

Social Identity and Group Conformity in Virtual Environment

Yihao Chao

International Department American Division, Jinling High School, Nanjing, Jiangsu, China

pseal81116@student.napavalley.edu

Abstract. This review firstly summarized the past study of social identity and group conformity and states the importance of investigating their relationship in virtual environment. It can help produce better policy to improve the online environment and help people make better decisions when they are facing the norms of their groups. It then explained the relationship through multiple aspects. The first one is the negative influences of social identity and the mechanisms of group conformity related to it, and the review then demonstrated the advantages of social norms in two ways. The review concluded that virtual environment promotes social identity and leads to group conformity, which has both positive and negative effects. The level of conformity can be influenced by several traits of the group and other members. The limitations were discussed, including the homogeneity of the form of the studies and the lack of diversity in nations during the selection of the participants. Lastly, further studies of the influences of cultures and ideologies of the participants' society and recent moods on the relationship between group conformity and social identity were suggested.

Keywords: social identity, group conformity, virtual environment, anonymity.

1. Introduction

Group conformity refers to people who tend to follow the majority's idea when they are in a group. Currently, the internet has become an indispensable part of people's life [1]. Individuals rely on the instant communication it provides. Therefore, in the virtual environment greatly influences the targeted people by the tones of content they see. Plus, the virtual environment is also important in shaping the social communicating atmosphere. For instance, when the economy is not good and the online community discusses a lot about it, people tend to be conservative and save more money. Due to losing jobs, people complain a lot online, and thus the virtual environment becomes aggressive and influences individuals' tempers in return. By learning the relationship between social conformity and virtual environment, individuals are allowed to consider the consensus more comprehensively and carefully think about whether their own opinion is different or not, which enables them to make the most suitable judgment and decision about their own life and prevents them from being affected by the aggressive, depressed atmosphere. Additionally, learning the relationship can help the platform managers better make policy and provide better data-push, which are more beneficial for the users' mental health.

Based on the presented research of identity, people can form identity through the process of classifying and putting self into certain social categories, which is called self-categorization in social identity theory and is called identification in identity theory [2]. Plus, people separate others as in-group or out-group according to their similarity to self. Self-categorization focuses on the similarities and differences in all the attitudes, while social comparison results in the increase in self-esteem by performing comparisons that are more positive to the in group. Social identity makes people act as an in-group member, and role identity make people to behave to fit the roles. Thus, social identity is based on the uniform way that the in-group members behave and think, and role identity is based on how the role is different from its counter roles. When people are in a group, they positively judge the group. Group-based identity usually involves only the performer, while role-based identity also requires the involvement of other group members in order to confirm the role. Social identity makes people tied to their group organically while role identity ties them mechanically. Salience is used to describe the likelihood that identity is activated in a situation, which is related to the significance of a group membership. According to social identity theory, identity can be considered in three levels of inclusiveness, including a superordinate level, an intermediate level, and a subordinate level.

Certain identities can be activated under the interaction between accessibility and fitness. In social identity theory, the core cognitive process is depersonalization, which means people fit in the norms of the group instead of showing their uniqueness.

According to a previous study, due to the increase in power to reward and punish, the larger the size of majority, the greater its influence on conformity [1]. Tanford and Penrod propose that the second and third influence sources will have greater influence. Also, the Social Influence Model (SIM) proposes that the increase in group members can only enhance the influence to some extent. When the size reaches a certain level, the additional member will have no impact. Mullen uses Other-Total Ratio (OTR) and argues that as the majority size increases, people experience greater self-attention. Thus, greater conformity will present. Stasser and Davis confirm the relationship described by the OTR, despite focusing on normative and informational influence instead of self-attention. They also consider the change when there is also normative influence rather than just one of informational influence. Thus, they improve the OTR and use inform influence function and norm influence function according to different situations. In conclusion, all of the models presented except SIM and Asch's results are negatively accelerated curves and do not include an asymptotic value for the percent influence. These theories have slight differences, but their results can vary largely from each other. When it comes to reality, individuals are under more influence sources than these theories include, which makes the relationship closer to a linear relationship rather than the curvilinear in these theories. Apart from these theories, some also suggest that rather than using a single functional, the relationship can be different according to whether people response publicly or privately.

