Soul under the Skin: A Study on Empathy Effect of Online Virtual Idols

[*1]Huyu Wen , [2]Mingxing Song , [3]Haoran Ren
[1] Yantai Institute of Science and Technology, Yantai 264003, China
[2] Sichuan International Studies University, Chongqing 400031, China
[3] Pioneer College Inner Mongolia University, Huhhot 010070, China
[*] E-mail: wenhuyu0615@qq.com

Abstract: With the change of digital technology, the growing activity of subculture and the popularity of fan economy, the development of virtual idols is more and more rapid. It also has an important impact on the emotion and behavior of fans, and many fans will have empathy for virtual idols. This paper takes the fans of virtual idols as the object of our investigation, which analyzes the contact frequency, contact time, interaction behavior, sense of identity and other aspects between fans and virtual idols. The result shows that there is a significant positive correlation between people's empathy for virtual idols and the time of their contact, the frequency of their interaction, and their sense of identity with virtual idols.

Key words: Virtual idol; Effect of empathy; Sense of identity; Media philosophy

1 Research background

Recent years, a series of idol training programs have been launched in China. From "idol Trainee" and "Youth with You" to the "Star of Tomorrow" series, idol cultivation programs have sparked a nationwide entertainment frenzy. However, the homogenous aesthetic fatigue caused by the frequent appearance of real idols also produces a large number of "the collapse of character setting" caused by some immoral behaviors of real idols. At this time, virtual idols stand out with a relatively "perfect" image in the market, which totally rely on technology support and artificial operation. The change of digital technology, the growing activity of subculture and the popularity of fan

economy drive the birth and development of virtual idols further.

In 2007, the popularity of Hatsune Miku, the first generation of virtual singers, made the industry see the potential of the virtual idol market. In February 2016, Luo Tianyi became the first virtual singer to appear on China's mainstream TV media. She is also the first phenomenon virtual idol in China. Luo Tianyi's success opened a new era of virtual idol in China. On May 10, 2021, the official of A-SOUL, a famous virtual idol group, made an announcement that Carol, one of the members of A-SOUL, would cease her daily live streaming and most of her idol activities due to physical and academic reasons, which was an uproar. The reason for the "dormant affair" was that "the people inside" behind Jia Le did not renew his contract due to intense work, PUA, workplace bullying and unfair salary treatment, which caused an uproar among fans.

Different from Hatsune Miku and Luo Tianyi, the virtual idols of the A-SOUL group that Jia Le belongs to all have real people behind them. Their every move, every dance, every look and movement are played by real people and captured by technology. These real people are called “the people inside", who is regarded as the soul of A-SOUL. Public opinion is in an uproar over the deep empathy people have for "the people inside".

2 Literature review

2.1 Virtual idol

Virtual idol first refers to the virtual singer. Later, with the development of society, science and technology, virtual idol becomes more diversified and its concept also begins to be generalized. Virtual idol has some technical limitations, such as the virtual character image must rely on the computer digital technology. The virtual idol defined in this study is a virtual character who only performs with completely virtual images in the network world relying on certain technologies with the support of works and fans.

Domestic researches on virtual idols are mainly divided into three aspects: economy, culture and technology. From the perspective of virtual idols and economy, some studies focus on the boosting effect of fan economy on virtual idols. For example, Deng Yu (2021) takes virtual idol group "Infinite King Group" as an example to discuss the realization of the value of fan economy by relying on the fan base accumulated by game characters. From the perspective of virtual idols and culture, scholars mainly study

the relationship between virtual idols and fans and their production and consumption behaviors from the perspective of subculture and consumption. Lv Pin (2019) takes the identity theory as the entry point to explore the construction process of virtual idol fans' identity, revealing that online groups in the new era obtain identity and satisfaction through themselves, group members and imaginary virtual idols. Song Leiyu (2019) believes that virtual idols are mainly consumed by audiences through appreciation, payment and production, and people are easy to define virtual idols as perfect objects, which can expand the reliable platform for social interaction, even the closest friends. From the perspective of virtual idols and technology, Yu Guoming and Geng Xiaomeng (2020) discuss the continued evolution of the virtual idol form driven by technology, and they point out that the future of virtual reality technology will promote the virtual idol to offline maximize interactive immersive, also give the virtual idol wisdom and personality. While relying on technology to obtain a new development trend, we should also adhere to the people-oriented ethics of virtual idol to build the core.

In conclusion, from the research perspective, academic circles mainly investigate virtual idol from the aspects of technological promotion, fans economy, subculture and so on. But the studies of people's emotion to virtual idol are relatively short, and the objects of study are mainly about Hatsune Miku and Luo Tianyi. We have not yet made a deep academic discussion on the new born virtual idols in the past two years. In addition, the academic circle has not yet explored the relationship between human and virtual idols from the perspective of empathy.

2.2 Theory of empathy

Empathy is a concept in psychology. In behavioral science, it is defined as human ability to recognize, understand, and reflect the emotions, attitudes, and beliefs of others. In news and communication, empathy mainly includes two parts: emotional empathy and cognitive empathy. The process of empathy is also the process of communication.

