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AN ANALYSIS OF INTRINSIC MOTIVATORS ABOUT THE EFFECT OF SOCIAL MEDIA USAGE ON ARTISTIC CREATIVITY IN UNIVERSITY IN CHINA

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Abstract. With the development of the information age, social media has become an important channel for students to communicate, interact and obtain information online. This research combines analyses of social media use and factors linked to intrinsic motivation to examine the influence of these factors on university students' creativity through the Internet. The discussion presented here starts from the viewpoint that intrinsic motivation plays an important role in the correlation between social media and students' creativity. This study randomly surveyed 416 students from Chinese universities majoring in art to investigate the impact of social media on their levels of creativity. The analysis focused on understanding these students' intrinsic motivation to engage in Internet use. The conclusions show that social media has a considerable impact on their creativity. Under the influence of intrinsic motivation, students' creativity can be considerably boosted. Furthermore, it also shows that different intrinsic motivations have different effects on creativity levels. Therefore, the study is suggested that the education sector in China still needs to pay more attention to the development of students' creative approaches to achieve better educational outcomes.

Keywords: artistic creativity, entertainment, immersion, information, intrinsic motivation, professional advancement, self-expression, social interaction, social media effect, university students.

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1. Introduction

Social media platforms have seen incredible growth and are now an integral part of people's everyday lives throughout the globe. Social media platforms are replacing more traditional means of self-expression, opinion sharing, information collecting, and communication (Choi & Sung, 2018).

One of the most widely used forms of communication in modern culture is social media. It is widely utilized and now plays a significant role in people's everyday lives. Traditional lives are being increasingly altered by social media, with a particular impact on youth. Social media has permeated practically every facet of social life and is no longer just used for basic social contact. In addition, social media affects innovative learning and is significant in domains including politics, healthcare, and education (Tang et al., 2021). The impact on the education sector has attracted the attention of educators.

Social media is the most widely used platform among students in the modern digital era. It offers several chances for open learning, including simple means of mutual contact, engagement, and cooperation. According to some authors (Ashraf et al., 2021), social media may function as an interactive platform that expedites the advancement of learning by promoting cooperation, reciprocal discourse, and idea sharing, ultimately enhancing learners' performance and behavior.

One of the competencies of the 21st century is creativity. It is a crucial part of the attitudes, abilities, and information that next social groupings will need. The development of students' creativity is a crucial component of scientific education, as creativity is a valuable ability for the society of the future (Skjelstad Fredagsvik, 2023). Additionally, Anthony Williams and Haugen Askland (2012) noted that creativity is "part of design, design process and de-marking education" and that art majors are directly tied to creativity.

The capacity to create new, acceptable, and aesthetically pleasing works of art is referred to as artistic creativity (Abraham, 2018). This includes a variety of activities in a variety of domains, including literary creativity, music improvisation, and creative drawing. All forms of artistic creativity reflects the expression of new ideas (Chen et al., 2020). The educational system is currently paying more and more attention to students' creative development in order to better reflect the growing value of creativity (Barbot et al., 2015). Art students also have more urgent requirements for creativity, and they hope to have better works.

Due to the broad breadth of information production on social media, students who utilize these platforms extensively will be more likely to share their knowledge with others. The study's findings show that social media use and intrinsic motivation have important impact on creativity (Hikmah et al., 2024). This study examines how social media affects students' artistic creativity through intrinsic motivators.

According to Smith and Gallicano (2015), when it comes to social media engagement, there are four major factors that have to be considered: information consumption, sense of self-presence, interest immersion, and social connection. Long before the scholarly community extended its attention to the impacts of social media, Nardi et al. (2004) proposed that this type of technology has a significant impact on self-expression, social interaction, entertainment, immersion, information, and career development. The following will introduce the 6 intrinsic motivators. This study shows these intrinsic motivations have varying degrees of influence on students' creativity.

1.1. Self-expression

Orehek and Human (2017) examined people's relationship with social media and concluded that many prefer to rely on these channels as a personal means of expressing self-worth. Following this perspective, there are three major reasons why people post content on their social media accounts. First, it promotes accurate self-knowledge. Second, it also has a positive impact on self-management. Furthermore, with the increasing use of social media platforms by young people, the online worlds promote inside each of these platforms increase people's sense of recognition and value of self-expression, which is also related to the continuous changes in the corresponding media. As such, it can be said that social media platforms have become an effective means of self-expression.

1.2. Social interaction

Kumari and Verma research (2015) found that due to the rapid development of social networking sites (SNSs), online communication has gradually replaced interpersonal and offline communication. This method has completely changed the communication dynamic of young people, and it has also affected the social attitude of students. The widespread use of smartphones has also opened up new communication channels for students, and popularised the use of SNSs that are no longer restricted to certain communities or stereotypes and can now be accessed by people from different locations and realities.