Social identity makes people's behaviors the same way as the in-group norms and conformity is positively related to the majority size. Although people have a relatively comprehensive understanding about social identity and conformity, there are not so many studies when they are presented in the virtual environment. Therefore, if researchers know more about them under this new environment, researchers can provide the online community with a more suitable policy. This review primarily discussed the relationship between social identity and conformity in virtual environment from the aspects of negative and positive effects of social identity.

2. The Negative Effects of Social Identity

2.1. Anonymity, Group Conformity, and Negative Behavioral Outcomes

Social identity refers to the sense of belonging to a group. It can appear when people join a group with the same hobbies. Anonymity refers to the situation where people do not show who they are. When in a virtual environment, anonymity is strengthened. When anonymity is presented, people do not know the characteristics of the majority group and can hardly make a distinction between bad things and justice things. Thus, they may behave badly towards others as a whole. There is an increase in group conformity, which means following the majority's idea and behaviors. In the study by Li et al., it used questionnaire to collect data from 377 Reddit users to assess the relationship between factors: the technical, individual based, environment based social element and the we-intention, which represents the collective nature, to join in collective trolling in virtual communities. 66.84% of the respondents are males and 33.16% are females. They are almost half of them aged between 25 and 34 [3]. The survey was online and used sample MTurk to ensure the representation and help make the responses more honest. It also included screening questions to make sure the responses are from the targeted Reddit users. The information about subreddits that included collective trolling in the past six months in the responses were verified. There are four attention-check questions that make sure the responses have relatively high quality. It found that the way the anonymity of oneself increased the we-intention to participate in collective trolling. This influence could be released by providing a trolling guardianship environment. However, the guardianship environment did not determine the influence of the anonymity of others on the we-intention to participate in collective trolling via social identity. Thus, it can be inferred that people with stronger social identity by joining in the communities that provide anonymity, including online communities, are more likely to be

influenced to perform group conformity and result in negative phenomena, which matches the argument provided earlier.

Similarly, in game community, anonymity can also bring troubles through group conformity. Since people's cheating behaviors may not be found or punished, the likelihood of performing cheating behaviors increases. In the study by Chen et al., anonymity, gaming group identification and game cheating were assessed using a survey in Singapore based on the most recent census in 2008 [4]. Among the respondents, their ages were mainly between 16 and 18. There were nearly equal number of males and females. 1400 surveys were distributed to neighborhood centers and 961 valid responses were collected. There were questions about the most played games, anonymity, gaming group identification and game cheating in the surveys. Frequency of cheating was used as the measurement of game cheating. Frequency of playing games with strangers online was used to measure the level of anonymity. The involvement in gaming communities or groups was used to measure gaming group identification. They found that game cheating behaviors increased when anonymity was presented and because of the gaming group identification, people tended to follow conformity and performed game cheating. This can also indicate that people in the anonymous online groups are likely to act according to group conformity to do something harmful, which fits the earlier argument.

Social identity is the sense of belonging to a group and can influence people's behaviors. Anonymity can boost group identity. It is because in this situation, people only share similar interests when they are in online groups. Their unique personal characteristics are not vividly shown. People feel that they are similar people and form groups despite their differences because they do not know the differences well under anonymity. Bae evaluated anonymity and computer-mediated communication using an experiment [5]. The participants were from the United States and South Korean. The American participants included 67 men and 80 women with a mean age of 19.54, and the South Korean participants included 99 men and 70 women with a mean age of 22.42. In the experiment, participants were first questioned about their opinion towards immigration and two groups were selected and formed according to their attitudes. They were then assigned into groups with 3 pro-immigration members and 2 con-immigration members. They were shown a designed story and discussed. Participants in the 5-people group participants with same attitudes had same group identity, and thus the discussion made their identity salient. Then, the participants were provided with the same questionnaires. The study demonstrated that anonymity strengthened the group identity and made it easier for them to change their attitudes. Unlike the popular belief, the study also showed that anonymity reduced disinhibited behavior. This study proves the argument and indicates that people in an anonymous environment have a stronger group identity, a sense of belonging to a certain group.