Most of the literature research works with "empathy theory" on CNKI focus on psychology, social relations and other aspects. When it comes to communication, the studies are mainly about path exploration, public opinion guidance, audio-visual and so on. In the field of communication, Guo Bei (2019) analyzes the major changes of public opinion and public psychology under the network environment, and believes

that empathy plays a very important role, and provides a new path for the Marxist view of journalism to guide public opinion. Tang Ning and Tang Ran take the micro-documentary Wuhan: My Diary of Fighting the Epidemic as an example. From the perspective of empathy theory, they explore the audio-visual communication art of the micro-documentary of major emergencies from the process of planning, expression, resonance, acquisition and feedback, and focus on analyzing its empathy and enhancing the cultivation of empathy ability.

To sum up, from the current research status of empathy theory, the main research direction in the early period is psychology, and the field of journalism and communication and other fields are rarely involved. In the later period, emotion raises more and more attention, and empathy theory is applied to communication. Therefore, our study will combine the theory of empathy with virtual idols to explore people's empathetic relationship to virtual idols based on the inheritance and criticism of existing literature.

2.3 Media philosophy

In recent years, media studies have become a famous school in Chinese communication field. The basic consensus of Chinese journalism and communication circles on "media" is: “In general use, media is a kind of intermediary that enables two parties (people or things) to have a relationship”. In the field of communication, it generally corresponds to the English medium, which refers to the material carrier of the communication content or information. In the era of intelligence, media itself is also evolving. Whoever controls the new media will control the world. In the face of the influence of media on human beings, McLuhan had a profound discussion: "The so-called media is message only means that any influence of any media on individuals and society is due to a new scale. Any extension of us (or any new technology) introduces a new dimension in our things." New media technology is no longer a tool, but is becoming a new scale of human beings, and will even redefine network people in the network society in the future.

Giddens believes that the separation of time and space is one of the unique driving forces for the development of modern society. New media technology is an important factor that produces the separation of time and space. The consequences of this separation are far greater than the application value of new media technology itself.

It not only disseminates content, but also dissolves the traditional binary relationship between subject and object. Every person becomes a node of new media technology. New media blur the boundary between virtual and reality. In addition to the interactive experience of virtual and reality brought by VR, in terms of communication structure and relationship, new media are also embedding the communication mode of virtual space into the communication relationship of reality.

Every age has its own salient media. In this era of interconnection of everything, only by fully understanding the "media" of this era and combining the characteristics of the media can we more clearly explore whether people will have empathy for the products under the new media and the deeper reasons behind it.

3.Research Design

3.1 Research Problem

Fans have a deep empathy for the unfair treatment such as workplace bullying encountered by the man behind the virtual idol Jia Le, which has caused an uproar in public. Based on this phenomenon, we ask the following three questions: Why do people empathize with the encounters of virtual idols? What is the deeper reason behind people's empathy for virtual idols? What factors in virtual idols drive people to empathize with them?

3.2 Research Hypotheses

First of all, we believe that the basis of fans' empathy for virtual idols is to have a deep enough understanding of virtual idols. Therefore, they need to contact and interact with virtual idols from various social platforms and video. The frequency and time of contact and interaction between fans and virtual idols will affect the empathy effect of fans with virtual idols. Secondly, the biggest feature of virtual idols is that fans can define their own image. Fans can achieve self-identity and identity of virtual idols in the process of projecting their own images onto virtual idol characters, so fans' sense of identity with virtual idols will also influence the empathy effect. Based on the above analysis, this paper proposes the following assumptions:

H1: The more frequently fans engage with virtual idol content, the easier it is to

empathize.

H2: The longer fans are exposed to virtual idol content, the easier it is to empathize.

H3: The stronger the interaction degree of fans with virtual idols, the easier it is to empathize.

H4: The stronger the sense of identity that fans have towards virtual idols, the easier it is to empathize.

3.3 Research Method

This article takes the research way of audience investigation to distribute questionnaires to users of social platforms and video platforms, such as micro-blogs, We-chat, Tiktok, Bilibili and other social platforms in a convenient sampling way. We conducted questionnaires on gender, age, channels and frequencies of exposure to virtual idols, frequency of interaction with virtual idols, and sense of identity of virtual idols.

4 Data Analysis

In the questionnaire, the following questions about virtual idol empathy: "Do you sympathize with the setbacks, difficulties, disasters, etc. that virtual idols have encountered?" Do you agree that people feel a sense of accomplishment to the growth of virtual idols? The problems were measured in the form of a Level 5 Likert scale. Regarding identity, there are the following four questions: "I think that virtual idols take on my expectations and imaginations", "I think that in the process of communicating with the fan base of virtual idols, I will have a sense of belonging", "I consider that self-satisfaction and identity will be obtained in participating in the creation of virtual idols", "Do you agree that people will have a sense of accomplishment in the growth of virtual idols?"

