Negative Influence of the Internet on Psychological Polarization

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Abstract: People's lives have changed so much by the technologies created. As human fast forward towards the future, the use of these technologies gives people more convenience as well as more possibilities. The information age, with the establishment of signals and WIFI's, has turned the little computing device into a whole wide world. Relationships can be built, families can be connected, words can be communicated without the limit of space. However, in the meantime, while technology is changing the physical lives of human, how is it impacting people's psychological life? This paper discusses the psychological change, focusing on polarization, with people's increased usage of the internet and social media. A number of research studies of what causes the polarization of people online is gathered and analyzed, including the formation of echo chambers, group polarization, identity attack, anonymity, etc. Along with the research on the prior studies, a research survey is sent in order to collect information and data from people on the topic. The result of the survey gathered from participants shows that online experiences are indeed impacted negatively by polarization of internet users, and that people are consciously noticing their increasing irritability.

Keyword: Information age, internet, human behavior, polarization, transformation

1. Introduction

Technology has definitely changed people's ways of life from top to bottom in the last century. The information age, afterwards, even further turned the world upside down. Nowadays, almost everything is achievable through the device at the desk and the signal in the air. Getting on any computing device and the world is at your hand. However, as human invent these creations and new technologies that ease people's lives, how people's own creation changed human psychologically is a question worth pondering. Are those transformations from within positive or negative for human society? Yes, of course, the internet gives people access to learn different cultures and to be inclusive towards those who are different. However, there are downsides to this as well. Humans have been seeing so much more violence since gaining the access to the internet. There are people on social media with terrible aggressions towards whoever holds different opinions; scornful comments and extremely harsh criticisms are seen every day. Such expressed hatred even goes beyond the internet to offline violence. There are increasing reports on shootings and hate crimes in the past few months. The US reported 693 mass shootings in the year of 202 alone [1]. This paper would discuss the topic

of the effect of the internet on human behavior, focusing on polarization. In other words, looking at if humans are getting more extreme in mind as well as behavior. Reflecting on whether human behaviors are becoming more polarized through our usage of the current technology. The paper is going to discuss previous studies on the subject, introducing psychological concepts along with several papers and research done in this field. Using a online survey, collecting people's opinions and experiences in a few dimensions of their online life, this paper tries to reflect people's attitude towards the topic of online polarization. The essay aims to discuss technology's impact on humans, reflecting and bringing awareness on the difference the internet has brought to human society including both positively and negatively, and hoping for a brighter future for the human race.

2.   Literature review

Humans have a tendency to form echo chambers that may trigger psychological polarization from single sided opinions. While the internet offers a wealth of different information, it provides a short path for online users to select the information based on their preferences. The algorithms for big data on social media recommend the same content to edit people's preferences. Thus, it becomes much easier for online users to immerse in the same contents of information, constructing echo chambers. Echo chambers, in turn, will strengthen the single sided story. Researcher Sasahara proves that isolated, homogeneous groups tend to form a triadic closure that connects people with the same opinion, further strengthening echo chambers and reinforcing the ideology shared in this community. Moreover, the study of Sasahara indicates that social media debates tend to polarize groups into exactly two opinion groups, each holding opposite opinions from the other [2]. Such polarization stimulates aggression towards the other party. Immersing in an echo chamber consistently would shape the personality of people to assimilation, resulting in a vicious cycle of repeating the same ideology [3].

Group polarization is the phenomenon common on social media where people with the same ideas start to convert with one another, and to evolve toward an extreme end, powered by two mechanisms: social comparison and persuasive arguments [4]. Results showed that polarized political parties unintentionally generate hostility towards the other. Such discrimination becomes more severe between the two polarized parties even than between races [5]. Group polarization may also reinforce intergroup bias, as it clearly separates people into categories: insiders and outsiders, agitating aggression between groups. Intergroup bias refers to the tendency of favoring in-group people while having less positive attitude towards the out-group side [6]. If someone from the opposing group sends out a message of different opinion, it is very likely to lead individuals to contribute, or start to attack, with high willingness in order to defend its group [7].

On the other hand, stepping out of the echo chamber may reinforce the preexisted ideology as the result of a struggle for identity. Chris Ball and his colleague conducted an extensive research on people stepping out of echo chambers. Since echo chambers harness a homogenous environment, researchers assumed breaking out of the echo chambers would encourage diversity, but the result pointed to the opposite direction. The comprehensive interviews with participants showed that they experienced the information out of their echo chamber as an attack on their own identities and beliefs [8]. Such negative experiences cause people to focus on a certain side and attack each other's identity. Research shows that with exposure to the opposing perspectives, people increase ideology segregation significantly [9].

Self-identity is composed of a series of schemas and beliefs about the oneself and the world around oneself. This is why a feeling of identity attack would trigger extreme reactions. Research shows that self-identity threat is one of the key components of resistance to change [10]. People have a tendency to remain their self-identity and reality schemas, which they hardly change or update their schemas. Behaviors of people, when under such pressure of change, could become nasty in order to defend

their identity. Study results show that self-identity threat can predict one's aggressive behavior towards people around [11]. As different people are more easily connected online, people's faiths are challenged more frequently than ever, and therefore the fight to defend self-identity becomes much nastier than before.