2.2. The Mechanism and Roles Underlying Group Conformity in Maladaptive Behaviors

The majority's attitude, the standpoint of most people in a group, can influence people's attitude and present group conformity since people do not want to be the stranger people in the group in order not to be discriminated or excluded. The more people in the majority, the more likely conformity appears since more people can have stronger power to reward or punish so that people are less willing to be different from them. The study of Sirola et al. assessed online identities, social influence and gambling exposure using a self-report survey and a vignette experimental part [6]. The respondents were from Finland, the United States, South Korea and Spain, and they were aged between 15 and 25 years old. Their main age is about 20 and the number of women is approximately 50% of the whole participants. Respondents were all given a mutual survey with LimeSurvey software. They were then randomly assigned into two groups, and in each group, participants were shown gambling messages with positive or negative attitudes with subjective or objective narrations under positive or negative group norms. The results were then analyzed. It showed that positive group attitudes could boost people's interests. When the content was liked by many people, the more people engaged in online groups, the more interested people were towards gambling. This study proves the argument

mentioned above by indicating that people that in a group with many people having same ideas and attitude are more influential by the group conformity.

Other factors including people's roles, motivations, and tones can also contribute to shared behaviors in a group. It is because people's tones and their actions according to their roles can make other people in the group sympathize with the emotion, and thus other people also want to behave similarly. In the study by Sun and Fichman, factors and procedure that influenced online collective trolling were assessed by collecting and analyzing the posts and comments that were related to collective trolling [7]. The comments and posts they assessed were from Sina Weibo posts on January 8, 2018. The data consisted of 2872 posts and 9968 comments. In the study, the posts and comments were mainly about Chinese rapper PG One with the keywords "TVL Gutter Oil" during a 10-hour event. The posts with the elements of trolling, including provocation, intentionality, anonymity etc., were selected by the information they included and the posting frequency. The data were numbered and analyzed with several factors, including content, tactics, motivations and feelings. They found that trolling was sociotechnical and depends on the context, and had many aspects including motivations, roles and tones. Trolling behaviors changed as the stages of the event and roles of people, including target, troll, and bystander, as well as their tones, including critical, insulting, humorous, ironic etc., changed over time. This study fits in with the earlier study and demonstrates that group conformity can vary according to the roles and tones of people.

The reason why the anonymous online environment can promote people's identity and further cause harmful behaviors is that anonymity gives people deindividuation experience. People show the similarities within a group and imitate the norms of this group. Thus, people feel less guilty when they perform bad behaviors in groups online because no one knows who they are and the whole group with this norm behave similarly so that they think what they do is justice. In the study by Chan et al., deindividuation experience and cyberbullying were assessed by using an online survey [8]. The respondents were 18 years old or older, and they were surveyed on MTurk and Facebook. 1179 responses were selected due to validity and completion by analyzing their responding behaviors. In the survey, there were firstly 3 questions to screen people, and then respondents were asked several questions to strength realism. They were then given a scene when cyberbullying happened. The new member was bullied by existing members with a unified intention and had little power. The situation seemed realistic by modifying the real situations. Respondents were asked about the information in the scene to show whether they realize the bullying. They were then asked questions that could represent social desirability. They found that moral disengagement mechanisms helped justify the online harmful behavior. Thus, the moral deindividuation experiences online increased the likelihood of joining bullying behaviors. It can be concluded that when in anonymous condition, people, due to the lack of feeling guilt, are more likely to become deindividualized and follow the majority to perform group conformity.

3. The Positive Effects of Social Identity

Although social identity leads to group conformity and can further cause collective harmful behaviors, they can be beneficial to the creativity of people. Since people feel belonging to a group, they want their group to be better than other groups and gain more profits, which inspires them to yield new ideas. In the study by Henaff et al., the intergroup comparison under anonymity and creative performance were assessed using experiment. The sixty participants included 14 males and 46 females and all of them were aged between 23 and 54 [9]. The participants were separated into groups and asked to do brainwriting in two rooms. The two independent variables were controlled separately. Anonymity was controlled using the color of sticky notes and the salience of intergroup comparison was controlled by whether showing the blank chart using for comparison. The dependent variable, creativity, was measured through certain criteria.

It indicated that when intergroup comparison was presented under anonymity, people's creativity could be the best. When there was no comparison, the mean originality of idea scored similarly, which

meant anonymity did not make any difference. When there was a comparison presented, the mean originality of idea was higher, which meant anonymity could promote people's creativity. The study shows that people that compete through groups have more inspiration because of social identity, which matches the argument given above.

