

Comparing Chinese and European Adolescents: A Cross-Cultural Analysis of the Impact of Virtual Community Participation

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Abstract. The way that the younger generation communicates has been influenced as they are more accessible to the internet. Both Chinese and European adolescents start to participate in online groups and communities regardless of their cultural backgrounds. This study investigates how social cognition and group identity of Chinese and European adolescents are influenced in virtual community participation, and illustrates the impact on social cognition and group identity among these groups. Based on social identity theory and computer-mediated communication theory, this study examines the differences in psychological patterns and motivations between Chinese and European adolescents when they participate in the online community. Several factors, such as seeking emotional support, developing social skills and expressing self-identity, are highlighted in this study. However, the risk of cognitive bias and the decrease in offline interaction need to be considered. A diverse cultural background is the core factor resulting in different participation. For instance, Chinese adolescents tend to seek social interaction in online communities, but European adolescents are likely to express themselves. Moreover, this research provides practical implications for promoting adolescent mental health and cross-cultural communication.

1 Introduction

With the rapid development of technology and online communities, the internet is becoming increasingly familiar to the public, especially for the younger generation. The internet has not only affected the ways individuals work but also caused a huge shift in how they communicate. The emergence and popularity of social media, as widely accepted communication platforms, are recognised and used by an increasing number of young people. Different individuals can post their daily lives online, having the opportunity to discover friends with the same interests, and make communication at work more convenient. Adolescents, as the first generation to be exposed to the internet and social media in the recent new digital age, adapt well to the online environment and delight in it. As teenagers grow and technology advances, the length of time they access and consume media naturally changes as well. 69% of 12 to 15-year-olds in the UK now have a social media profile [1].

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Most teenagers and children between the ages of 8 and 18 own their own devices for online platforms, showing their preferences on Netflix and YouTube rather than TV channels or broadcasts. In addition, some teenagers are even multitasking, which means they are using one device and browsing another online platform at the same time [1].

Online communities are defined as social aggregations that exist on the internet, where interaction occurs through technology [2]. They are linked with mental health impacts through their roles of influencing how people interpret, maintain, and interact with social networks [2]. Online communities usually consist of members with diverse social backgrounds and personal characteristics, but they share obvious similarities in their interests and attitudes [3]. For example, social networking groups and online forums offer a space to communicate and entertainment, and meanwhile, it is one of the important factors that shape adolescents' social behaviours. Topics and contents in virtual communities affect their personal and social identity, leading to biased cognitions. When young generations prefer to attend social activities online, the functions of face-to-face communication are weakened, and consequently, there will be a lack of offline interactions in the real world [3]. Notably, online social connections reinforce a sense of belonging and identity. However, excessive use of virtual communities links digital information to negative identity-related issues, such as harassment, sexual exposure and disease involvement.

Combined Social Identity Theory and Theories of Computer-mediated Communication, this research uses the online participation of adolescents in China and Europe as a research context, contributing ideas on the differences in how virtual community participation affects social cognition bias and group identity among Chinese and European adolescents.

2 Literature review

As the trend of digitalisation is becoming increasingly significant, virtual communities begin to play a core role in the daily lives of the young generation, especially teenagers. These newly rising platforms are now very crucial for the development of their self-identities and social communications. Therefore, online chat groups, themed forums, and other similar virtual socialising methods are providing new opportunities for social interactions as well as shaping cognitive standards or group identities. Virtual communities are mainly divided into six groups, involving Academic virtual communities, Educational virtual communities, Information virtual communities, Multimedia virtual communities, Professional virtual communities, and Virtual communities for communication [4]. All virtual communities, regardless of their different types, are built on the same key foundation: community identity, which constitutes a specific form of social identity. Social identity is a broader concept, emphasising an individual's sense of belonging to social groups based on shared characteristics like nationality, gender, or profession, while community identity is the phenomenon under specific conditions, held and developed from close, localised interactions within a particular geographic or interest-based community. When teenagers spend time online, they are more likely to join and be interested in a particular part. Around 71% of young people worldwide are users of online platforms, which is far higher than the 48% average global population usage. Europe is the dominant contributor to these data, with 97% of teenagers being Internet and virtual community users [5]

