

# The Role of Empathy in Predicting Cyberbullying Behaviour in Youth Social Media Users in Jakarta

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Abstract: This study was conducted to determine the empathy role to predict cyberbullying behavior for social media users in college students in Jakarta. There is 366 people with classification age 18 – 25 years old as samples. Respondents were taken by using probability sampling technique, simple random and cluster sampling. To measure the empathy, researcher adapted Basic Empathy Scale that developed by Jolliffe and Farrington, while the cyberbullying behavior measured with Cyber Bullying Scale by Çetin, Yaman, and Peker. Logistic regression was used for analysis the hypotheses, all testing technique performed using SPSS software 20. The result showed the coefficients -0,031 with significance 0,03 ( $p < 0,05$ ) means there's a significance role of empathy for predicting cyberbullying behavior for college student who used social media, and everytime the empathy increase then the cyberbullying behavior will decrease.

## 1 INTRODUCTION

The era of globalization seems to make everything look without limits. Changes and developments are also increasing fast and modern, demonstrated by the emergence of information and communication technology. The rapid growth of information and communication technology, especially with the presence of cellphones and the internet, makes it easier for people to get information, communicate, and socialize (Chang, J. P.-C., & Hung 2012). Communication in cyberspace can appear in several forms, such as text, symbols, audio, visual, and audio-visual (Ningtias 2015). Until 2013 there were 71.9 million internet users in Indonesia. This data continued to increase to 88.1 million by the end of 2014, out of a total population of 252.4 million people in Indonesia (APJII 2015). In 2014, Indonesia became the largest smartphone sales market in Southeast Asia, with a market growth of up to 68% (APJII 2015). According to the latest data, internet users in Indonesia have increased to reach 132.7 million of the total population of 263.5 million in March 2017 (Internet World Stat 2017). From these data, it can be seen that internet users every year experience a very significant increase. The role of ICT (Information and Communication Technology) becomes very dominant and seems

inseparable from the lives of users both for adults and adolescents and children.

95% of teenagers have been connected to the internet (Nixon 2014). Based on research conducted by the Pew Internet and American Life Project (pewinternet.org in (Rahayu 2012)), it was found that 93% of adolescents with an age range of 12-17 years often go online. Supported by survey data conducted by (APJII 2016), as many as 12.5 million adolescents aged 15-19 years have actively used the internet. Adolescence is a transition from the stage of a child to adulthood, which is marked by the occurrence of puberty (Santrock 2013). The formation of a person's character quality is vital to be considered and built positively during adolescence, including one in terms of communication and socializing on social media. They will bring that character in the next life period as mature individuals who are ready to engage directly in the community.

Children and adolescents used to use the internet to find information, study, watch videos, and listen to music. However, along with the development of information and communication technology (the emergence of social networking sites, instant messaging, chat rooms, and e-mail), making the internet a place to establish social relationships (Navarro, R., Serna, C., Martínez, V., & Ruiz-Oliva 2013). Social networking sites allow everyone to

form a personal profile page to represent themselves. The concept of "virtual profile presence" makes internet users easily interact with others (Patchin, J. W., & Hinduja 2010b), it can make children and adolescents vulnerable to replace their real life with virtual reality (cyberspace). The closeness of adolescents to cyberspace, which makes it easy to interact and make new friends, can be a determinant of their activity and frequency in accessing social media.

Lots of positive aspects are obtained from the use of ICT such as increased teaching and learning experiences (Lazuras, L., Pyzalski, J., Barkoukis, V., & Tsorbatzoudis 2012), places to find various information (Süreci 2016) and as a means to communicate and socialize (Sari, R. S. 2016). These positive aspects can help a person in carrying out daily activities, whether in learning, working, interacting, or filling spare time. But information and communication technology can also bring up various negative aspects for users such as addiction to online games, addiction to internet use, the spread of dangerous content, and cyberbullying (Lazuras, L., Pyzalski, J., Barkoukis, V., & Tsorbatzoudis 2012).

