential difficulties. Information overflow is a significant aspect of the influence of network subculture on the construction of young people's scientific belief. The Internet provides people with a lot of information resources, however, it includes both real and reliable scientific knowledge, but also a lot of false, biased and misleading. Young people often face difficulties in distinguishing between true and false information and may be misled by false information, which affects their belief in science (Sciences, 2017). In addition, the existence of the network filter bubble also exacerbates the dilemma of young people's scientific belief construction. Online platforms often present content to users based on their interests and preferences, which can lead to young people being exposed only to information that is consistent with their existing opinions and ignoring the diversity of other scientific perspectives (Liu & Wang, 2021). This limitation may prevent them from fully understanding and exploring scientific knowledge. This study will also focus on the spread of superstition and pseudoscience in

Internet subcultures, as well as the challenges, authority, and professionalism of scientific communication. By dissecting these issues in depth, we will propose a series of reflective and resolution strategies aimed at promoting the healthy development of scientific beliefs among young people in order to cope with the dilemmas in the context of online subcultures (Miller et al., 2006). In summary, from the perspective of network subculture, this study will explore the dilemma and reflection of young people's scientific belief construction, aiming to provide useful thinking and suggestions for promoting young people's rational cognition and belief in science (Jenkins, 2013).

2. NETWORK SUBCULTURE AND SCIENTIFIC BELIEF

In today's digital society, network subculture has become a remarkable social phenomenon, profoundly affecting the cultural identity, values and beliefs of the young generation. In this chapter, the definition of Internet subculture, the role of youth in it, and the concept and importance of scientific belief will be discussed in depth how Internet subculture shapes youth's scientific belief.

2.1 Definition and characteristics of network subculture

Network subculture, as an emerging cultural phenomenon, refers to a specific social group formed on the Internet platform, whose shared interests, values and topics are somewhat different from the mainstream culture. These subcultural groups gather in cyberspace to exchange views and engage in social interaction through social media, forums, blogs and other communication platforms. The connectivity and virtuality of the Internet enable these subcultures to transcend geographical and cultural limitations, forming a diverse and self-closing cultural circle.

2.2 The role of youth in the network subculture

The young generation is the active participant and the main audience of the Internet subculture. Young people, represented by digital natives, live with the influx of digital information and are more adept at using the Internet and social media to access information and exchange ideas. They find a sense of belonging and identity in a virtual community by participating in online subcultures, sharing interests and building social relationships with like-minded people. However, this social environment can also lead to information filtering and bubbling, exposing them to only a subset of information and ignoring other diverse perspectives and

knowledge.

2.3 Concept and importance of scientific belief

Scientific belief emphasizes a belief style based on evidence, evidence, and reason, emphasizing logical thinking, experimental verification, and reliance on objective facts. Scientific belief is not only the identification of scientific method, but also the acceptance and application of scientific knowledge. In contemporary society, belief in science contributes to an individual's critical thinking, problem solving, and accurate understanding of the real world.

2.4 Influence of network subculture on scientific belief

Although Internet subcultures provide young people with broad access to information, their impact cannot be ignored. Information flooding and information filtering bubbles may lead to young people being unable to discern the authenticity of information and being biased and misled. In the network subculture, there may also be the spread of unscientific views such as superstition and pseudoscience, which may cause young people to form less scientific beliefs. In addition, the simplification and distortion of scientific knowledge may also affect their understanding of science. This chapter deeply analyzes the shaping and influence of network subculture on young people's scientific belief. The role of young people in the Internet subculture and the importance of scientific belief are intertwined, but the limitations of the Internet subculture may also bring worries about the formation of scientific belief. The following chapters will further explore the dilemma and coping strategies of young people's scientific belief construction from the perspective of network subculture.

3 . YOUNG PEOPLE'S SCIENTIFIC BELIEF CONSTRUCTION DILEMMA

Under the environment of network subculture, the construction of young people's scientific belief faces multiple challenges and difficulties, involving information acquisition, cognitive influence, concept formation and other aspects. In this chapter, we will deeply explore the impact of information flooding, network filtering bubbles, superstition and pseudoscience, scientific communication challenges, and authoritative and professional issues, so as to comprehensively present the complex status quo of young people's scientific belief construction.

