Students' judgments on different cyberbullying incidents: the relationship between moral philosophy and intention to engage

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Abstract

This article draws on moral theory to explore how 415 adolescents made decisions when confronted with cyberbullying events and further examines whether adolescents with different individual factors (i.e., gender and educational level) have differences in moral philosophy and cyberbullying intention. A scenario-type questionnaire including three cyberbullying events (harassment, denigration and exclusion) was employed to investigate how students apply five moral philosophies in different cyberbullying cases and their engagement intentions in these activities. The results indicated that adolescents adopted a mixed moral philosophy to evaluate cyberbullying events. Females were more inclined to adopt stricter moral equity and relativism to evaluate cyberbullying incidents, while males possessed stronger cyberbullying intention in all scenarios. Junior high school participants tended to believe that all types of cyberbullying are less beneficial to them than university participants. In addition, five moral philosophies can conjointly forecast intentions in three scenarios, accounting for 42 to 57% of the variance. Among them, moral equity is a common predictor. Based on the results, recommendations are provided to reduce the possibility of cyberbullying occurrence by strengthening the content of moral education.

Keywords Cyberbullying · Moral philosophy · Decision-making

Introduction

In 2014, a report compiled by Gladden, Vivolo-Kantor, Hamburger, and Lumpkin for the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (CDC) and U.S. Department of Education indicated that "Bullying is one type of

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violence that threatens a youth's well-being in schools and neighborhoods (p. 1)." This description clearly shows the danger of bullying to students; however, bullying does not exist in only the real world. With the growing popularity of Internet technology and social media platforms, traditional bullying has been transformed into online forms, such as cyberbullying, and represents a new form of cyber risk.

The prevalence of cyberbullying may be higher than expected and is rising every year. Newall's Ipsos Group's Global Advisor study (2018), conducted in 29 countries, found that global awareness of cyberbullying is high (75%), and one in three parents worldwide (33%) reported knowing a child in their community who had been cyberbullied, up from 26% in 2011. Globally, 17% of parents say their own child has experienced cyberbullying.

Cyberbullying can be far more harmful than traditional bullying because unlike in-person bullying, which is restricted by time and place, cyberbullying can reach a victim anywhere and anytime, leaving a bullied child in a perpetual state of apprehension (United Nations International Children's Emergency Fund China, n.d.). In view of the substantial negative impact that cyberbullying has on students, it is urgent and necessary to conduct in-depth research on cyberbullying incidents and to propose solutions to address the problem. In this regard, moral philosophy offers an alternative perspective that helps us better understand it.

Moral reasoning represents the mental process by which people make decisions of right or wrong in a moral dilemma (Omery, 1989). In contrast, moral philosophy, a basis of moral decision-making, reflects the most fundamental value system of the individual, and moral standards and positions vary across moral philosophies. Therefore, analyzing the moral philosophy that individuals hold in the face of moral issues will help provide an understanding of the reasons individuals make moral decisions from their core values (Shu, 2019).

As judging bullying incidents from an involved perspective is challenging, individuals in bullying situations may use a series of philosophical assumptions as the basis for moral decision-making. Moral philosophy provides standards for behavior, the intention of the actor and the judgment of the consequences of the behavior (Yoon, 2011) in this respect, so it can be seen as a reference indicator to explain the situation of individuals involved in moral issues. Considering that adolescence, which includes students from junior high school to university, is an important stage in establishing personal values (Chen et al., 2005; Wu & Jou, 2009) and a critical period for bullying to occur, it is important to explore the moral philosophy and cyberbullying behavioral intentions of students in this period.

As expected, moral philosophy has individual differences and can be influenced by personal attributes. For example, Singhapakdi (1999) reviewed relevant research and concluded that gender, religiosity, education, experience, and salary affect the moral philosophy of employees (as cited in Hong & Huang, 2012). Studies have also shown that different moral philosophical claims held by individuals have different degrees of impact on cyberbullying (e.g., Donat et al., 2019) and other online risk behaviors (e.g., Yang, 2012; Jung, 2009; Workman, 2012). This study therefore focuses on gender and educational stages, which are closely related to the personal attributes of student identity, to understand their relationships with moral philosophy and cyberbullying.

It is worth noting that the sensitivity of bullying may make subjects reluctant to share their true moral thoughts and experiences. Scenario design would help obtain more objective information because it attenuates the well-known "halo" or "social desirability" effect by presenting participants in a perspective rather than in a truthful manner. Therefore, the moral philosophies adopted by individuals in cyberbullying incidents are explored to

inform individuals' moral reasoning from different perspectives and detect the quality of their moral justifications independently of perceived social norms and social desirability biases, which is likely to be linked to refraining from bullying behavior.

As mentioned above, we attempt to explore the relationship between intention and moral philosophy in this study. This is because most previous research has focused on bullying behaviors and given less attention to the effects of intent. However, behavior and intention are inseparable. As stated by Ajzen (1985), a large number of behaviors in daily life are controlled by volition. Bullies are likely to first have bullying intentions and then engage in bullying behavior.