Cyberbullying is a term used when a person or group intentionally injures another person in the form of writing, visual or pictures, and oral communication using information and communication technology (Nartgün & Cicioğlu, 2015; (Nixon 2014); (Nordahl, J., Beran, T., & Dittrick 2013). Based on research that has been done by many researchers shows that the phenomenon of cyberbullying has occurred in various countries such as in Indonesia (Rahayu 2012); (Satalina 2014), the United States (Patchin, J. W., & Hinduja 2010a), (Patchin, J. W., & Hinduja 2013), Japan (Udris 2015), Spain (Navarro, R., Serna, C., Martínez, V., & Ruiz-Oliva 2013), Turkey (Ayas 2014); (Topcu, Ç., & Erdur-Baker 2012), Germany (Melchers, M., Li, M., Chen, Y., Zhang, W., & Montag 2015); (Schultze-Krumbholz, A., & Scheithauer 2013), Hong Kong (Wong, D. S., Chan, H. C., & Cheng 2014), China and Taiwan (Chan, H. C., & Wong 2015). This phenomenon is also very likely to occur in other countries that have not been mentioned or have never been studied scientifically. Facts from studies show that cyberbullying has become a global problem. This should be a common concern of both the government, the surrounding environment, school/campus/ place of work, as well as parents and closest people.

Like traditional bullying, cyberbullying is very easy to find because it contains extreme content,

such as; repeated threats, embarrassing posts, and / evil words shown to the target (Patchin, J. W., & Hinduja 2015). Although traditional bullying and cyberbullying have similarities in form and technique, these two things also have some significant differences. (Livingstone, S., Mariya, S., & Kelly 2016) say, in the case of cyberbullying, aggression does not need repetition. This is because cyberbullying can be disseminated quickly and can be shared (sharing) in the future so that it can double the number of bystanders (audience) and the loss suffered by the victim. Besides, unlike traditional bullying, which is done in a place that is easily monitored or seen, cyberbullying is done using information and communication technologies such as the internet, personal cellphones, multiplayer online games, and social media (Livingstone, S., Mariya, S., & Kelly 2016). Of the various media available, the most frequently used means for perpetrators of cyberbullying is social media (Lazuras, L., Pyzalski, J., Barkoukis, V., & Tsorbatzoudis 2012); (Rahayu 2012). Social media is an online media that makes it easy for users to be able to participate, interact, share, add friends, and create content or comments. They are very likely to be seen by many people in the virtual world, making it the most appropriate place for cases to occur cyberbullying. (APJII 2016) shows that 129.2 million people (94.7%) use social media when accessing the internet. Another difference is that using ICT can provide opportunities for cyberbullying actors to hide their identities or become anonymous so that perpetrators are more comfortable and feel safer to attack victims (Donegan 2012); (Notar, C. E., Padgett, S., & Roden 2013); (Sari, R. S. 2016); (Udris 2015). Anonymity gives a sense of security to the perpetrators of cyberbullying because the victim cannot know the identity of the perpetrator, so it will be difficult for the victim to take the fight or protect themselves. The last difference is, the virtual world without limits also makes anyone have the opportunity to become cyberbullying perpetrators whenever and wherever they are (Nixon 2014); (Udris 2015).

According to Aftab in (Rahayu 2012) there are 3 types of cyberbullying methods, namely "(1) direct attacks (messages will be sent directly to the target), (2) posted and public attacks (designed to embarrass the target by posting or posting disseminating information or pictures that are embarrassing to the public, and (3) cyberbullying by proxy (using others to help disturb the victim either with the person's knowledge or not). "The danger of cyberbullying is sometimes difficult to see or more complicated to be

identified and measured especially in an online environment because it can appear in various forms, forms of cyberbullying can be in the form of flaming (sending text messages with words full of anger/curse/ ridicule, threatening, frontal or abusive), slander or gossip, spreading pictures/photos/ videos victims who aim to humiliate victims, take, use, and disseminate personal information without consent (Lazuras, L., Pyzalski, J., Barkoukis, V., & Tsozbatzoudis 2012); (Rahayu 2012), exclusion (Vandebosch & van Cleemput; Willard in (Chan, H. C., & Wong 2015), hijacking other people's accounts (Erdur-Baker & Kavsut, in (Topaloglu, M., & Topaloglu 2016), imitating, and / sending pornographic material or giving sexualized comments (Çetin, B., Yaman, E., & Peker 2011); (Nordahl, J., Beran, T., & Dittrick 2013). From a survey conducted by researchers in March 2017, 98 respondents of internet users from the age range of 15-26 years, with a total of 65 women and 33 men, obtained data that the most widely used form of cyberbullying is fighting online (59.2%); make hateful posts or expose the ugliness of others (denigration) (38.8%); making gossip or slander (27.6%); disseminating personal data (18.4%); sending sexual content to other people (15.3%); and disseminating photos / videos that aim to embarrass (13.3%).