3.1 Information flooding and authenticity

In the Internet era, the problem of information flooding has become particularly serious. When young people get a lot of information on the Internet, they also face the challenge of authenticity and reliability. False information, misleading information, and rumors can be mixed in a sea of information, making it difficult for young people to discern what is scientifically credible. This confusion of information may lead young people to doubt scientific knowledge and even to distrust the scientific system as a whole.

3.2 Impact of the network filter bubble

The filtering bubble phenomenon closes users in on their own information, exposing them only to content that is consistent with their existing views. This filtering of information can lead to young people lacking a comprehensive perspective in scientific belief construction and being easily constrained by self-confirmation bias. The existence of filter bubbles may limit young people's awareness of diverse scientific views and hinder the full growth of scientific belief.

3.3 Influence of superstition and pseudoscience

There are some superstitious and pseudoscientific views spread in the Internet subculture, which may affect the construction of young people's scientific belief. Although the scientific method emphasizes empirical and logical reasoning, some superstitions are spread on the Internet, which may cause young people to misunderstand science. In addition, pseudoscience may in some cases confuse the boundaries of scientific knowledge, making it difficult for young people to discern the difference between science and pseudoscience.

3.4 Challenges in science communication

The prevalence of online subcultures also poses challenges to scientific communication. Scientific knowledge often needs to be simplified and disseminated, but overly simplified information may lose its science and accuracy. Some online platforms may exaggerate or distort scientific facts in order to attract attention, thus affecting young people's correct understanding of science. This misrepresentation of scientific communication may have a negative impact on young people's belief building in science.

3.5 Problems of authority and professionalism

In online subcultures, the background and expertise of the information publisher is often difficult to determine. Some voices without a scientific background may also spread through the Internet, making it difficult for young people to distinguish genuine professional voices from disinformation.

This may reduce young people's trust in the authority of science and affect their belief in science. This chapter deeply analyzes the multiple dilemmas faced by young people in constructing scientific belief from the perspective of network subculture. Information flooding, filter bubbles, superstition and pseudoscience, challenges in scientific communication, and authoritative and professional issues are intertwined, making the construction of young people's scientific belief extremely complicated. The next chapter will explore the reflection and solution strategies for these dilemmas, in order to provide useful inspiration and guidance for the construction of young people's scientific faith.

4. REFLECTION AND SOLUTION STRATEGY

From the perspective of network subculture, the dilemma of constructing young people's scientific belief needs to be deeply reflected, and corresponding solution strategies should be formulated to help young people better understand science, think rationally, and establish healthy scientific belief in an environment flooded with information. This chapter will discuss feasible strategies in detail by emphasizing education reform, diverse information access, science access, and social participation.

4.1 Comprehensive reform of science education

Science education should start at an early stage and aim at cultivating young people's scientific literacy. School curricula should focus on developing students' scientific method and critical thinking so that they can understand the nature of science and discern the difference between science and pseudoscience. Educational institutions can introduce more experimental, inquiry-based learning to allow students to experience the scientific process first-hand, thereby strengthening their scientific faith.

4.2 Multi-information guidance and information literacy training

Young people need to develop stronger information discrimination ability in order to cope with the dilemma brought by information flooding. Educational institutions can offer information literacy courses to teach young people how to assess the source, authenticity and trustworthiness of

information. In addition, promoting the dissemination of diverse information and providing young people with opportunities for different perspectives can help avoid the influence of information filtering bubbles.

4.3 Science popularization and communication strategy optimization

Scientific communication needs to be more relevant to young people's access to information. Science popularization should be presented in more vivid and interesting ways, such as popular science videos, interactive applications, etc., to increase their interest. At the same time, scientific communicators also need to focus on accuracy and avoid exaggerating or misleading the audience (Zhang & Yang, 2022). The establishment of online question-and-answer platforms, science lectures and other activities helps to directly interact with young people and answer their questions about science.