A total of 151 valid sample data were collected in this questionnaire investigation, and the sample group was mostly female, aged 18-30.

Table 1-Descriptive analysis of virtual idol contact and interaction

		Frequency	Percentage
Contact frequency of virtual idol content	0 Times	28	18.5
	1-5 Times	81	53.6
	6-10 Times	16	10.6
	More than 10 times	26	17.2
Virtual idol interactive behavior	0 Times	71	47
	1-5 Times	62	41.1
	6-10 Times	6	4
	More than 10 times	12	7.9
Virtual idol content contact time	Less than 30 minutes	111	73.5
	From 30 minutes to 1 hour	29	19.2
	1 hour-2 hours	2	1.3
	More than 2 hours	9	6

Firstly, the descriptive analysis of the content contact and interaction behavior of fans with virtual idols was obtained in Table 1. From Table 1, it can be seen that the frequency of fans' contact with virtual idol-related content is relatively low, and the frequency of browsing virtual idol content in the past month is mostly 1-5 times. The average time per touch with virtual idol content by fans is also shorter, concentrated in less than 30 minutes. In terms of interaction with virtual idols, the proportion of samples with less than 5 times reached more than 80%. Therefore, from the data point of view, people's contact with virtual idol-related content shows the characteristics of low frequency and low duration.

Table 2- Hypothesis testing

		Contact frequency of virtual idol content	Virtual idol interactive behavior	Virtual idol content contact time	Identity	Empathy
Contact frequency of virtual idol content	Pearson correlation	1				
	Sig. (Double-tail)					
	The number of cases	151				

Virtual idol interactive behavior	Pearson correlation	.614**	1			
	Sig. (Double-tail)	0.000				
	The number of cases	151	151			
Virtual idol content contact time	Pearson correlation	.546**	.515**	1		
	Sig. (Double-tail)	0.000	0.000			
	The number of cases	151	151	151		
Identity	Pearson correlation	.265**	.175*	.253**	1	
	Sig. (Double-tail)	0.001	0.032	0.002		
	The number of cases	151	151	151	151	
empathy	Pearson correlation	.383**	.322**	.348**	.778**	1
	Sig. (Double-tail)	0.000	0.000	0.000	0.000	
	The number of cases	151	151	151	151	151
** at level 0.01 (double tail) with significant correlation.						
* At level 0.05 (double tail) with significant correlation.						

Based on Pearson's correlation analysis, the relationship between the content contact behavior of fans and interactive behavior, identity and empathy for virtual idols was analyzed, and the above table was obtained. From the table, it can be seen that the degree of empathy of people for virtual idols shows a significant positive correlation with the frequency and time of their contact with virtual idol content, the frequency of interactive behavior of virtual idols, and the sense of identity of virtual idols. This shows that the stronger the individual's virtual idol content contact behavior, interactive behavior, and sense of identity, the stronger the degree of empathy for the virtual idol. The study hypothesis H1, H2, H3, and H4 are all supported.

5 Research Results and Conclusions

In this article, the empathy effect of virtual idol fan groups is used as a research

object to analyze the reasons for people's empathy for virtual idols. Through data collection, research and analysis, all of our research hypotheses were validated.

1.The time and frequency of exposure to virtual idols is positively correlated with people's empathy

The difference in the time and frequency of people's contact with virtual idols will affect people's empathy effect. This study observed that the more frequently you are exposed to virtual idol content, and the more time you spend on virtual idol-related content, the stronger people's empathy will be. This is because after accumulating information about virtual idols for a long time, this information will help people to infer the thoughts of virtual idols and feel the emotions of virtual idols. The more information an individual shares with a virtual idol, the easier it is to have an emotional connection with the virtual idol, and the higher the degree of empathy.

2.Interacting with virtual idols deepens people's empathy

People's interaction with virtual idols affects the degree of empathy of virtual idols, and the more fans interact with virtual idols, the easier it is to empathize. The main reason for this is that people interact with virtual idols, which will deepen the individual's understanding of virtual idols, and in participating in interactive behaviors, people also connect with virtual idols, becoming a window for fans to express their emotions, and people who actively participate in interaction also send a signal that they want to communicate in depth, and they can better understand the environment faced by virtual idols in interaction and reach emotional consensus. The emergence of interactive behavior also marks a further consensus between the individual and the background of the virtual idol, which gives the individual a unique sense of identity with the virtual idol.

3. The sense of identity with virtual idols makes people further emotionally resonate

The sense of identity that people develop in the process of interacting with virtual idols affects the degree of empathy that people develop. The data collected in this study shows that the stronger the sense of identity that people develop in interacting with virtual idols, the more likely they are to empathize. The main reason for this is that when individuals construct identity, it is in a certain social environment that individuals gradually form a sense of identity, confirmation and identity with the subject itself and

the virtual idol through self-reflection and interaction with the virtual idol. The image of the virtual idol provides a more three-dimensional, vivid and unfettered image for the individual, and satisfies the individual's yearning for the world where the virtual idol is located. This interaction between people and virtual idols is more likely to resonate emotionally.

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