Interestingly, later in 1991, Ajzen suggested that when predicting the intention of unethical behavior, one must take into account the individual's moral obligations or ethics (as cited in Newton et al., 2013). This implies that the intention of individual deviant behavior may be related to a person's moral and philosophical tendencies, and this statement was later confirmed by empirical evidence. For example, extant research has found that moral obligations can effectively predict dishonest academic behavioral intentions (Cronan et al., 2018). Although cyberbullying is different from academic dishonesty, both are deviant behaviors; thus, cyberbullying intentions may be similar to academic dishonesty intentions, all affected by moral factors.

One of the goals of educational research is to solve educational problems. An examination of the relationship between intention and moral philosophy could clarify how the existence or absence of moral philosophy affects cyberbullying intentions and provide targeted suggestions to prevent and address cyberbullying incidents. That is, a better understanding of whether adolescents use moral reasons to justify their decision making when faced with cyberbullying as well as what moral reasons they use and how is crucial if we are to target educational policy and practice promoting anti-bullying education to address issues of cyberbullying that undermine our collective well-being, happiness and flourishing.

In addition, an individual's moral values, norms, and behaviors are influenced by culture (Wang et al., 2021). The results of a large-scale moral study by Doğruyol et al. (2019) indicate that moral foundations vary across Western and non-Western cultures. Although the same situational statements are embedded in the same moral foundations, the strength of the link between the statement and the foundations is different in Western and non-Western cultures. Collectivism, Confucian culture, and face consciousness in Chinese society may have unique implications for moral identity, such as strict compliance with social norms and emphasis on public interests (Wang et al., 2021). This accounts for cultural differences in reference to moral foundations when confronted with moral situations.

Against this backdrop, this research is an important supplement to the application of practical suggestions in moral philosophy based on the Chinese cultural context. Therefore, the purpose of this study is to fully understand the connection between cyberbullying intentions and moral philosophical choices and to make recommendations based on this practical prevention.

Literature review

The prevalence of cyberbullying, relevant factors, and cyberbullying intentions

In previous studies, bullying was considered to occur with malicious intent and to be a repetitive behavior (Megele et al., 2018). It may cover a range of activities, including

hitting, pushing, spreading slander, provoking, making threats, extortion, and robbery (Dawkins, 1995). Other forms, such as name calling, teasing, verbal threats (Jacobsen & Bauman, 2007), and interpersonal exclusion, are also included. With the increase in technology products and internet usage, ICT-based bullying behavior has become prevalent. Specifically, cyberbullying is defined as clearly intentional and repetitive hostile or hurtful behavior caused via electronic devices (Huang et al., 2019).

The number of cyberbullying participants and victims around the world is difficult to ignore. Studies scrutinizing cyberbullying among school-age children and adolescents across various social networks around the world have reported various rates of cyberbullying. For example, Rao et al. (2019) surveyed 2590 Chinese students in grades 7 to 10 and found that 28.0% ($n = 725$) of participants reported being a perpetrator and 44.4% ($n = 1150$) reported being a victim in the previous 6 months. Utilizing a community-based, cross-sectional design, Albdour et al. (2019) explored 150 Arab American adolescents' experiences in cyberbullying and found that 34% of adolescents reported cyberbullying victimization and 26.7% reported cyberbullying perpetration at least once in the past year. Livazović and Ham (2019) conducted a survey of 259 Croatia participants (202 female) aged 19 to 25 years. They found that 58.1% experienced some form of cyber violence. Aoyama et al. (2012) surveyed 551 students from five junior high schools in Japan and found that 18% were cyberbullies or cybervictims, 8% were cyberbullies only, and 7% were victims only. These studies show that cyberbullying is not a regional phenomenon and that the prevalence may exceed our current estimations.

Gender is often included as a basic attribute in research on youth online bullying behavior. Interestingly, different researchers have reached different conclusions with respect to gender. Frisen et al. (2014) found that some male victims may have difficulty telling others about their own experiences of being bullied. Out of a stronger drive for vengeance, boys may also be more likely to become bullies by using bullying as a coping strategy. Zhou et al. (2019) surveyed 855 students from five universities in China and found significant gender differences in cyberbullying, with males reporting more cyberbullying than females in all three dimensions of perpetration, victimization, and bystander behavior. However, some researchers have suggested that gender factors have no obvious effect on cyberbullying behavior (Lucas-Molina et al., 2018; Robson & Witenbegr, 2013; Tokunaga, 2010). The different results may be due to technological development making cyberbullying free of gender restrictions (Robson & Witenbegr, 2013).

Given that a series of adult studies have revealed the predictive significance of behavioral intentions on actual behaviors, future studies on child bullying should focus on intentions and behaviors and their interrelationships (Nesdale et al., 2008). Some studies also support the idea that men have a stronger intention to engage in cyberbullying (e.g., Bastiaensens et al., 2014). The conclusion that boys have stronger bullying intentions was also made in traditional bullying research (Sargin, 2017; Yüksel-Şahin, 2014).

Regarding for age difference, in 2013, Pryce and Frederickson investigated 338 British 8th–11th grade students and found that changes in bullying behavior are related to students' intentions and sense of control over participating in bullying behavior. Although few studies have considered the relationship between cyberbullying intentions and cyberbullying behavior, based on the extant evidence in traditional bullying research, we speculate that cyberbullying intentions are likely important factors in inducing cyberbullying behavior. In addition, we also believe that students of different ages have different intentions to engage in cyberbullying, especially young students who are more likely to bully others, because the relatively immature moral development of young students may lead them to have stronger intentions to bully others. For those with a lack of moral competence, it may

be difficult to apply moral principles in some complex or ambiguous situations (Lind, 2008). Less morally competent adolescents may make mistakes in judging situations and hold distorted justifications, suggesting that the victim might have morally deserved her plight (Bandura et al., 1996), and these rationalizations make them more willing to engage in related behaviors. In this light, it is possible that male and young students have a stronger cyberbullying intention than female and older students, and these hypotheses will be tested in this study. Specifically, we compare students of two sexes, and students at three different educational stages.