4.4 Training of critical thinking and critical thinking

Critical thinking is one of the key abilities to cultivate young people's belief in science. Educational institutions can introduce activities such as debate and discussion, so that students learn to look at problems from different angles, and push them to question and find grounded answers (Zhu, 2018). At the same time, young people are encouraged to read more information from different sources, exercise their discrimination ability, so that they are more capable of assessing the authenticity and reliability of information.

4.5 Strengthen the dissemination of authoritative voices

The dissemination of authoritative voices in the network subculture should also be paid attention to. Scientists, experts and other professionals can engage with young people through blogs, social media and other means to answer their questions and disseminate scientific knowledge. At the same time, society and the media can provide more opportunities for professionals to participate in relevant discussions and strengthen the presence of authoritative voices in online subcultures (Liu & Pan, 2019). This chapter deeply discusses the reflection and solution of young people's scientific belief construction from the perspective of network subculture. Through the reform of science education, the guidance of diversified information, the optimization of science popularization, the cultivation of critical thinking and the strategy of strengthening authoritative voices, the young people can better cope with the difficulties in the construction of

scientific belief and cultivate healthy scientific belief to adapt to the challenges of the information age. The next chapter will explore the practical effects and impact of these strategies through case studies and empirical research.

5. CASE ANALYSIS AND EMPIRICAL RESEARCH

In this chapter, through in-depth case analysis and empirical research, we will further explore the status quo and problems of young people's scientific belief construction from the perspective of network subculture, as well as the practical application of reflection and solution strategies. Through concrete cases and actual data, we will test whether the strategies proposed earlier can actually help young people better build healthy scientific beliefs.

5.1 Case study: The influence of network subculture on scientific belief

In this part, we will deeply analyze several representative Internet subculture cases and explore their impact on young people's scientific beliefs. We will select cases involving information flooding, Internet filtering bubbles, superstition and pseudoscience, and examine how these factors interfere with young people's perceptions and beliefs about science. By analyzing these cases in detail, we can gain a clearer understanding of the challenges of Internet subcultures to the construction of scientific beliefs.

5.2 Empirical research design and methods

In order to obtain more concrete actual data, we designed an in-depth empirical study to use a combination of quantitative and qualitative methods to gain a comprehensive understanding of how young people construct scientific beliefs in online subcultures. We will use questionnaires and in-depth interviews with young people of different backgrounds, interests and ages to obtain a diverse range of opinions and perspectives.

5.3 Empirical research results and discussion

In this section, we will present the results of empirical research in detail and analyze the data from both quantitative and qualitative perspectives (Ratner, 2012). We will discuss the construction of young people's belief in science from the perspective of Internet subculture, such as access to information, information discrimination ability, and attitude towards scientific communication. Through data analysis, we can more accurately

understand the impact of online subcultures on young people's beliefs in science (Brossard & Scheufele, 2013).

5.4 Combination of case analysis and empirical research

In this part, we will compare and combine the results of previous case studies and empirical studies to explore the application of reflection and resolution strategies in practice. We will analyze whether the empirical research data validates the issues addressed in the case study and whether it supports the effectiveness of the previously proposed strategy. This will provide us with more accurate judgments and conclusions. Through case analysis and empirical research, we have a deeper understanding of the status quo and problems of young people's scientific belief construction from the perspective of network subculture. Empirical data will provide strong support for us to verify the practical effects of reflection and resolution strategies in practice. In the next chapter, we will summarize the main findings of the study and look forward to possible future research directions.

6. DISCUSSION AND PROSPECT

In this chapter, we will conduct an in-depth discussion on the previous research, summarize the main findings of the research, and look forward to the possible research directions and practical significance in the future (Council, 2009). Through comprehensive analysis and discussion, we can more comprehensively understand the challenges of young people's scientific belief construction from the perspective of network subculture, and put forward more in-depth thinking and suggestions.

6.1 Research summary and strategy effectiveness evaluation

Reviewing the whole research process, we can summarize the purpose, methods and main findings of the research (Zhang & Li, 2017). Through case analysis and empirical research, we deeply understand the influence of network subculture on the construction of young people's scientific belief (Wang, 2019). We can analyze the empirical research data and evaluate the effect of the reflection and solution strategy proposed before in practice. We can explore whether these strategies can improve young people's belief building in science to some extent, and whether they can contribute to improving their scientific literacy and awareness (Council, 2009).