This phenomenon also makes sense when people study as groups anonymously. When there is a comparison between groups, whatever the student levels of knowledge are, they can perform better in some cases because they want to win against other groups. The study by Henaff et al. assessed anonymity, group identity and performance in a team game-based learning environment using an experiment [10]. The participants were 343 students and 257 of them were females and 86 of them were males. Their ages were between 22 and 47. In the experiment, participants were randomly assigned into 40 groups of 15 people to do the online quizzes. Participants were given anonymous username or individuated username to control the variable of anonymity. The level of salience of group identity was controlled using the comparison between teams. The performance of the learning was measured by the score of the questionnaire.

They found that when the comparison was presented to render group identity, the performance of students with low prior knowledge could be boosted by anonymity. When there was no salient group identity, anonymity could boost the performance of students with high prior knowledge. These results showed that anonymity and social identity could both influence people's performance in learning. Accordingly, the result of the study demonstrates that people with high knowledge can perform better when group identity is strengthened in anonymous condition, while people with low knowledge may perform better when there is no comparison, which does not prove the whole argument provided before. This could be because people with less knowledge feel that they hinder the group when there is comparison to increase group identity so that they have concerns and are not in their best condition.

4. Conclusion

In conclusion, social identity under anonymity, especially in virtual environment, can cause people to perform through group conformity. This could lead to negative consequences, including trolling, cyber bullying, game cheating and so on, through unhealthy group norms. Anonymity actually strengthens people's social identity through this process. Group size, the majority's attitudes and other factors, including people's roles and the tones they use, can also affect the levels of group conformity. The reason why these bad deeds are done is that people withhold their differences and behave based on their similarities when they are in a group. Therefore, they tend to follow the group norms and feel less guilty because other members also behave similarly without knowing who they are. Nevertheless, social identity can also bring positive results through group conformity. Social identity can increase people's level of creativity and the efficiency of studying in a group to some extent.

One of the limitations of previous research is that these studies were mostly done online. People might use different devices or accounts or change their IP address to complete the surveys multiple times. Additionally, some people might not answer the questionnaires honestly. Therefore, the accuracy and representation of them cannot be ensured. Another limitation is that most studies were done within one or two countries. This means that most participants had similar cultures and backgrounds. They might share similar social norms and were used to their standards of moral judgment. Therefore, the results may not be representative enough to be generalized to all populations throughout the whole world. Future study can focus on whether cultures and different ideologies of society influence the likelihood of the presentation of social conformity. Further study is also needed to demonstrate the relationship between people's recent mood and social conformity. For instance, whether people's anger and dissatisfaction can cause them to leave certain groups, which reduces their conformity to the norms of this group. This review can provide some guidance to the development of online policies and intervention programs.

References

- [1] Bond R. Group size and conformity. *Group processes & intergroup relations*, 2005, 8(4): 331-354.
- [2] Stets J. E., Burke P. J. Identity theory and social identity theory. *Social psychology quarterly*, 2000, 224-237.
- [3] Li Y. J., Cheung C. M., Shen X. L., Lee M. K. When socialization goes wrong: Understanding the we-intention to participate in collective trolling in virtual communities. *Journal of the Association for Information Systems*, 2022, 23(3): 678-706.
- [4] Chen V. H. H., Wu Y. Group identification as a mediator of the effect of players' anonymity on cheating in online games. *Behaviour & Information Technology*, 2015, 34(7): 658–667.
- [5] Bae M. The effects of anonymity on computer-mediated communication: The case of independent versus interdependent self-construal influence. *Computers in Human Behavior*, 2016, 55: 300–309.
- [6] Sirola A., Kaakinen M., Savolainen I., Paek H.J., Zych I., Oksanen A. Online identities and social influence in social media gambling exposure: A four-country study on young people. *Telematics and Informatics*, 2021, 60: 101582.
- [7] Sun L. H., Fichman P. The collective trolling lifecycle. *Journal of the Association for Information Science and Technology*, 2020, 71(7): 770–783.
- [8] Chan T. K. H., Cheung C. M. K., Benbasat I., Xiao B., Lee Z. W. Y. Bystanders join in cyberbullying on social networking sites: The deindividuation and moral disengagement perspectives. *Information Systems Research*, 2022.
- [9] Le Hénaff B., Michinov N., Le Bohec O. Applying the SIDE model to brainwriting: The impact of intergroup comparison and anonymity on creative performance. *Journal of Applied Social Psychology*, 2018, 48(7): 351–359.
- [10] Le Hénaff B., Michinov N., Le Bohec O., Delaval M. Social gaming is inSIDE: Impact of anonymity and group identity on performance in a team game-based learning environment. *Computers & Education*, 2015, 82: 84–95.