Although cyberbullying is intentional behavior, various influences or factors can arise and increase a person's desire to carry out such activities that might not have been previously thought of. These factors include someone who has a friend who is bullying or cyberbullying, they will tend to do that to other people (Patchin, J. W., & Hinduja 2013); (Tumon 2014), breaking up a friendship, jealousy, having problems emotional (Topaloglu, M., & Topaloglu 2016), even Özdemir & Root's findings in (Süreci 2016) about the length of time someone spends time using the internet (more than 5 hours per day) can exert influence on someone to cyberbullying, the same findings are also made by Tür-koğlu in 2013 and Cicioğlu in 2014, and 2015. The above factors show that cyberbullying is a form of behavior that can be intentional, planned, or not.

Someone who commits an act of bullying can also commit cyberbullying or vice versa. Both of these behaviors are both a form of aggression in which intentionally attacking and / hurting others so that the characteristics of the perpetrators of bullying or cyberbullying also have in common. Olweus in (Karina, Hastuti, D. 2013) revealed several aspects of the perpetrators of bullying, including having a positive attitude towards violence, being impulsive,

wanting to dominate others, and lacking a sense of empathy. Teens with low levels of empathy tend to be more aggressive (Richardson, Hammock, Smith, Gardner, & Signo in (Vossen, H. G., Piotrowski, J., & Valkenburg 2015). Empathy is an essential human ability to support the success of society in social interaction (Melchers, M., Li, M., Chen, Y., Zhang, W., & Montag 2015) and as a vital component of one's moral development (Hoffman 2000). According to Batson in (Aronson, E., Wilson, T. D., & Akert 2014), empathy is a person's ability to feel and experience emotions about an experience or emotions that others have as others feel it. Empathy consists of two functional aspects, namely: specific cognitive abilities to understand the emotions of others (cognitive empathy) and how to respond emotionally to others' affective (affective empathy) (Einsberg & Strayer in (Topcu, Ç., & Erdur-Baker 2012).

Based on several studies found that there is a positive relationship between aggressive behavior and anti-social with low empathy ability (Jolliffe, D., & Farrington 2006), such as bullying behavior (Ozkan & Cifci in (Rachmah 2014). Low levels of empathy, both cognitive and affective, also predict cyberbullying and victimization behavior in adolescents (Schultze-Krumbholz, A., & Scheithauer 2013); Steffgen, König, Pfetsch, & Melzer in (Topcu, Ç., & Erdur-Baker 2012). From several studies that have been described above show that empathy has a role that can predict a person to conduct aggressive behavior such as cyberbullying. The lower the level of empathy a person has, the higher the probability of cyberbullying, and conversely, the higher the level of empathy a person has, the lower the likelihood of cyberbullying. Someone who has high cognitive empathy can understand the feelings of others and feel it too, so they are less likely to engage in cyberbullying behavior because they can participate in feeling pain or sadness from the victim. Actors who can not understand what is perceived by the victim, it is possible the perpetrator also can not experience what is felt by the victim.

Cyberbullying perpetrators must, of course, have targets to be victims. Both online and direct, victims who have the potential to become victims of bullying and cyberbullying are usually those who come from minorities such as LGBT groups, have mental disorders or are disabled, have emotional or family difficulties (Livingstone, S., Mariya, S., & Kelly 2016), look different, or junior class (has no power) (Tumon 2014). The negative impact certainly appears to the victims and even to the

perpetrators, especially psychological effects. Adolescents who experience cyberbullying both as victims and perpetrators are reported to have high levels of anxiety, high levels of depression (Ayas 2014); (Nixon 2014), increased problems in schools and participation in other real-world behavioral problems (Editorial 2013), even has the idea to kill or commit suicide (Patchin, J. W., & Hinduja 2010a); (Sabella, R. A., Patchin, J. W., & Hinduja 2013). Psychological problems arising from the phenomenon of cyberbullying cannot be considered trivial since several suicides due to cyberbullying are reported in the United States, such as Ryan Halligan, Daniel Briggs, Megan Meier, and Rebecca Sedwick (Famous.id 2017). So from the above phenomena and can be seen from the impact that occurs, the case of cyberbullying is a social problem that is very detrimental to the victim, and even thoughts of suicide may arise, so it is worth further investigation on how to prevent or reduce cyberbullying behavior.