The concept of social media has attracted the attention of scholars worldwide. Fischer and Reuber (2011) examined the way social interaction plays a vital role in the realization of different types of jobs and projects and highlighted that even though the use of social brings changes to cycles of social interaction, we still get positive reinforcement to interact socially through social media. Hence, these platforms play a key role in the successful realization of projects. Bryant (2010) found that art creation projects also require effective communication, and claimed that social media increases mutual participation during the creation process. When students encounter problems in the creative process, they are inclined to seek relevant help through relevant media platforms, which is likely to result in positive outcomes. Heiser et al. (2008) found that creative interaction is one of the most important manifestations of creative technology use. In this context, social interaction and cooperation are important to promote the rapid development of creativity (Moran & John-Steiner, 2003). Social interaction in social media allows people to get quick and effective feedback during the interaction process, which is very helpful for creativity.

1.3. Entertainment

A contemporary study by Noguti and Waller (2020) proposed that people seek entertainment in different ways because they have different motivations to do so. Secondary motivations for entertainment include the sense of enjoyment and relaxation (Muntinga et al., 2011), but these feelings have also been impacted by the possibilities brought by the era of social media. Some authors (Hart et al., 2008) claimed that the pursuit of enjoyment and fun has become the target of people that are constantly engaging with social media. Complementarily, Noguti and Waller (2020) found that the emotions of people who are goal-oriented to use social media are likely to turn towards entertainment, which shows that social media use is often linked to specific motivations behind the way people fulfill their needs for entertainment and relaxation.

1.4. Immersion

According to Sanabria and Arámburo-Lizárraga (2017) when people go through the process of gradual immersion method, their collaborative creativity can be considerably enhanced, mainly through interactive devices and augmented reality, facilitating creative learning. Witmer and Singer (1998, pp. 224–225) defined immersion as "a mental state characterized by the belief that one is surrounded by and interacts with an environment that provides continual stimulation and experience". When immersion happens, participants can experience it in different contexts according to the activities that are part of their realities (Csikszentmihalyi, 2013, pp. 1–16).

Some authors (Jennett et al., 2008) believe that immersion has three major characteristics: (1) lack of time perception, (2) loss of awareness of the real world, and (3) deep experience of participation in the task environment. They have also suggested that when students use social media for a long time and pay special attention to the content in it, they will inevitably trigger a sense of immersion, which may cause time wasting and have negative effects on their routines and skills. However, if students are immersed in relevant inspiration during the process of creating works, this will help them to generate creativity.

1.5. Information

Many contemporary studies have shown that the use of information technology and the sharing of knowledge information are advantageous strategies for solving problems in a timely and effective manner (Young Choi et al., 2010). Some authors (Popescu et al., 2019) claimed that integrating information can improve innovation performance and is a key source of competitive advantage, a perspective that is aligned with Prokop and Stejskal's (2015) idea that reconstructing the cognitive structure from a new perspective requires a process of information integration and Todorova and Durisin's (2007) idea that one's ability to effectively process knowledge information is an advantage in a competitive scenario. Therefore, effective integration of information can improve innovation, enhance competitive advantage, and reflect unique creativity.

1.6. Professional advancement

Following the claims of Bernhardt et al. (2014), social media have become a powerful and important means of communication that can be used in various ways for various purposes, *e.g.*, education and professional development. This is related to the fact that an abundancy of content can be shared in social media and used by professionals of different fields for their personal growth. If social media is rely a place to consume and share knowledge, then the advantages and benefits of social media use for professional development far outweigh the risks of implementing this new technology in our lives. It is also important to consider that social media platforms also have the potential to help raise connect people seeking for new opportunities to network and broaden their field of expertise (Bernhardt et al., 2014). By using social media accounts, people can connect with professionals or organizations all over the world, share professional updates, and explore opportunities for career growth (Komljenovic, 2019). This also shows that when communicating with different professionals through social media platforms, different ideas will be generated, thereby improving creativity.

Intrinsic motivation comprises concepts such as self-expression, social interaction, entertainment, immersion, information, and professional advancement. Through the analysis of intrinsic motivation, it can be shown that the relationship between social media and creativity.

2. Theoretical foundation

This theoretical framework (Figure 1) has been formulated on the basis of stimulus organism response theory. In stimulus organism response theory, the model argues that stimulus (S)

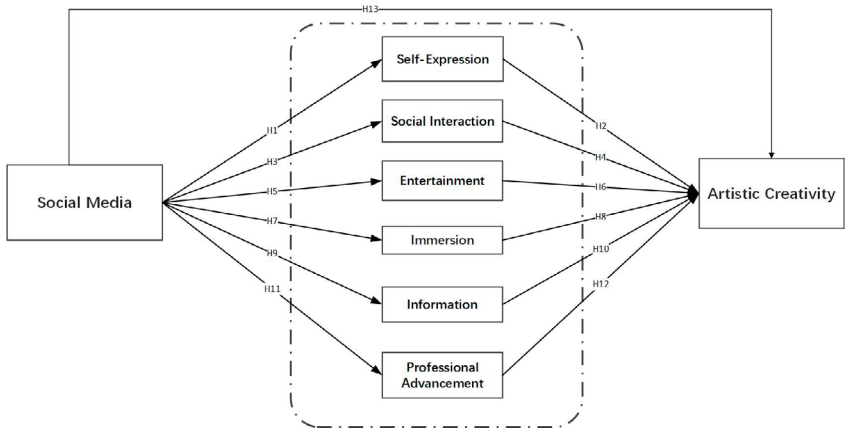

Figure 1. Theoretical framework of the study (source: created by authors)

influences organism (O), which in turn impacts behavioral responses (R). "This model that stimuli from the environment will affect individual cognitive and emotional responses, leading to certain behaviors" (Mehrabian & Russell, 1974).