The relationship between moral philosophy and cyberbullying

Moral philosophy provides people with standards to judge their own acts, the actor's intentions, and the consequences of the act (Ferrell et al., 1989). After reviewing the literature, Reidenbach and Robin (1990) classified the main moral philosophies into five categories, namely, moral equity, relativism, contractualism, egoism, and utilitarianism. The basis for the judgment of moral equity is based on whether the behavior is equal, fair and just (Kohlberg, 1976). Relativism believes that moral judgment does not have a unified objective standard but relies on social culture and norms. Given that different cultures hold different sets of moral values (a bicultural stance of viewing the self as independent vs interdependent, individualism vs. collectivism, or multiple culture variations), no moral values are the same across all cultures. Contractualism judges the moral aspect of an action against individual duties, contracts and/or obligations. Egoism considers only the consequences to the individuals' own interests, while utilitarianism is different in that individuals act not for the betterment of the self but for the betterment of society. Maximizing social benefits is also a consideration.

After reviewing the literature, Rogers et al. (2006) mentioned that ethical issues are often taken into consideration when conducting cyber risk behavior research. Jung (2009) studied the reaction of Japanese students to inappropriate online behavior (plagiarism, piracy, privacy violations) and found that students tended to judge piracy in terms of contractualism and plagiarism with respect to utilitarianism. However, Jung (2009) also found that, in addition to egoism, other moral philosophies have different degrees of application in the three scenarios, revealing that individuals may adopt mixed moral philosophies to judge behavior and that there are individual differences. Workman (2012) investigated the pseudonyms, frequency of use, and moral philosophy of some employees posting anonymously on Google, Bing, Yahoo, and Dogpile and found impulsivity and vengefulness were associated with cyber-smearing, and this behavior was amplified by ethical relativism. Donat et al. (2019) surveyed 1045 students aged 13 to 18 years in Germany and found that the greater the moral justice experienced by students, the easier it is for them to believe that they have been treated fairly by teachers and classmates and the less likely they will be to participate in or suffer from cyberbullying. This finding indicates a special relationship between moral philosophy and cyber risk behavior that deserves further investigation.

The aforementioned empirical research shows that moral philosophy plays an important role in people's moral judgment when facing cyber risk behaviors and may cause changes in people's actions. Unfortunately, only a small portion of the research is directly related to the relationship between moral philosophy and cyberbullying behavior. Similarly, few studies have explored the relationship between moral philosophy and cyberbullying intention. With this, we have designed more contextually sensitive bullying scenarios with five

moral theories to bring more attention to how character and virtues influence individuals' decisions and actions.

Specifically, we were interested in how students in middle adolescence to late adolescence justify their morally engaged or disengaged actions and how their reasoning aligns with the five moral theories of moral equity, relativism, contractualism, egoism, and utilitarianism. To further investigate the differences between students at different periods, we attempt to collect data from junior high school to university and use the educational stages as the basis for subsequent analyses. Here, we hypothesize that students at different educational stages will have different moral philosophies. Additionally, based on past studies (Armstrong et al., 2019; Bartels & Pizarro, 2011; Fumagalli et al., 2011), the hypothesis of gender differences in moral philosophy was raised. For example, in Armstrong et al.'s mega-analysis of eight studies, process dissociation was used to assess utilitarian and deontological response tendencies. They clarified past findings that women have higher deontological tendencies than men and validated gender differences in deontological proclivities caused by both harm aversion and action aversion.

Notably, the five moral theories are not mutually exclusive; examining how these theories play out when confronted with online bullying may inform educators, parents and policymakers about what educational strategies informed by moral equity, relativism, utilitarian, egoism or contractualism work best.

Given that existing research revealed a relationship between moral philosophy and cyber risk behavior, we further hypothesize that moral philosophy is also related to cyberbullying intentions and will examine this hypothesis in this study. In fact, Shu (2019) indicated that few previous studies have focused on moral and ethical viewpoints, and it is worrisome to regard cyberbullying as a nonethical issue. Given that the core of cyber behavior often involves self-awareness, when harmful cyberbullying behavior occurs, the individual's moral self and superego have not played the role of checks and balances. This presents a warning sign for character education.

Thus, to compensate for the lack of exploration of these variables, we attempt to inspect how students apply the five moral philosophies in cyberbullying events and further examine the predictive power of these philosophies on their cyberbullying intentions. We proposed three research questions based on our research aims: (1) What moral philosophies do students use to judge different cyberbullying incidents? (2) What is the relationship between moral philosophies and behavioral intentions in cyberbullying incidents? (3) Do students with different background characteristics (i.e., gender and educational level) have different moral philosophies and behavioral intentions in cyberbullying incidents?