Beside immersing in a homogenous online community, mere exposure effect, the effect that states that people would have positive feelings toward what they have seen before, on the social media can agitate nasty behaviors. Zajonc's study showed that people have a tendency to accept and appreciate things that they were merely exposed to [12]. Further, his following study showed that mere exposure rarely involves cognitive processes [13]. It is more convenient for people to lean towards what they see on a daily basis. Research by Hyunjung Kim demonstrated the positive connection between people's exposure to certain political parties and people's voting [14]. As nowadays people spend more time on social media and receive all sorts of exposure, there is very little possibility for people to stay on a middle ground about opinions. The increased use of the internet would further stir people into echo chambers even if they didn't intentionally choose it themselves [15].

Exposure to pictures, news reports, and discussions related to violence on the internet would increase aggression of an individual, especially among adolescents. These implements of aggressive behaviors would stimulate nasty, and violent emotions. Nowadays, in this digital age and information age, it is unavoidable that people have access to online violent news that inflicts negative emotions such as anger, frustration, and emotional burnout on a daily basis. As a result, strong negative emotions would motivate those people to extreme actions. According to the study by Cho, negative relationships lead to anger and then lead to cyberbullying among teenagers [16]. The exposure to internet violence has both long and short term violent effects. In the long term, aggression would impact the personalities of those people through observational learning and desensitization. In the short term, effects include priming, mimicry, and arousal [17]. Adolescents are more likely to be influenced by this information, as they are more sensitive to social information and stimuli, including news violence, social media chaos, computer games, and therefore are more vulnerable to violent ideologies and influence [18].

Anonymity on social networks is one of the key reasons driving a rising amount of news reports on nasty behaviors people have seen. Anonymity creates disinhibition, reducing self-control of people, and those people, as a result, would act in an extreme way they wouldn't in the reality where they have to accept whatever consequence things bring. Study showed that there is a significant positive correlation between anonymity and aggression [19]. For instance, cyberbullying is directly resulted from two factors of anonymity: people's belief that they would not get caught doing so, and the disbelief in internet permanency [20]. Yik Yak, one of those anonymous chat apps famous for cyberbullying among college and high school students, was shut down in 2017 for its customer's cyberbullying incident [21]. As anonymity is almost everywhere on the internet, there tend to be more extreme behaviors than where the identity was traceable, such as in a neighborhood where most people know each other by name. Anonymity reduces the risk of acting aggressively for its ability to avoid other's detection, and arousal emotions only agitate aggressive behaviors when one feels anonymous from the so-called victim [22].

3. Method

The research is designed in the form of an online survey, focusing on two dimensions: The objects' experiences in the online communities, and the objects' personal opinion of themselves with the usage of the internet. Age ranges from 12 to 55, a hundred and thirty two people were involved completing the survey.

Several questions are asked in each dimension where the focus is on. For the "experience in online communities" part, they survey included questions such as if the participants received online personal

attacks, if the participants were scorned for an opinion posted, if the participants experienced emotional depression moments related to the internet, etc. There were exactly twenty questions posted for this section of the survey. In the exact same format, for the "Opinion of themselves" part, the survey also included the same number of questions, such as if the participants get angry easily when spotting things online, if the participants used non-appropriate words in order to justify themselves, if the participants were involved in a large argument online, etc. All of the responses of these questions are designed to be on a scale from zero to five, where zero indicates that the participant has never done or was never involved in such experience or activity, and five indicates that the participant does the specific activity or experience the situation on a daily basis.

The result of each question would then be calculated by average for each section of the survey for each person, determining a score for the participants of their negative impact by the internet.

4.   Result

The expectation of the survey was that most people would experience negative situations on the internet at a relatively moderate rate; between two to four is a reasonable expected range that most people would fall between. For the participants' opinion of themselves, the expected response is a lower to middle rate of feeling a negative emotion or in acting a negative behavior. The expected range of "Opinion of themselves" falls between zero to two.

The true outcome of the survey coincides with the expectations on a large scale. For the first part, the experience part, seventy-four percent (that is 98 people) submitted survey answers that fell between the range of two to four, with a total average of 3.67 score on the scale. Within these forty-seven populations, ninety-two percent (that is 90 people) of them are between fifteen to thirty-two years old. For the second part, fifty-six percent (that is 74 people) submitted their survey question with a number that falls between zero and two, with an average scoring of 1.23. What is different from expectation is that, for this second section of the survey, more people fall between one to three on the scale than the predicted zero to two. Sixty-five percent (that is 86 people) submitted surveys with an average between one to three, and calculating all of them combined, gets an average scoring of 2.42.

The result shows that most people, especially the younger generation, experience negative situations and emotions due to the effect of internet polarization relatively often. More than half people are subjectively noticing that they are getting easily irritable during the usage of online devices.

5.   Conclusion

From all the above, it is not hard to see that people's psychological status is negatively impacted by online community polarization. Not only people are becoming victims of these polarization, but can also become more extreme and irritable over time. The construct of the current internet system is designed in a way that people can be easily polarized into groups, and it seems to be an unavoidable process that people become part of the polarized community and be impacted psychologically.

Of course, the result of the survey study can be partly misleading for there are flaws in the design of the study. The people who were participants in the survey only include a limited range in their age. The people who are older, or younger, might have totally different experiences with internet usage. Also, the survey was sent out to only a few communities of people, and only included a very limited number of samples, which could lead to mistaken results when generalized for the other people in other communities may have completely opposite ways of looking at this subject. These are all flaws in the design of the study that might lead to a misleading outcome. If this study is to be continued, including a larger amount of samples would be a vital step, and these samples should include multiple communities in multiple regions of the world if possible. A wider range of sample, age, and

community is what the next step is looking towards. In that case, the study would be more complete, and, in a large scale, more accurate than the current version of the study.

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