We can say that students get stimulation (S) in the form of using social media. Intrinsic motivation after the stimulus affects the student's organization (O), thereby making the student creative as a response (R).

3. Hypotheses development

If we consider that nowadays, people increasingly rely on social media platforms to express themselves positively and accurately, then it is suitable to claim that the value of self-expression is at its highest level (Orehek & Human, 2017). Ellison et al. (2011) found that social networking services (SNSEs) have become a necessity in the daily life of people in the past decade. SNSEs have changed and replaced previous means of social interaction, access to information, sharing of opinions, and self-expression (Ellison et al., 2011; Ku et al., 2013; Lee et al., 2015). As the needs of the audience increase and change, other types of SNSEs also emerged and became popular because of their unique functions that impact our communication dynamic. At the same time, the way people express themselves is also changing, and platforms are shifting from text-based communication to image-sharing communication, which has also triggered the change of SNSEs from simple technological platforms to instrumental venues for self-expression (Baumeister & Leary, 1995; Thorkildsen & Xing, 2016). Thus, the following hypothesis is proposed:

H1: Social media influences motivation for self-expression.

Lassig (2013) found that the creative type of self-expression manifests itself as participants view creativity as a way of expressing or externally representing their personality, experiences, emotions, or thoughts, and people tend to pursue all of that through their internally preferred medium. Most manifestations of creative self-expression use the genetic estimation and inference in structured samples method, which is based on the aggregation of ideas

and experiences. Whiting and Hannam (2014) suggest that various social media platforms provide spaces for self-expression that can enhance individual creativity. Acar et al. (2021) research shows that positive self-expression is more useful for creative performance. Using social media to express ideas and collect relevant information is also more helpful for creative activities. Therefore, encouraging students' positive self-expression plays an important role in improving creativity. Thus, the following hypothesis is proposed:

H2: Motivation for self-expression influences artistic creativity.

SNSs are defined as platforms for people to communicate quickly and keep in touch with the world by connecting with other individuals and generating social interactions (Fischer & Reuber, 2011). In social networking platforms allow, participants can go online for a variety of purposes, *e.g.*, strengthening communication, maintaining relationships (Dwyer et al., 2007), sharing knowledge and experiences, or seeking advice or help (Liccardi et al., 2007). Castellano et al. (2009) found that various social media brands have experienced explosive growth in the past decade and categorizes these channels as "fertile ground" for unprecedented social interaction.

Whiting and Williams (2013) found that 88% of respondents mentioned using social media for social interaction. Taking into consideration that this technology allows people to meet online and create even more connections via social media than face-to-face interactions, social platforms become a means to build social life. In fact, for today's students, using social media to social interaction is the norm (Abi-Jaoude et al., 2020). Thus, the following hypothesis is proposed:

H3: Social media influences motivation for social interaction.

Social interaction and creative skills play a crucial role in stimulating and nurturing creativity (Casakin, 2007; Johannessen & Olsen, 2011). Some authors (Ekstedt et al., 1999) found that in professional contexts, social interaction can ensure positive learning outcomes and help people express creativity. Social interaction aims to balance stability and change, promoting vitality and creativity (Johannessen & Olsen, 2011).

Furthermore, a lot of scholars have dedicated to understand how cooperation and social interaction can stimulate creativity (Edmond et al., 1999; Fischer, 2003; Mamykina et al., 2002; Shneiderman, 2000), making important claims regarding the correlation between these topics. Casaló et al. (2021) confirmed that perceived creativity is an important aspect of social media. Social interaction is an important form of expression on social media. Therefore, there is an important connection between social interaction and creativity. Thus, the following hypothesis is proposed:

H4: Motivation for social interaction influences artistic creativity.

Social media is now also seen is a provider of entertainment, which has a significant impact on users' sustainable willingness to continue using specific SNSs (Chang et al., 2015; Hsu et al., 2015; Ku et al., 2013; Ifinedo, 2016; Zolkepli & Kamarulzaman, 2015). Therefore, the sustainable development of SNSs is inseparable from the important value factor of entertainment. Social media is no longer just an easy way to search for knowledge and share information and has become a virtual environment where people can look for leisure and entertainment (Balakrishnan & Chin Lay, 2016).

A vast majority of social media studies have focused on interactions between people and the digital world, especially video games and virtual spaces, adding knowledge the entertainment aspects of SNSs (Christou, 2014; Burns & Fairclough, 2015). Based on this scenario, the following hypothesis is proposed:

H5: Social media influences motivation for entertainment.