Method

Participants

We used a convenience sampling method to distribute online questionnaires to collect data. Participants participated in the questionnaire voluntarily and anonymously. The first page of the online questionnaire clearly explained the purpose of the study, how the study was conducted and how the data were analyzed. Once they started filling in the questionnaire, they understood the study and agreed to participate. Participants can exit the answer page at any time, and the system will not record the unfinished answer sheet. Finally, a total of 415 valid questionnaires from Chinese junior high school to university students (i.e.,

students in mid- to late-adolescence) were obtained in this study. Among them, 34% were male, 66% were female, 24% were from junior high school, 14% were from senior high school, and 62% were from university.

Cyberbullying scenario instruments

Three scenarios of cyberbullying (harassment, denigration, and exclusion) are used in this study. Scenario-based questionnaires are widely used to examine the moral and philosophical judgments of network deviation behavior (e.g., Ellis & Griffith, 2001; Jung, 2009; Yoon, 2011) because in certain situations, such as individual behavior in response to moral dilemmas, an individual's behavior cannot be directly observed or collected. Under such circumstances, this kind of instrument can provide an effective measurement (Jafarkarimi et al., 2016).

In the description of the scenario given to participants, to reduce the respondent's self-defense and social expectations, the third person is used to describe the plot, including the problems faced and the characteristics of the relevant situation. Each story has a virtual protagonist who is engaged in cyberbullying behavior. Scenario A (harassment) presents a case in which a perpetrator sends insulting online messages to a victim. Scenario B (denigration) presents a case in which a perpetrator disseminates online false information to damage a victim's reputation. Scenario C (exclusion) presents a case in which a perpetrator abets others to crowd out the victim in the cyber community. All behaviors described in the three scenarios are intentional and repetitive. After reading the story, the subjects responded with their perceptions of the scenario from the bystander's perspective. The expression and design of the multidimensional moral philosophy scale proposed by Jung (2009) were used in the setting of the answers.

The scale was a 7-point Likert scale composed of 12 items: four items measuring moral equity, two measuring relativism, two measuring egoism, two measuring utilitarianism, and two measuring contractualism. The higher the score is, the greater the disagreement with the doctrine. In addition to the aforementioned 12 questions measuring moral philosophy, a new question was used to measure behavioral intention. Behavioral intention is defined as the respondent's perception of his or her own behavioral intention to perform the action described in the scenario. Intention was also rated on a 7-point scale, and the higher the score was, the stronger the intent.

The Cronbach's alpha values of the five moral philosophies obtained with our sample in the three scenarios were 0.87, 0.90, and 0.92 (for moral equity); 0.78, 0.78, and 0.78 (for relativism); 0.75, 0.71, and 0.73 (for egoism); 0.60, 0.80, and 0.84 (for utilitarianism); and 0.75, 0.77, and 0.89 (for contractualism). However, since behavioral intention is measured by only one question in each scenario, the coefficient cannot be computed. Estimates can only be given for the total alpha value in the three scenarios, and the value is 0.80.

Data analysis

This is a quantitative study, and SPSS software was used to analyze the data. Specifically, descriptive statistics, regression analysis, independent samples t test, and ANOVA with the Bonferroni post hoc comparison were used to answer the research questions. Notably, if the homogeneity test was violated in ANOVA, the Welch test with the Games-Howell post hoc comparison method was used for the analyses, as the Welch test relaxes the equal variance assumption. In addition, all variables have linear relationships.

Results

Moral philosophy applied in different cyberbullying scenarios

Students' moral and philosophical choice tendencies are similar in the three scenarios considered in this study. Of the five moral philosophies, the highest average score in all three situations is observed for moral equity ($M_A = 6.18$, $M_B = 6.18$, $M_C = 6.22$), and the lowest is observed for egoism ($M_A = 5.08$, $M_B = 5.24$, $M_C = 5.29$). This revealed that students believed cyberbullying events to be least consistent with the philosophy of equity, and most consistent with the philosophy of egoism. These results also indicated that students use a mixed philosophy to judge cyberbullying incidents (Table 1).

Table 1 Descriptive statistics of moral philosophy in three scenarios

Scenario Moral philosophy	A: Harassment			B: Denigration			C: Exclusion		
	M	SD	Rank	*M*	SD	Rank	*M*	SD	Rank
Equity	6.18	1.19	1	6.18	1.11	1	6.22	1.14	1
Relativism	6.09	1.14	2	6.01	1.21	2	6.08	1.14	2
Contractualism	5.89	1.25	3	5.99	1.19	3	5.96	1.28	3
Utilitarianism	5.87	1.29	4	5.76	1.42	4	5.83	1.39	4
Egoism	5.08	1.66	5	5.24	1.72	5	5.29	1.76	5

7 = not consistent with the philosophy to 1 = consistent with the philosophy.