The impact of virtual communities on young people is a double-edged sword. On the one hand, the forum community can help teenagers to practice skills of deep discussions, logical expressions, and critical thinking ability from the aspect of having sufficient knowledge for socialising. From a positive perspective, teenagers can improve communication literacy while participating in virtual communities. Cobb's social support theory suggests that the support from online virtual communities is helpful for individuals to cope with stress and enhance mental well-being [6]. However, on the other hand, the information cocoon formed

by the algorithm from online platforms may narrow the breadth of knowledge. Overly anonymous interactions cause a weakened ability to analyse and interpret information when communicating offline. Extended use of virtual community, appealing content, and the sense of belonging give people the motivation to concentrate more online instead of offline. This is one of the main reasons why people can be easily addicted to online communities [7]. Furthermore, study shows that teenagers' internet usage consumption behaviours are not only closely correlated to cognitive bias and the risk of mental health disorders but also to their physical activity habits [6]. When it comes to the aspect of community identity, virtual communities with the gradience of interests can meet the personal identity expression needs for teenagers and strengthen their sense of belonging. On the contrary, excessive use of social platforms may lead to alienation from offline lives and, therefore, feeling unfamiliar and having difficulties dealing with real life.

Chinese and European teens have different virtual community experiences, mainly due to cultural differences. European culture emphasises equal interaction and community participation, meaning that this cultural orientation unintentionally makes virtual communities the core platforms for teenagers to expand and maintain emotional social connections. This characteristic affects how teenagers communicate online, that is, actively participating rather than passively accepting. Chinese adolescents share more stereotypes among peers, such as that adolescence should fulfil family responsibilities and study hard. Such opinions have a significant impact on teenagers when these stereotypes are widely accepted or agreed upon. This phenomenon indirectly illustrates that social norms can shift the standard of group identity, showing the potential influence of collectivism on adolescent behaviours. Most current existing studies are mostly focusing on either single cultures or adult groups, leaving a gap in cross-cultural studies that involve adolescents.

3 Theoretical framework

This study is based on Social Identity Theory and CMC (Computer-Mediated Communication) theory were utilised in this study to compare the differences in social cognition and group identity among Chinese and European adolescents. With these two theories focusing on participation online, social cognition development, and group identity formation, the topic of the impact of virtual community participation among Chinese and European adolescents will be discussed.

As first pointed out by social psychologists Henri Tajfel and John Turner in the 1970s, social identity theory refers to an aspect of an individual's personal self-understanding derived from a relevant social group. Its core definition clarifies that people define the sense of self in terms of social categories and group memberships [8]. Rather than focusing on internal standards and norms, people tend to look outward at groups around them and find the common characteristics they share or try to change their behaviours to join the groups. People feel secure when sharing similar traits and experiences with most other people, which is the core of group identity and is a concrete expression of social identity. The study found that there are significant diversified preferences with different genders and ages, which reflects how group identity functions in virtual communities. Teenagers between the ages of 12 and 15 prefer to use platforms with high interactions, such as TikTok and WhatsApp, while 16- to 18-year-olds turn to spend time on platforms that provide more information [9]. It is not hard to find out that younger groups are more willing to gain connections and communications, while older groups focus more on information exchange. This is a typical example that explains the different needs for group identity among people of different age groups. Communication professor Joseph Walther is credited with the development of CMC theory in 1996. Computer-mediated communication refers to any form of communication tools and electronic devices that can be used by the public. Online communication relies on

text, images, and audio heavily, and the indirect information transmission between devices has a relatively lower naturalness and richness [10]. CMC offers the basic structure for individuals to communicate over a long distance and time, allowing people to join online virtual communities and form new group identities based on their own interests. However, one of the drawbacks of CMC is that there is a lack of body language. CMC cannot capture and display all body movements, which may lead to a misunderstanding to some extent [11]. In addition, facial expression is also crucial for a conversation between two people. Immediate facial feedback is the key mechanism for feeling empathy. For example, when seeing someone with a depressed face, most people may want to comfort them. But the lack of cues is applicable to reduce the emotional connections among individuals, thereby weakening social interaction and group identity. Meanwhile, due to the existence of different platforms and the complex computer structures, studying the influence of CMC is difficult because these results are unlikely to show equivalent behaviours across platforms [11]. If a member of a group discovers that the authenticity of another person is biased, then that person's sense of group identity may be reduced.