Tu et al. (2015) showed that although social media entertainment has been less studied in the context of creativity, many studies have already proved that there is a solid relationship between entertainment and creativity. Leng (2010) linked abstract concepts to concrete game experiences in their research and found that online games contribute to the development of creativity and problem-solving skills. Gaming entertainment can have different structures for players and is considered to be one of the key factors in fostering creativity (Kiili, 2005). Some authors (Hall et al., 2020) conducted a recent study involving creativity in digital games and illuminating how games may support and promote creativity in players, and showed that digital games can positively contribute to the development of creativity. Thus, the following hypothesis is proposed:

H6: Motivation for entertainment influences artistic creativity.

Csikszentmihalyi (1997) found that social media has been widely developed and used until it became an integral part of young people's lives. This particular group of people, because of generational features, experience an immersive flow state while engaging in online activities, so their focus on social media come without distractions. Therefore, we argue that when young people have positive social media attitudes, they are more inclined to get immersed in social media activities.

Immersion arises from an individual's interaction with the social media environment and depends on the habits of social media use. Focused social media use (free from distractions) is often referred to as a type of immersion (Burns & Fairclough, 2015; Hamilton et al., 2016; Liu et al., 2018). Some authors (Chen et al., 2017) pointed out through the application of the flow theory proposed by Csikszentmihalyi (1997) that the use of social media enables young people to enter an immersive state of flow, so that they have a better understanding of how to experience this type of technology.

Engaging in social media can also lead to full immersion through undivided engagement and emotional investment (Brown & Cairns, 2004; Cuny et al., 2015; Arzate Cruz & Ramirez Uresti, 2017). Some authors (Sundar et al., 2010) suggest that the transition from social media use to immersion depends on the level of interest in the social media domain. The concept of interest immersion is consistent with Oh et al. (2010) definition of "engagement" as the active process of immersion in social media content. Interest immersion may represent emotional need gratification that is critical to driving social media use (Wang et al., 2012). Thus, the following hypothesis is proposed:

H7: Social media influences motivation for immersion.

Sanabria-Castro et al. (2017) found that the progressive immersion method aims to enhance collaborative creativity using interactive devices and augmented reality to support creativity-based learning in different fields, *e.g.*, science, technology, engineering, mathematics, and arts. Frasca (2001) suggested that some video games can be immersive in the form of simulators, enhancing the stimulation of creativity. It can be seen that the interactive nature

of social media provides an immersive environment, which provides powerful help for artistic creativity learning. Thus, the following hypothesis is proposed:

H8: Motivation for immersion influences artistic creativity.

The continuous development of communication technology has increased the interoperability of people sending and receiving information. Nowadays, the most popular information technology is social media, which has gradually become the main source of information among people that use it every day (Pepitone, 2010). Fox (2011) suggests that people use online social media to gather information, share stories, and discuss issues, which is in line with Papacharissi and Rubin's (2000) idea that in the era of information search and Internet use, the majority of people use social media to find and obtain information.

Whiting and Williams (2013) concluded that the idea of "information sharing" in this era refers to using social media to share relevant information with others, which is a completely different approach compared to other communication channels such as television and newspapers. Furthermore, social media is not a one-way passive reception of information; it is interactive and allows people to communicate and share information in a two-way manner. Students often use social media for information exchange, which is one of the purposes for their participation and use of social media (Hosen et al., 2021). Thus, the following hypothesis is proposed:

H9: Social media influences motivation for information.

Some authors (Kuzmina et al., 2019) found that the use of big data information technology has an impact on the development of students' creative ability. This approach is helpful for developing specialist capabilities and generating new creativity. Other authors (Stukalova, 2018) have studied the main function of organizational information and concluded that it is developed under the influence of students' creative self-actualization. Simultaneously, instances of students' successful creative self-realization in information were identified.

According to some authors (Kostopoulos et al., 2011), an organization's ability to absorb information has an impact on its innovation performance. In their research, they confirmed that the continuous development of knowledge information and the display of information diversity are associated with creativity. Since the scholarly community agrees on the existence of this correlation, the following hypothesis is proposed:

H10: Motivation for Information influences artistic creativity.

Kim and Cha (2017) paid attention to the information sharing status of social media users and concluded that active sharers tend to get more attention from professionals, hence obtaining effective professional information and better development opportunities.

The point of social media is to properly understand and adopt various tools to keep people informed of recent facts and trends, which can positively impact professional development and this is why a lot of people seem to be actively embracing this change (Pathak, 2018). With that in mind, the following hypothesis is proposed:

H11: Social media influences motivation for professional development.

Mir-Hosseini (2002) has shown that providing information on creativity-focused approaches can change the way traditional education is done, facilitating changes in expertise to incorporate new skills appropriate for the development of students' creativity. In the field of student learning, professional development information can be used as a factor to enhance

creativity, so it plays an important role in the development of creative skills within the education system (Sternberg, 2003).

Professional agency and creativity at work are essentially the same as professional development and learning at work, for example, in terms of offering, willingness to self-develop, share and engage with expertise (Collin et al., 2017). In a review by Hosseini and Watt (2010), it was pointed out that several studies have proved that it is possible to promote change in artistic creativity as a result of professional advancement. Thus, the following hypothesis is proposed:

H12: Motivation for professional advancement influences artistic creativity.

Kumar and Nanda (2019) showed that social media provides great opportunities for higher education in terms of student engagement and development in a very constructive way. Successful social media campaigns can be developed by educational institutions based on their curriculum frameworks and help students get the most out of their education.