Gender differences in moral philosophy and intention to bully others online

Table 2 shows that the intensity of the moral philosophy applied by both sexes varies in different scenarios. In Scenario A (harassment), female students adopt stricter standards with moral equity ($t = -2.51$, $p = 0.012$) and relativism ($t = -2.04$, $p = 0.042$) more than male students. In Scenario B (denigration), female students also have harsher attitudes with moral equity ($t = -2.67$, $p = 0.008$), relativism ($t = -2.25$, $p = 0.025$), and contractualism ($t = -2.29$, $p = 0.023$). In Scenario C (exclusion), female students use more stringent standards with moral equity ($t = -2.56$, $p = 0.011$), relativism ($t = -2.56$, $p = 0.011$), and contractualism ($t = -1.98$, $p = 0.048$). In addition, there are significant differences in the cyberbullying intentions of both genders. Male students have much stronger cyberbullying intentions in all scenarios ($t_A = 3.25$, $p_A = 0.001$; $t_B = 2.12$, $p_B = 0.034$; $t_C = 3.18$, $p_C = 0.002$). Our hypothesis about intention is supported, but the hypothesis about moral philosophy is only partially supported (Fig. 1).

Table 2 Gender differences in moral philosophy and cyberbullying intent

Scenario Moral philosophy		A: Harassment				B: Denigration				C: Exclusion			
		M	SD	t	p	M	SD	t	p	M	SD	t	p
Equity[a]	M	5.97	1.20	−2.51	0.012	5.98	1.12	−2.67	0.008	6.03	1.18	−2.56	0.011
	F	6.28	1.18			6.28	1.09			6.33	1.11		
Relativism[a]	M	5.93	1.21	−2.04	0.042	5.82	1.25	−2.25	0.025	5.88	1.14	−2.56	0.011
	F	6.17	1.10			6.10	1.17			6.18	1.13		
Egoism[a]	M	5.23	1.59	1.38	0.170	5.38	1.60	1.23	0.219	5.39	1.54	0.93	0.352
	F	5.00	1.69			5.16	1.78			5.23	1.87		
Utilitarianism[a]	M	5.84	1.16	−0.30	0.768	5.68	1.33	−0.90	0.369	5.75	1.27	−0.82	0.414
	F	5.88	1.35			5.81	1.46			5.87	1.44		
Contractualism[a]	M	5.82	1.08	−0.92	0.357	5.80	1.21	−2.29	0.023	5.79	1.30	−1.98	0.048
	F	5.93	1.34			6.08	1.17			6.05	1.26		
Intention[b]	M	2.02	1.47	3.25	0.001	1.94	1.37	2.12	0.034	1.93	1.32	3.18	0.002
	F	1.55	1.24			1.66	1.28			1.52	1.09		

[a] 7 = not consistent with the philosophy to 1 = consistent with the philosophy.

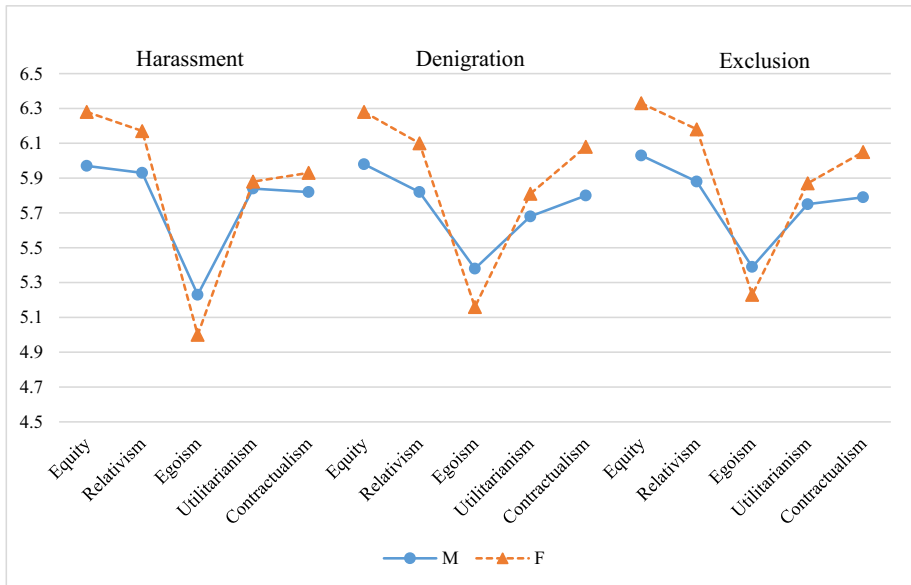[b] 7 = would like to perform to 1 = would not like to perform.

Fig. 1 Level of different moral philosophies held by students of different genders

Educational stage differences in moral philosophy and intention to bully others online

Table 3 shows statistically significant differences in three scenarios for egoism at different education levels ($F_A = 3.24$, $p = 0.040$; Welch $_B = 5.09$, $p = 0.007$; $F_C = 3.23$, $p = 0.040$). Post hoc tests indicated that junior high school students were more likely to perceive less benefit from engaging in these three types of cyberbullying behaviors compared to college students. Furthermore, in Scenario C, there were also statistically significant differences in relativism (Welch $= 5.37$, $p = 0.006$) and utilitarianism ($F = 3.79$, $p = 0.023$). Specifically, students from junior high school tend to believe that interpersonal exclusion is more inconsistent with social and cultural norms and less likely to bring overall benefits to society than college students. Nevertheless, educational level has no significant effect on cyberbullying intentions in the three scenarios ($F_A = 0.52$, $p = 0.596$; $F_B = 0.87$, $p = 0.421$; Welch $_C = 1.45$, $p = 0.239$). These results suggested that our hypothesis about moral philosophy was only partially supported, and the hypothesis about intention was not supported (Figs 2 and 3).