From the phenomenon that has been described, researchers want to see the role of empathy in predicting cyberbullying behavior in adolescent social media users. This cyberbullying phenomenon is unique to discuss compared to traditional bullying because it can reach people without space and time restrictions.

## 2 RESEARCH METHODOLOGY

The participants of this study were 420 respondents, but after the researchers removed the outliers, there were 366 respondents counted. Respondents are students studying in Jakarta (BINUS and UNJ), with an age range of 18-21 years. The sampling technique is probability sampling, namely simple random sampling and cluster sampling. Measuring instruments used to measure empathy are Jolliffe & Farrington's Basic Empathy Scale (BES), and Cyber Bullying Scale is taken from CVBS's (Çetin, B., Yaman, E., & Peker 2011), measuring instruments in the form of a questionnaire distributed directly to respondents. The design of this research is applied research based on its benefits and analytical study based on its purpose, with a quantitative approach — data processing techniques using logistic regression that will be processed by SPSS version 20.

## 3 RESULT AND DISCUSSION

There were 420 respondents taken for the sample. However, as many as 54 participant data were discarded because they did not fit the participant's characteristics, and the data were outliers (extreme data). Thus, valid respondents numbered 366 people. The general description of the subjects in this study is broken down by gender, university, age, and department. There is also a description of the respondent's online behavior that is broken down based on the owned social media, the activities that are most often carried out on social media, the most frequent online events, and the duration of internet usage per day. The description of study participants can be seen more clearly in the following tables 1 and 2:

Table 1: General description of the subject

	N	Category	Amount (Frequency)	Percentage	
Gender	366	Male	133	36.3%	
		Female	233	63.7%	
University	366	Binus	221	60.4%	
		Marketing	92	25.1%	
		Communication			
		Science of Computer School	58	15.8%	
		Information System	35	9.6%	
		Mass Communication	36	9.8%	
		UNJ	145	39.6%	
		Mathematics	58	15.8%	
		Psychology	53	14.5%	
		Special education	34	9.3%	
	N	Minimum	Maximum	Mean	Std. Deviation
Age	366	18	21	19.32	0.814

In table 1 above, from 366 respondents used in this study, it can be seen that there are 133 men (36.3%) and 233 women (63.7%) with an age range of 18-21 years, having an average of 19, 32 and a standard deviation of 0.814. Respondents were drawn from two universities namely Bina Nusantara University (Binus) totaling 221 respondents (60.4%) and 145 respondents (39.6%) from Jakarta State University (UNJ), from six majors namely; marketing communication 92 people, Mathematics 58 people, IT (information technology) 58 people, psychology 53 people, IS (information systems) 35 people, mass communication 36 people, and PLB (extraordinary teacher education) 34 people.



Table 2: Overview of subject online behaviour

	N	Category	Amount (Frequency)	Percentage		
<b>Owned social media</b>	366	Line	361	98.6%		
		Instagram	330	90.2%		
		Facebook	279	76.2%		
		Snap Chat	171	46.7%		
		Twitter	212	57.9%		
		Path	186	50.8%		
		Anonymous App	10	2.7%		
<b>Online activities that are usually done</b>	366	Ask.Fm	96	26.2%		
		Social Media	302	82.5%		
		Browsing	283	77.3%		
		See News Online	202	55.2%		
		Playing Games	149	40.7%		
		Online Shopping	127	34.7%		
		Chatting	299	81.7%		
		Watching film/video	241	65.8%		
		Internet Banking	88	24%		
		E-mail	181	49.5%		
		<b>Duration online</b>	366	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>
	1			12	6.18	3.011