Chai and Fan (2018) highlighted that social media plays a key role in the development of knowledge systems and creativity and suggested that there is a positive correlation between the usability dimension of social media and the dimension of creative expression.

An increasing amount of research on social media and student learning behavior has been published in the past decades, and scholars have been paying particular attention to the potential use of social media to develop personal knowledge systems (Arif et al., 2022; Lu et al., 2016; Bennett et al., 2012). Learning is now defined as the ability to seek ways to improve innovation and upgrade knowledge structures, not just knowledge accumulation. This increased and strengthened ability is the most modern representation of "creativity" (Bhatt, 2000). Social media has affirmed its potential role in seeking to improve innovation and enhance creativity in the learning process.

Some authors' (Malik et al., 2020) most recent study showed that student use of social media is positively correlated with academic performance and creativity. Furthermore, intrinsic motivation was found to mediate the relationship between social media use, student academic performance, and levels of creativity. Thus, the following hypothesis is proposed:

H13: Social media influences artistic creativity in Chinese university students.

4. Methodology

The main aim of this study is the impact of intrinsic motivation factors on college students' creativity under the influence of social media. The research objective is to discover the impact of different intrinsic motivations on their creativity levels by understanding the intrinsic motivations of college students to participate in social media use.

This is a quantitative study. This survey is only carried out on Chinese university campuses, and the samples are all university students majoring in art, and the demographic information has been determined.

Based on the content of the theoretical framework, a survey questionnaire is designed to measure the relationship between variables. A questionnaire is an instrument used by scholars to reach many respondents with ease (Clark & Maguire, 2020). In this study, a questionnaire was used to collect data from the survey to validate the model. Based on the content of

the theoretical framework, a survey questionnaire is designed to measure the relationship between variables. The study variable is measured on a five-point Likert-type scale, in which it ranges from 1 (strongly disagree) to 5 (strongly agree).

The questionnaire consists of 8 parts, each of which corresponds to the 8 variables in the framework, and was developed from existing research. Two professors and professionals reviewed and finalized the instruments used, thus ensuring the appropriateness and validity of the content. Before starting the formal survey, 60 students participated in a pilot study. The Cronbach's alpha values of all construction pilot results are higher than 0.70, further verifying the reliability of the instrument.

This survey uses convenience sampling. Considering the huge number of people in the study, convenience sampling is used in this survey. Convenience studies based on specific populations can also yield valid results when faced with a huge number of samples (Stratton, 2021).

There are a total of 19 072 undergraduate students in the art major of this university. After distributing 800 questionnaires, those unwilling to participate in this research and unqualified questionnaires were removed, and finally, 416 valid questionnaires were collected.

The required sample size for convenience sampling follows this formula:

$$n = (Z^2 * p * (1-p)) / E^2$$

At the 95% confidence level, the margin of error is 5%, and P = 0.5. So, the required sample size is 377. Therefore, the sample size was 416, which reached more than 95% confidence level in this study.

The *SmartPLS* software was used to analyze the survey data. The statistical analysis and hypothesis testing for inference will be performed using *SmartPLS* version 4. Given that *SmartPLS* can run both structural and measurement models, the software selection is important (Sander & Lee, 2014). *SmartPLS* has the capacity to examine the relationship between the latent variables and their items at once, and this is referred to as the measurement model (Hair Jr. et al., 2020). Some authors (Hair Jr. et al., 2024) also indicated that *Smart-PLS* can effectively run structural models. In general, *Smart-PLS* "provides the results of all types of variables, whether they have metric, quasimetric, sequential, or classification scales" (Sarstedt et al., 2017), a situation similar to the variable composition in this study.

The survey data for this research comes from undergraduates majoring in art in Chinese university campuses. Therefore, the age range of sampling is between 18–22 years old. The sampling time is January, 2023.

This research uses the distribution and collection of online questionnaires. It can reduce the risk of direct contact brought about by the coronavirus disease 2019 (COVID-19 pandemic) epidemic (Nazar et al., 2020). Online surveys have significant advantages, such as simplicity and speed, and researchers can obtain data more conveniently (Singh & Sagar, 2021). The most commonly used online survey platform in China is *Wenjuanxing*.

Because the respondents are all Chinese, the questionnaire was completely translated into Chinese to ensure the reliability of the survey (Shan et al., 2022), and the translation of the questionnaire was reviewed by language experts.

The study plan was ethically approved by Universiti Sains Malaysia (Malaysia) with approval number USM/JEPeM/22090590, and then demographic and questionnaire surveys began.

Table 1 shows the demographic profile of the survey participants. Participants were undergraduates majoring in art in Chinese universities (n = 416), accounting for 100%. The age group of the participants is from 18 to 22 years old, which is also divided according to the four grades of Chinese universities to ensure the correctness of the participants' feedback data. From the statistical analysis of population data, the ratio of male to female is relatively average, 45.91% and 51.68% respectively. Most of the students have been able to complete art works independently, and the proportion is 73.80%. However, there are not many students who create a large number of arts works. The number of created works is mainly concentrated in 1 or 2 works, accounting for 30.29% and 24.28% respectively.