Table 3 Educational stage differences in moral philosophy and cyberbullying intent

Scenario Stage Philosophy		A: Harassment				B: Denigration				C: Exclusion			
		M	SD	F (P)	Post-hoc	M	SD	F (P)	Post-hoc	M	SD	F (P)	Post-hoc
Equity[a]	J	6.14	1.35	0.65[c] (0.523)		6.34	1.11	1.44[c] (0.240)		6.37	1.20	1.67[c] (0.192)	
	S	6.00	1.62			6.10	1.41			5.94	1.56		
	U	6.23	1.00			6.13	1.03			6.23	0.98		
Relativism[a]	J	6.18	1.18	0.54 (0.581)		6.22	1.23	2.04[c] (0.135)		6.39	1.08	5.37[c] (0.006)	J > SU
	S	6.10	1.27			5.93	1.52			5.87	1.50		
	U	6.05	1.09			5.94	1.11			6.01	1.05		
Egoism[a]	J	5.44	1.57	3.24 (0.040)	J > U	5.70	1.62	5.09 (0.007)	J > U	5.67	1.76	3.23 (0.040)	J > U
	S	4.94	1.94			5.17	1.92			5.12	1.88		
	U	4.96	1.61			5.07	1.69			5.18	1.72		
Utilitarianism[a]	J	6.02	1.35	1.42[c] (0.245)		6.04	1.41	2.64[c] (0.075)		6.15	1.27	3.79 (0.023)	J > U
	S	5.61	1.59			5.71	1.74			5.67	1.69		
	U	5.86	1.18			5.67	1.32			5.73	1.34		
Contractualism[a]	J	6.12	1.39	2.50[c] (0.086)		6.22	1.22	2.42[c] (0.093)		6.20	1.30	2.53 (0.081)	
	S	5.98	1.32			5.91	1.51			5.97	1.46		
	U	5.79	1.16			5.92	1.09			5.87	1.21		
Intention[b]	J	1.69	1.35	0.52 (0.596)		1.64	1.34	0.87[c] (0.421)		1.68	1.38	1.45[c] (0.239)	
	S	1.88	1.57			2.00	1.79			1.95	1.62		
	U	1.68	1.28			1.74	1.17			1.59	0.97		

[a] 7 = not consistent with the philosophy to 1 = consistent with the philosophy.

[b] 7 = would like to perform to 1 = would not like to perform.

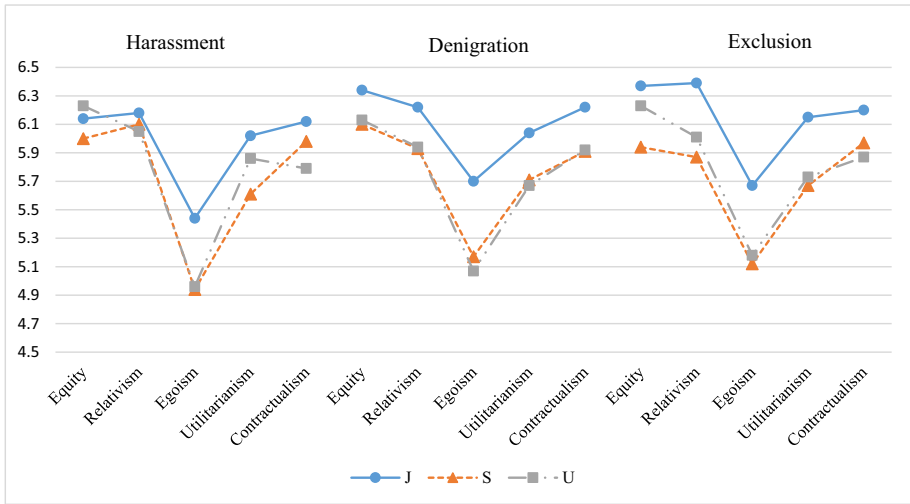[c] Welch, J indicating Junior, S indicating Senior, U indicating University.

Fig. 2 Level of different moral philosophies held by students of different educational stages
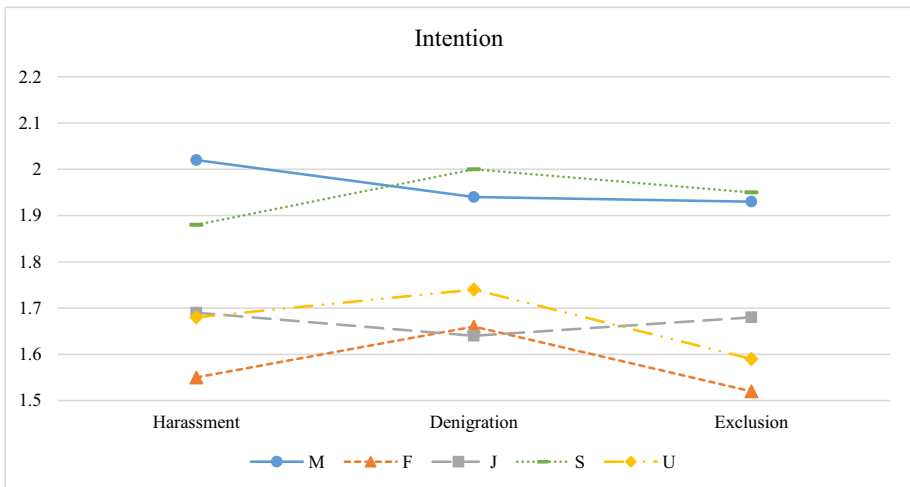

Fig. 3 Level of intention held by students of different personal traits in the three cyberbullying incidents

The predictive effect of moral philosophy on cyberbullying intention

The five moral philosophical variables of moral equity, relativism, egoism, utilitarianism and contractualism were used to perform regression analysis of cyberbullying intentions in the three scenarios, and all three models were significant ($F_A = 61.48$, $F_B = 104.19$, $F_C = 109.21$, p's < 0.001) and explained 42%, 56%, and 57% of the variance. Moral equity is a significant common predictor of all three cyberbullying incidents.