From table 2, it can be seen that each person can have more than one social media and online activities carried out every day. Line is the most social media application owned by respondents, as many as 361 people (98.6%) have the application. The next applications that most respondents have are Instagram (90.2%), Facebook (76.2%), Twitter (57.6%), Path (50.8%), SnapChat (46.7%), Ask. Fm (26.2%), and finally, anonymous applications (2.7%). Of the 266 respondents, online activities that were mostly carried out were social media. 302 people (82.5%), followed by chat activities (81.7%), browsing (77.3%), watching films / videos (65.8 %), view news online (55.2%), e-mail (49.5%), play games (40.7%), shop online (34.7%), and finally to use internet banking (24%). The table above also shows the respondent's online duration per day. From 366 respondents, it is found that the average person who uses his time to do online every day is 6 hours 18 minutes (6.15), and with a span of 1-12 hours per day.

Meanwhile, table 3 illustrates the results of the descriptive statistics of each variable used in this study, which contains the mean, standard deviation (SD), maximum, and minimum values. These values are presented in the following table:

Table 3: Descriptive results

	N	Min	Max	Mean	Std. Deviation
Empathy	366	49	88	69.81	7.617
Cyberbullying Behavior	366	22	54	31.32	6.608
Valid N	366				

Based on the table above, it is seen that the minimum value of empathy is 49 and 88 for the maximum value with an average of 69.81 and a standard deviation of 7,617. While the value of the

cyberbullying behavior measurement tool is 22 for the minimum value and 54 for the maximum value, the average obtained is 31.32, and the standard deviation is 6.608. From this table, the average possessed by a cyberbullying behavior measurement tool will be a reference to determine norms or categories that can be seen in table 4.

Table 4: Cyberbullying behaviour score categorization

Category	Formula	Frequency	Percentage
High Cyberbullying Behavior	$X > 31.32$	149	40.7%
Low Cyberbullying Behavior	$X \leq 31.32$	217	59.3%

From the table above, it can be seen that people who have high cyberbullying behavior are 149 people with a percentage of 40.7%. While cyberbullying behavior is low as much as 217, with a rate of 59.3%.

In processing the logistical model test, it will look at the amount of R square with Nagelkerke R Square to find out how much the ability of the independent variables in explaining the dependent variable. The second test is to test the goodness of fit with the Hosmer and Lemeshow Test to determine whether the regression model is right or not; the model is said to be good or right if there is no significant difference between the model and its observational value. The final step is to test the significance of the variables and determine whether the research hypothesis is accepted or not (Brace, N., Kemp, R., & Snelgar 2012). Data processing using SPSS 20 software. First, researchers looked at the magnitude of Nagelkerke R Square to find out what percentage (%) variance of the independent variables can explain the dependent variable. The results of the quantities can be seen in table 5.

Table 5: Nagelkerke R square

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	489.855 <sup>a</sup>	.013	0.18

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

From the table above, it can be seen that the Nagelkerke R2 value is only 0.18, which indicates that the proportion of variance and the independent variable is empathy in explaining the dependent variable, i.e., cyberbullying behavior is only 18% while other factors outside the model explain 82%.

Next, the researcher analyzes the goodness of fit to see whether the model formed is good or not. The results of the analysis can be seen in Table 6 below:

Table 6: Hosmer and Lemeshow test

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	4.916	8	0.766

From the Hosmer and Lemeshow tables, it can be seen that in this study, the Chi-Square model has a value of 4.916 with a degree of freedom (df) 8, and a significance of 0.766 ( $> 0.05$ ). This shows that the fit model is good, which indicates that the logistic regression model is following the data. In other words, it can be said that the null hypothesis, which states that there is no significant role of empathy to predict cyberbullying behavior, is rejected. That is, there is a role for empathy to predict cyberbullying behavior.

Later, researchers looked at the regression coefficient of the independent variable, namely empathy for cyberbullying behavior. If ( $p < 0.05$ ), the coefficient is significant. The results obtained from the calculations can be seen in table 7.

Table 7: Logistic regression test

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step <sup>a</sup>	Empathy	-.031	.014	4.732	1	.030	.969
	Constant	1.783	.996	3.205	1	.073	5.946

From the above table, it can be seen that the regression coefficient of -0.31 with a significant value of 0.03 ( $p < 0.05$ ), which means that negative variables negatively play a role in predicting cyberbullying behavior significantly.