4 Comparison of participation characteristics of youth virtual communities in China and Europe

The methods and purposes of the internet, social media, and virtual communities of Chinese and European teenagers are distinct, which is highly related to social identities and personality characteristics. From a study that compares the relationship between social media usage and a few aspects between Chinese adolescents and German adolescents, Chinese adolescents have a significantly longer daily social media usage (around 2.9 hours) than German adolescents (around 2.5 hours). However, the average academic score of Chinese adolescents (around 52.5) is lower than that of German adolescents (around 67.5). The negative correlation between usage and academic performance indicates that longer usage duration does not bring Chinese adolescents an academic advantage but may instead overoccupy study time and influence concentration. At the same time, the main purposes of Chinese adolescents' social media and virtual community use are learning and social interactions, while German adolescents attach more importance to the purposes of entertainment and self-expression. From another aspect, China scores higher in the comparison of collectivism, and Germany scores higher in individualism [12]. The descriptive results from their research stress that Chinese adolescents identified most strongly with "peer support and emotional connection" and least with "community participation, social opportunity and demand satisfaction". This reflects Chinese adolescents' desire for social identity across diversified dimensions. Some other results from the same research also further show that the number of friends, daily usage of online virtual platforms, and friendship satisfaction are all positively correlated with social identity or community belonging. However, the preference for virtual community has a negative correlation with social identity. Gender and residential size are factors that significantly affect social identity [13]. These core characteristics are affecting Chinese people's thinking model significantly, while Western culture emphasises individualism and independence. The differences between cultures are profoundly influencing Chinese adolescents' social connections, social values, and behaviour preferences. The core topic of virtual community is often common interests and interactions. In a collectivist cultural background, Chinese adolescents' need for "belonging and social identity" actively helps them better participate in virtual communality, such as having online discussions and maintaining online relationships. In addition, Chinese interest-based virtual communities or fan groups are emphasising collective participation and mutual assistance, which positively influences the effect of culture on adolescents and aligns with the value of independence that adolescents have acknowledged. It lowers the threshold

for them to enter the internet and enhances their adaptability. The importance of interpersonal connections in the culture may make adolescents more likely to make connections or expand relationships with others online. Frequent participation in virtual community activities increases people's familiarity with online communication and virtual community culture, thereby promoting the public's adaptation to online community behaviour. Meanwhile, if virtual communication can meet the demand for peer recognition and social support, it will further empower the advantages of adaptation to online.

In Europe, adolescents' virtual community is heavily affected by local cultures. A study in six European countries shows the behavioural characteristics of SNS (Social Networking Site) usage among adolescents [14]. The result indicated that 70% European adolescents use SNS every day, 92% adolescents own at least one SNS account, and 40% adolescents belong to "heavy users", meaning they use SNS more than 2 hours per day. Moreover, the factor "Always online" shows a strong significance, indicating that European children browse social media frequently [14]. This is the evidence that highlights their need for online social connections. However, there are various online platforms in different countries. Adolescents in the Netherlands and Poland prefer to use Instant Messaging APPs, while those in Spain and Iceland use SNS for their daily communication. This difference comes from local peer communication norms, which are a phenomenon of the cultural diversity in digital scenarios. Adolescents aged 16–17.9 (referred to as "older adolescents") are more likely to become heavy users than those aged 14–15.9 (referred to as "younger adolescents"), and older adolescents have a stronger dependence on SNS, such as engaging with inner selves and identity explorations [14]. This is positively related to the development of adolescents' cognitive abilities, and older adolescents have better regulation of their self-control because they are more mature at communicating with people and balancing online and offline lives. The core value of SNS is the extension of offline peer needs, while regional method preference and age-based usage patterns are reflectors of the diversified culture in Europe.