Table 1. Respondents' demographic profile (source: created by authors)

		Total N = 416	
		Frequency	%
Age	18–19	110	26.44
	19–20	102	24.52
	20–21	101	24.28
	21–22	103	24.76
Gender	Male	191	45.91
	Female	215	51.68
Duration of learning art	Below one year	110	26.44
	One year – two years	103	24.76
	Two years – three years	101	24.28
	Above three years	102	24.52
Have completed art works independently	Yes	307	73.80
	No	109	26.20
Number of completed art works frequency of social media use per day	0 1	109 126	26.20 30.29
	2	101	24.28
	3 4 or more < 2 hour 2–3 hour 3–4 hour > 4 hour	65 15 19 205 159 33	15.63 3.60 4.57 49.28 38.22 7.93

5. Results

5.1. Measurement model

A variance-based structural equation model was used to evaluate the measurement and structural models of this study, and *Smart-PLS* (4.0) software was used as an evaluation tool.

The construct reliability of the measurement model is tested, and Table 2 shows that it passes Cronbach's alpha and composite reliability, reflecting convergent and discriminant validity. Factor loadings and average variance extracted (AVE) are also shown to reflect the convergent effectiveness of the structure.

All fact loadings exceed 0.7 and AVEs exceed 0.5, which means that all items have high confidence (Park et al., 2021).

The Cronbach's alpha is between 0.736–0.876, and the composite reliability is between 0.732–0.877, to support the internal consistency of all the subscales, as well as the construct and discriminant validity of the instrument (Ács et al., 2020).

Figure 2 shows the reliability of the complete outer model, reflecting the internal consistency of the model proposed in this study.

Table 2. The measurement model assessment results (source: created by authors)

Construct	Item	Loading	Cronbach's alpha	Composite reliability	Average variance extracted
Social media	SM1	0.751	0.873	0.876	0.567
	SM2	0.752			
	SM3	0.725			
	SM4	0.750			
	SM5 SM6 SM7	0.759 0.783 0.748			
Self-expression Social interaction Entertainment	SE1	0.770	0.821	0.827	0.651
	SE2	0.790			
	SE3	0.835			
	SE4	0.831			
	SI1	0.760	0.769	0.771	0.592
	SI2	0.711			
	SI3	0.820			
	SI4	0.782			
	EN1	0.743	0.730	0.732	0.552
	EN2 EN3 EN4	0.735 0.744 0.750			
Immersion	IM1	0.833	0.786	0.795	0.608
	IM2	0.737			
	IM3 IM4	0.771 0.775			
Information	IN1	0.760	0.777	0.778	0.599
	IN2	0.788			
	IN3	0.783			
	IN4	0.764			
Professional advancement Artistic creativity	PA1	0.799	0.778	0.781	0.600
	PA2	0.757			
	PA3	0.766			
	PA4	0.776			
	SC1 SC2 SC3 SC4 SC5 SC6 SC7	0.784 0.769 0.736 0.756 0.750 0.756 0.751	0.876	0.877	0.574

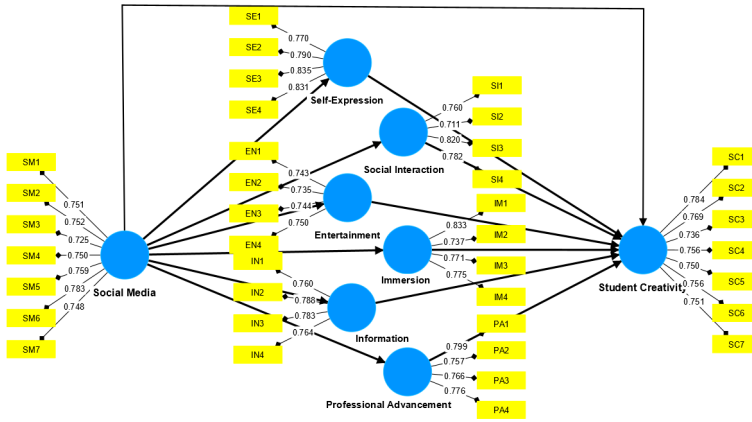

Figure 2. Measurement model (fact loading and Cronbach's alpha) (source: created by authors)

The assessment of discriminant validity can be done by two informative methods: Fornell–Larcker criterion (FLC) and heterotrait-monotrait ratio (HTMT) (Afthanorhan et al., 2021).

Table 3 shows that all scales have values below 0.9 in HTMT criterion (Cheung et al., 2024). Table 4 shows the square root of each construct's AVE gets a greater value than the correlations with other latent constructs in FLC (Hair Jr. et al., 2021, pp. 78–80).

Therefore, the validity of the survey data can be judged by both FLC and HTMT criteria.