In scenario A, three philosophies of moral equity ($\beta = -0.34$, $p < 0.001$), relativism ($\beta = -0.21$, $p < 0.001$) and utilitarianism ($\beta = -0.20$, $p < 0.001$) have better negative predictive powers. In scenario B, the four philosophies of moral equity ($\beta = -0.24$, $p < 0.001$), relativism ($\beta = -0.29$, $p < 0.001$), utilitarianism ($\beta = -0.22$, $p < 0.001$) and contractualism ($\beta = -0.13$, $p = 0.030$) have better negative predictive powers. In scenario C, the two philosophies of moral equity ($\beta = -0.58$, $p < 0.001$) and contractualism ($\beta = -0.20$, $p < 0.001$) have better negative predictive powers (Table 4).

Discussion

In general, students adopted a mixed moral philosophy to judge all scenarios. Furthermore, the preference for the five moral philosophies is ranked as follows: moral equity, relativism, contractualism, utilitarianism, and egoism. Moral equity ranked the highest in all scenarios, indicating that this philosophy is widely used as a criterion for evaluating deviant behavior, echoing the conclusions of previous studies (Ellis & Griffith, 2001; Leduc et al., 2018).

Regarding gender differences, female students are more inclined to use stricter moral equity and relativism than male students in all scenarios, and they also use harsher contractualism in denigration and exclusion situations. In contrast, male students exhibit stronger cyberbullying intentions in all events.

The results reveal that females generally perceive cyberbullying from the perspectives of fairness and norms. As Bateman and Valentine (2010) suggested, in judging deviations, women's moral philosophy choices are biased toward results and rules. Since moral equity and relativism emphasize fairness, justice, or social norms, the opinion of Bateman and Valentine (2010) provides a feasible perspective to illustrate why women more often use stricter moral equity and relativism in their evaluations.

In addition, contractualism includes not only obligations but also agreements established by individual consent, such as formal contracts, verbal agreements, or tacit agreements between two parties. In the case of exclusion described in this study, interests affect a wide range of individuals and groups; therefore, individuals are more likely to use mutual agreement as a criterion for judging events. Since women are more concerned with consequences and rules (Bateman & Valentine, 2010), this decision-making tendency becomes more pronounced in girls.

Notably, although few studies have directly indicated that male students have stronger cyberbullying intentions (e.g., Bastiaensens et al., 2014), some evidence supports that men are more likely than women to engage in cyberbullying activities (e.g., Erdur-Baker, 2010), which may explain why male students have stronger cyberbullying intentions. Given that people take action after initiating intentions and that intentions are the best predictors of behavior (Rottig et al., 2011), the literature also discloses that higher cyberbullying intentions are predictive of more cyberbullying behavior (e.g., Doane et al., 2014) and even

Table 4 Regression analysis of the research variables of the three types of cyberbullying intentions

Scenario Moral philosophy	A: Harassment					B: Denigration					C: Exclusion				
	B	SE	β	t	p	B	SE	β	t	p	B	SE	β	t	p
Equity	−0.38	0.06	−0.34	−6.02	<0.001	−0.28	0.07	−0.24	−3.85	<0.001	−0.61	0.07	−0.58	−9.26	<0.001
Relativism	−0.25	0.07	−0.21	−3.76	<0.001	−0.31	0.08	−0.29	−4.18	<0.001	−0.03	0.08	−0.03	−0.39	0.698
Egoism	0.06	0.03	0.07	1.74	0.083	0.05	0.03	0.06	1.45	0.147	0.01	0.03	0.01	0.26	0.797
Utilitarianism	−0.20	0.05	−0.20	−3.91	<0.001	−0.20	0.05	−0.22	−4.22	<0.001	0.01	0.04	0.01	0.15	0.882
Contractualism	−0.06	0.05	−0.06	−1.14	0.256	−0.14	0.07	−0.13	−2.18	0.030	−0.19	0.05	−0.20	−3.69	<0.001
	$F=61.48, p<0.001$ $R=0.67, R^2=0.43$, adj $R^2=0.42$					$F=104.19, p<0.001$ $R=0.75, R^2=0.56$, adj $R^2=0.56$					$F=109.21, p<0.001$ $R=0.76, R^2=0.57$, adj $R^2=0.57$				
VIFs	1.81~2.33					1.61~4.36					1.53~3.80				
tolerances	0.43~0.77					0.23~0.40					0.20~0.66				
	$r=-0.21\sim-0.60, p's<0.001$					$r=-0.31\sim-0.70, p's<0.001$					$r=-0.30\sim-0.74, p's<0.001$				

r = correlation coefficient between dependent and independent variables; all VIFs and tolerances meet the requirement.

future cyberbullying behavior (e.g., Heirman & Walrave, 2012; Pabian & Vandebosch, 2014).