From the results of Nagelkerke R2 data analysis in table 5, it can be seen that empathy gives a proportion variance of 18% to be able to explain cyberbullying behavior. From the conclusions drawn, it can be seen that the null hypothesis is rejected. Then there is a significant role of empathy to predict someone to do cyberbullying behavior, with a significance result of 0.03 ( $p < 0.05$ ). This is following the theoretical study described previously, which states that the perpetrators of bullying and cyberbullying are influenced by empathy factors (Olweus in (Karina, Hastuti, D. 2013); Stica in (Larasati 2016). The data shows that the higher the level of empathy a person has, he can have a low level of cyberbullying behavior, and

vice versa. From these data, it can be explained that someone with a low level of empathy will have higher cyberbullying actions than those with a high level of empathy. This supports several previous studies by (Schultze-Krumbholz, A., & Scheithauer 2013), and Steffgen, Konig, Pfetsch, & Melzer (in (Topcu, Ç., & Erdur-Baker 2012) which states that low levels of empathy (cognitive and affective) can predict cyberbullying behavior and victimization in adolescents. Cyberbullying is an aggressive behavior because it intentionally wants to attack and hurt others through information and communication technology (Nordahl, J., Beran, T., & Dittrick 2013); (Nixon 2014); (Süreci 2016).

Meanwhile, empathy is an affective nature, which is a person's capacity to experience emotions from others (Bryant 1982), and cognitive abilities, where someone can understand the feelings of others (Hogan 1969). It can be seen that if someone has a low level of empathy, where someone is challenging to understand and experience emotions with others. It will certainly make that person more likely to commit acts of aggression, one of which is cyber bullying because the person does not position themselves as victims and do not understand how the victim feels. Factors from being a perpetrator or victim in traditional bullying can also predict cyberbullying behavior in the future (Schultze-Krumbholz, A., & Scheithauer 2013), this is in line with research that found that people with low empathy also tend to engage in bullying behavior (Rachmah 2014). In (Rachmah 2014), it was found that various reasons for someone to become a perpetrator, such as when the victim did not fulfill the wishes of the perpetrator. They also reasoned that in a social environment, conflict might never occur, the perpetrators also assumed that their actions were right or not wrong, so they did bullying or cyberbullying. The mindset that shows that their behavior is not a mistake shows that their cognitive empathy is low. The possibility of bullying or cyberbullying behavior in the future will be repeated.

The advantage of this research is that researchers have adequate resources to describe the problems and phenomena that exist because this phenomenon has occurred globally and is very close to almost everyone who uses information and communication technology. The number of respondents in this study is also large and representative to describe the real conditions in the population.

The limitation of the researchers is that this study did not specifically test clinical samples or

participants who were not cyberbullying but only with the criteria of ever using social media. The second limitation is the measuring instrument used to have sentences that have the potential to bring up social desirability.

#### 4 CONCLUSION AND RECOMMENDATION

The conclusion that can be drawn from this study is empathy can predict cyberbullying behavior in social media student users in Jakarta. The higher the level of empathy a person has, the less likely a person is to have high cyberbullying behavior, and vice versa.

Suggestions for further research is to examine more in-depth about cyberbullying behavior by using other relevant variables. It can be taken from problems in internet users or problematic internet use (PIU), characteristics of actors such as personality, level of aggression, morals, or factors that can make someone do that. The second suggestion is that if you want to adopt the Cyber Victim and Bullying Scale (CVBS) measurement tool. You should make sentences to the point and not have the potential to generate social desirability, to minimize the response of respondents who want to show themselves good or pretending to be good.

Suggestions for the government, educational institutions, training institutes, and psychologists to create a skill or training to increase empathy, because seen from the results of an increase in empathy can reduce cyberbullying behavior. Suggestions for parents, family, friends, school, and everyone to pay attention together and prevent people around to commit cyberbullying. Cyberbullying behavior, in addition to harm, will have a lot of negative impacts, especially in terms of psychological for the victim and perpetrator. For everyone who uses information and communication technology, researchers recommend always using it in positive and constructive ways for themselves and others. The technique can be used to add insight, learn, find information, and of course, communicate and socialize positively.

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