Table 3. Discriminant validity (heterotrait-monotrait ratio criterion) (source: created by authors)

	1	2	3	4	5	6	7	8
1. Entertainment								
2. Immersion	0.677							
3. Information	0.699	0.564						
4. Professional advancement	0.762	0.782	0.705					
5. Self-expression	0.704	0.679	0.691	0.727				
6. Social interaction	0.744	0.711	0.809	0.787	0.786			
7. Social media	0.697	0.644	0.812	0.701	0.726	0.786		
8. Artistic creativity	0.744	0.839	0.675	0.836	0.746	0.782	0.749	

Table 4. Discriminant validity (Fornell-Larcker criterion) (source: created by authors)

	1	2	3	4	5	6	7	8
1. Entertainment	**0.743**							
2. Immersion	0.515	**0.78**						
3. Information	0.529	0.447	**0.774**					
4. Professional advancement	0.58	0.617	0.551	**0.775**				
5. Self-expression	0.55	0.552	0.553	0.588	**0.807**			
6. Social interaction	0.56	0.56	0.625	0.611	0.625	**0.77**		
7. Social media	0.562	0.543	0.673	0.585	0.622	0.647	**0.753**	
8. Artistic creativity	0.599	0.703	0.559	0.695	0.637	0.643	0.662	**0.758**

5.2. Structural model

This study evaluates a structural model that examines the relationship between variables in a theoretical framework. To this end, the bootstrapping resampling method is adopted, and it is set to 5000 re-samples and 95% bias-corrected, so as to achieve the significance purpose of accelerating research structure path coefficient and determination coefficient in data analysis. Table 5 presents all 13 results of hypotheses in the structural model (Figure 3).

Among them, the *p*-values of H1, H3, H5, H7, H8, H9, H11, H12, and H13 in the variable effect test are all 0.000 and less than 0.001, so they all show a strong significant positive impact (Singh 2013):

In the detection of variable effects, the *p*-value of the effect of self-expression on artistic creativity (H2) is 0.020, (0.01 < p < 0.05), showing an influential positive effect;

In the detection of variable effects, the *p*-value of the effect of social interaction on artistic creativity (H4) is 0.042, (0.01 < p < 0.05), showing an influential positive effect;

In the detection of variable effects, the *p*-value of the effect of entertainment on artistic creativity (H6) is 0.035, and (0.01 <p < 0.05) shows an influential positive effect;

In the detection of variable effects, the *p*-value of information's effect on artistic creativity (H6) is 0.783, (p > 0.05), showing no effect.

Table 5. Hypotheses testing results (source: created by authors)

Hypothesis/relationship		Standard beta	Standard deviation	*t*-value	*p*-value	Decision
H1	Social media -> self-expression	0.622	0.03	20.778	0.000	Accept
H2	Self-expression -> artistic creativity	0.114	0.049	2.327	0.020	Accept
H3	Social media -> social interaction	0.647	0.033	19.776	0.000	Accept
H4	Social interaction-> artistic creativity	0.093	0.046	2.032	0.042	Accept
H5	Social media -> entertainment	0.562	0.038	14.723	0.000	Accept
H6	Entertainment -> artistic creativity	0.096	0.045	2.104	0.035	Accept
H7	Social media -> immersion	0.543	0.04	13.494	0.000	Accept
H8	Immersion -> artistic creativity	0.303	0.046	6.639	0.000	Accept
H9	Social Media -> information	0.673	0.033	20.51	0.000	Accept
H10	Information -> artistic creativity	0.013	0.046	0.276	0.783	Reject
H11	Social media -> professional advancement	0.585	0.032	18.269	0.000	Accept
H12	Professional advancement -> artistic creativity	0.219	0.045	4.893	0.000	Accept
H13	Social media -> artistic creativity	0.176	0.048	3.675	0.000	Accept

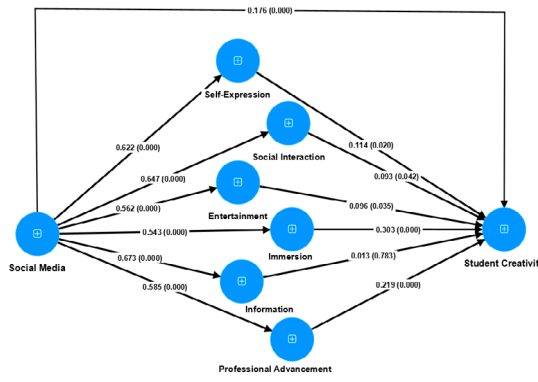

Figure 3. Structural model (source: created by authors)

6. Discussion

It can be seen from the data analysis that the ratio of male to female is relatively average, accounting for 45.91% and 51.68% respectively. The population distribution of the four-year university according to the age group from high to low is 26.44%, 24.52%, 24.28%, and 24.76%. The percentages of learning art time from short to long are basically consistent with the university grades, which are 26.44%, 24.76%, 24.28, and 24.52%, respectively.

The data also showed that most of the students (73.80%) can complete art works independently, and the number of completed art projects remains in the small range – one or two – accounting for 85.82% of the total. Considering the frequency of daily use of social media, 49.28% of students claimed to use 2–3 hours a day, 38.22% use 3–4 hours a day, and most of them were categorized beyond the normal average. Just 4.57% of the students were considered to use social media less than the average, and 7.93% of students were identified as "spending too much time online frequently".