In conclusion, for Chinese adolescents, seeking peer support and emotional connection are the core elements motivating their virtual community participation. Influenced by Confucian collectivist culture, they are more inclined to integrate into interest-based communities (such as fan groups) that emphasise collective participation and mutual assistance. Therefore, they focus more on engagement with peers to maintain long-term relationships online through virtual communities. In addition, young generations' attitudes and the sense of self-identity are influenced significantly by some other factors. For example, the cultural backgrounds of different countries play an important role in shaping European adolescents' community engagement. Some regions emphasise the independence of the individual, while others appeal to the importance of the collective and groups. Notably, the significance of social cultures cannot be generalised. However, there is no doubt that self-regulation and social skills can be improved through various online engagements, and young people in European countries have the chance to achieve self-disclosure and self-identify via virtual communities. Therefore, strengthening cognitive ability is vital to help them balance virtual world and real-life communication. In this way, while satisfying online social needs, they will not become addicted to the virtual environment and neglect real-world relationships.

5 Theoretical and practical implications

Theoretically, this paper deepens the understanding of how virtual communities affect the self-disclosure and social cognitions of adolescents from different countries and cultural backgrounds. Practically, it provides several suggestions and strategies for different departments, such as platform designers. Cross-cultural communication and mental health promotion can be improved through this research as well. Previous studies on adolescents' social media or virtual community participation are mainly based on a single country, limiting

the research on how cultures differentiate adolescents' cognitions and behaviours. Thus, this study fills this gap by comparing Chinese and European adolescents, highlighting the impact of different social values on online user engagement, such as China's collectivist culture and Europe's individualism. This study illustrates the influence of culture on virtual participation, explaining why collective expressions are more popular in Chinese adolescents' groups and why European adolescents prefer personal expression.

On the one hand, this study offers some insightful suggestions for platform designers, such as adding optional anonymity or real-name settings on virtual community applications, because it allows adolescents to express themselves freely. On the other hand, this study contributes to mental health advocacy, promoting young generations' psychological development in online communities. Some strategies are considered helpful to foster online communities, such as providing professional support and psychological counselling. Due to being afraid of feeling awkward when talking with doctors physically, some adolescents may be unwilling to express their feelings or mention mental health topics. Online counselling makes it possible to seek help and psychological support, and people who are struggling with mental health issues will have more opportunities to express themselves openly.

In the meantime, virtual communities are flexible platforms for cross-cultural communication. They are usually supported by multi-language functions, which help users from different cultural backgrounds to communicate efficiently, therefore promoting cultural exchange and understanding among diverse cultural groups. Over time, such online cross-cultural communication can help adolescents get rid of stereotypes, earn respect and contribute to a better global social connection. This paper discusses how Chinese and European adolescents achieve cross-cultural communication and how they break cultural boundaries with the help of virtual communities. The cooperation online enables adolescents to adapt to new perspectives by having the chance to see more cultures. To sum up, virtual communities not only eliminate the distance and language gap that physical social interaction cannot provide, but also prove that they can improve users' experience and reduce negative emotions by giving users space to adjust their emotions.

6 Conclusion

This study utilises social identity theory and CMC theory, exploring the impacts of the participation of virtual communities among Chinese and European adolescents. It highlights that adolescents' personal identity and social cognition can be constructed through the use of virtual communities. Different usage behaviours of virtual communities are affected by cultural backgrounds as well. The findings illustrate that virtual communities are a double-edged sword for young generations. Adolescents can learn social skills, seek emotional support, and express identity through virtual communities, but this may lead to cognitive bias, which causes the risk of virtual addiction and failures of interaction in person. From the perspective of cultural research, Chinese adolescents are influenced by collectivism, and they are more likely to look for peer support and common interests in virtual communities. This emphasises the Chinese adolescents' need for social identity. Compared to Chinese groups, European adolescents connect with individualism and individual values, thus focusing on entertainment and self-expression. By comparing Chinese and European youth, this paper indicates how cultural values shape online behaviours, individual and social identity, providing a thorough theoretical perspective for adolescent virtual communities. Practically, this paper gives direction for mental health promotions and cross-cultural communications.

Empirical studies could be considered to verify the relationships between virtual community participation and adolescent psychological statuses in the future. Research on comparing the impacts of different virtual community types on social cognition could be

conducted as well. In addition, analysing the possible influence of family and school could provide a comprehensive understanding of virtual interactions in the digital age.

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