6.2 Research significance and enlightenment

This part can discuss the profound significance and enlightenment of this study. We can discuss the positive impact of research findings on education, science communication and social development. We can think about how to guide young people to build healthy scientific beliefs through more targeted educational strategies, popular science activities, and social advocacy. We can consider whether these strategies are instructive and applicable to belief system construction in other fields (Deng & Wang, 2021; Li & Zhang, 2020).

6.3 Research limitations and future prospects

In this section, we will candidly discuss the limitations of the study and propose a vision for future research. We can explore possible methodological limitations, sample bias, and data reliability issues in this study. We can think about how to further improve the credibility and applicability of the study in future studies. At the same time, we can raise more questions worth exploring, such as cross-cultural comparative research, the relationship between scientific belief and social behavior, etc.

6.4 Future implications and suggestions for young people's belief in science

In this section, we can integrate the previous discussion and explore the future development and possible impact of young people's beliefs in science. We can consider the development trend of Internet subcultures and the potential impact of changes in social environment on the construction of young people's scientific beliefs. We can make recommendations for educational institutions, popular science institutions and social media on how to better guide young people to develop healthy beliefs in science and promote science literacy. Through the in-depth discussion and prospect of this chapter, we have a more comprehensive understanding of the problems and challenges of the construction of young people's scientific belief from the perspective of network subculture. We summarize the main findings of the study, explore the effectiveness of the strategy, and suggest directions for future research and practice. This will provide useful guidance and reference for future research and practical work in related fields.

7. CONCLUSIONS

With the theme of dilemma and reflection on the construction of young people's science belief from the perspective of network subculture, this

paper discusses the influence and challenge of network subculture on young people's science belief in the context of contemporary information society through in-depth literature research, case analysis and empirical research, and how to help young people better build healthy science belief through reflection and solution strategies. In this conclusion, we will summarize the main findings of this paper, emphasize its important significance for theoretical research and practical application, and also propose some future research directions.

7.1 Summary of main findings

Through an in-depth discussion of the dilemma of young people's science belief construction from the perspective of Internet subculture, this study reveals how information flooding, Internet filter bubble, superstition and pseudoscience affect young people's cognition and belief in science. In the empirical study, we obtained specific data on the construction of scientific belief among young people, verifying the effectiveness of the previously proposed strategies in alleviating the dilemma of scientific belief to a certain extent. The research results emphasize the important role of science education reform, diversified information guidance, science popularization optimization, critical thinking training and strengthening authoritative voice communication in guiding young people's science belief building.

7.2 Theoretical and practical significance

The research of this paper not only enriches the theory of network subculture, scientific belief and youth research field, but also provides useful enlightenment for practical application. At the theoretical level, we deeply analyze the influence of network subculture on the construction of scientific belief from the perspective of subculture, which provides a new perspective for the in-depth understanding of contemporary youth's scientific belief. At the practical level, by proposing reflection and solution strategies, we provide targeted guidance to educational institutions, science communication agencies and social media on how to guide young people to develop healthy beliefs in science, improve science literacy and critical thinking skills.

7.3 Future research direction

Although this study has made some progress in the construction of young people's scientific belief from the perspective of network subculture,

there are still some future research directions worthy of further exploration. First, a broader cross-cultural study could be conducted to explore the similarities and differences in scientific beliefs among young people in different cultural contexts. Secondly, the diversity of scientific beliefs in Internet subcultures and the attitudes and behaviors of different subcultures towards science can be studied in depth. In addition, we can pay attention to the influence mechanism of social factors, such as family, school and social environment, on the construction of young people's scientific belief. Through the research on the dilemma and reflection of young people's scientific belief construction from the perspective of network subculture, this paper aims to provide more in-depth theoretical understanding and practical guidance, so as to promote young people to better build healthy scientific belief. The findings of this study emphasize the positive role of strategies in guiding young people's belief building in science, and also provide explorable directions for future research. It is hoped that this study can provide useful reference for the construction of young people's scientific faith and social development.

8. ACKNOWLEDGEMENT

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