According to the results of data analysis, social media has a significant positive effect on all intrinsic motivations of students' creativity levels, which is consistent with the claims in hypotheses 1, 3, 5, 7, 9, and 11. Recently, some authors (Kusurkar et al., 2021) found that motivation was positively correlated with the use of effective learning strategies, and other scholars have also reported that students' abilities are likely to be affected by new technologies that can also have an impact on their learning motivation, generating creativity, and academic achievements (Lepper & Malone, 2023). This study also shows that the intervention of social media as a new technology has a significant positive effect on students' intrinsic motivation. Students are provided with intrinsic motivators of self-expression, social interaction, entertainment, immersion, information, and professional advancement, thereby generating creativity.

Overall, scholars agree that intrinsic motivation has a deep influence on artistic creativity, a claim that is consistent Hartnett's (2019) idea that that when students learn through mobile and online technologies in education, they tend to feel more motivated to improve their professional performance. However, it is noteworthy that different intrinsic motivations have different effects on students' creativity. Our data showed that immersion and professional advancement have a significant positive effect on artistic creativity, which is consistent with hypotheses 8 and 12. Other factors such as self-expression, social interaction, and entertainment also have positive effects on artistic creativity, a result that is consistent with hypotheses 2, 4, and 6. In this study, in addition to reaffirming the influence of intrinsic motivation on artistic creativity, what distinguishes it from other studies is the study of the different levels of influence of different intrinsic motivations on artistic creativity. This provides a clearer explanation of the impact of intrinsic motivation on artistic creativity.

The outcomes of our analyses also confirmed that social media has a significant positive effect on students' creativity, which is consistent with hypothesis 13. This is similar to the results obtained by some authors (Malik et al., 2020; Ansari & Khan, 2020) after investigating the relationship between students' use of social media, academic performance, and creativity in the digital age.

However, according to the results of data analysis that Information has no direct effect on students' creativity, a conclusion that refutes hypothesis 10.

Information literacy, as a basic requirement for entering the field of the information age, requires the ability to help people identify the information they need and begin to place, evaluate, and use it effectively (Raeis et al., 2013). Information literacy is a critical skill set for people and organizations in the digital age. It is described as the capacity to recognize information requirements, get necessary information, and assess and use information (Wu, 2019). According to the research of the above-mentioned researchers, no matter in the early days or in the recent past, it is impossible to influence creativity simply through information. It must have the ability to identify and obtain effective information through information literacy in order to have an impact on creativity. In this study, the researchers also found that college students were weak in assessing and obtaining effective information, which may be the reason why it was not established in hypothesis 10. Additionally, different studies have shown that social media has a positive relationship with creativity. The study data showed that intrinsic motivation may mediate the relationship between students' social media use and creativity, which is consistent with what some authors (Malik et al., 2020) suggested about this phenomenon.

7. Conclusions

7.1. Theoretical significance

Based on the stimulus-organism-response theory, this study puts forward a discussion about the influence of social media on students' creativity through intrinsic motivation. The significance of the model is demonstrated through a quantitative survey involving 416 student participants, with results that showed that social media has a significant positive impact on students' creativity though intrinsic motivators. This has been widely supported by other scholars who looked into this correlation and put forward similar conclusions (Hartnett, 2019; Fan & Cai, 2022; Malik et al., 2020). The research of these researchers shows that how to improve creativity has always been a topic of concern to scholars. Intrinsic motivation is an integral part of learning, success, and innovation. Students' use of social media was positively related to their creativity, and intrinsic motivation was found to be a very important factor between students' use of social media and creativity.

In this study it was shown that social media indeed has a significant positive effect on students' artistic creativity though intrinsic motivators. One of study most important outcomes is that it analyses showed that the specific manifestations of intrinsic motivation have different levels of effects on students' artistic creativity, and these potential variations are also worthy of further examination. Future studies can start from the viewpoint suggested by some authors (Mabbe et al., 2019) that intrinsic motivation can predict the effectiveness and functions of higher education.

7.2. Practical significance

Students' creativity plays a very important role in practical education, and now it has attracted the attention of many educational circles (Kumar & Nanda, 2024). Higher education sees creativity as an integrated talent, with the ability to produce unique ideas, result-orientation, and problem-solving abilities. The word *creativity* is used more frequently in Chinese eco-

nomic growth plans, and it is stressed that reforms to the country's educational system are essential to ensuring that students in academic institutions are effectively developing their creativity. Most of the discussions about the essentiality of creativity taps into the purpose of education, which is to cultivate the development of students. According to some authors (Vygotsky, 1967), one of the most appropriate ways to achieve this goal is to cultivate students' creative thinking as a means to improve their levels of creativity. In the social media era, these technological platforms seem to be triggering positive impacts on students' creativity and awakening new perspectives to understanding the motivations behind creative works. The study outcomes showed that under the influence of intrinsic motivation, students' creativity can be considerably boosted, a correlation that is worthy of more in-depth examination.

7.3. Limitations and future directions

It is noteworthy that the samples used in this study comprised only students majoring in art in China. The samples are relatively concentrated and may not be able to explain the situation of other majors. Secondly, this study focused on analyzing intrinsic motivation variables, leaving room to other variables that still need to be considered in future related works.

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