Therefore, it is not surprising that male students were found to have stronger cyberbullying intentions based on a combination of past literature findings and the close relationship between intentions and behaviors. Interestingly, after reviewing the literature, Wong et al. (2018) indicated that gender differences in cyberbullying appear to be driven by differences in motivational factors between men and women. For example, compared with men, women, who usually have higher emotional and cognitive compassion, are less likely to engage in aggression online. In addition, women are more concerned about what others think of them and tend to cover up their negative emotions and be less willing to retaliate against cyber bullies.

Our results revealed that junior high school students possessed stricter egoism in judging all cyberbullying events than university students. They also viewed exclusion as more inconsistent with the philosophy of utilitarianism and relativism than their university counterparts. Higher levels of education may involve people considering alternative perspectives or extenuating circumstances more fully, rather than judging complex ethical issues in narrow absolute terms (Nikoomaram et al., 2013), which may lead college students to adopt less rigorous moral philosophy to scrutinize these deviations.

Finally, the regression models revealed that moral equity is a common negative predictor of the three types of cyberbullying intentions. In addition to moral equity, relativism and utilitarianism have negative predictive power for harassment intention; relativism, utilitarianism, and contractualism have negative predictive power for denigration intention; and contractualism has negative predictive power for exclusion intention.

Leonard et al. (2017) indicated that moral fairness involves family recognition, which means that personal moral fairness is cultivated in the family education stage. Compared with other values, a sense of moral justice may take longer to develop and may be more deeply rooted in personal moral codes. In addition, moral equality is applied exclusively (Resick et al., 2013), so it is not surprising that it has been found to be the most significant and commonly used criterion. In fact, the inhibitory effect of moral equity on bullying intentions has been indirectly supported in some studies (e.g., Yoon, 2011), and the influence of moral equity on event judgment has also been confirmed.

This study also found that relativism, utilitarianism, and contractualism have negative predictive power for the intention to engage in specific cyberbullying events. When studying deviant behaviors, many researchers have discovered the predictive effects of the above three moral philosophies (Yang, 2012; Jung, 2009; Yoon, 2011).

Given that relativism has no universally applicable rules, its code of conduct is determined by individuals and environments (Williamson et al., 2011). Students possessed stricter relativism in both harassment and denigration incidents, implying that they were more likely to disagree with these two types of cyberbullying, which may therefore inhibit their internal intentions. Specifically, compared to exclusion, which occurs only in certain communities, the harmful effects of harassment and denigration on victims are more serious. The severity increases when the frequency of message attacks and the quantity of false information increase. Culture and society regard these two events as more unacceptable than exclusion; therefore, the intentions of those with higher relativism are further suppressed.

Utilitarianism, as an ethical code considering scenarios in their entirety, is the belief that people act for the benefit of society. This mindset is also closer to Chinese culture, which places more emphasis on the collective than on the individual. Engagement in the

cyberbullying behaviors of harassment and denigration is clearly not beneficial to the interests of the whole society, which may be the reason for their suppression of bullying intentions.

In addition, students rely on contractualism and moral equity to make judgments about unethical events, reflecting that students may be more restricted by these two philosophies (Yang, 2012). Nguyen et al. (2008) also found that the stronger the level of contractualism exhibited by students, the less likely they are to hold unethical intents. Therefore, in terms of cyberbullying behavior, the stricter the contractualism belief one holds, the harder it is to generate bullying intentions. Nevertheless, the rationale that students adopt relatively harsh contractualism to assess denigration and exclusion events requires further verification.

Conclusion

This study explores moral decision-making in online bullying through a multifaceted moral theoretical lens that focuses on the relationship between cyberbullying intentions and moral philosophy choices and compares the differences between the two genders with respect to the two aforementioned factors.

The results show that when faced with different scenarios of cyberbullying, students use a mixed moral philosophy to make moral judgments. In terms of gender differences, female students generally use stricter standards with fairness and norms than male students and tend to adopt relatively harsh beliefs of moral equity, relativism and contractualism to judge denigration and exclusion events. In contrast, male students show a higher intention to bully others online. In addition, junior high school students were more likely to judge bullying incidents in terms of self-interest and perceived less benefit than college students. Interestingly, utilitarianism and relativism appeared to have a greater impact on junior high school students than college students in exclusion incidents. Finally, regression analysis indicated that in three different cyberbullying incidents, moral philosophy has medium predictive power for cyberbullying intentions. Different moral philosophies have negative predictive powers in certain scenarios, and moral equity is a common predictor in all cases. These results indicate that some moral philosophies may indeed have inhibitory effects on students' behavioral intentions.

Recommendations for future studies

Despite obtaining some conclusions, this study suffers from some limitations. We examine only three situations of harassment, denigration, and exclusion; however, there are many different types of cyberbullying, and it continues to escalate with the advancement of social networking. This factor has led to the failure of the present study to derive students' attitudes toward all types of cyberbullying and their intentions to participate in different types of cyberbullying, which has weakened the universality of the research.

It is hoped that future researchers can use cyberbullying tools with more detailed classifications to conduct investigations to fully understand the attitudes and behavioral intentions of subjects facing different types of cyberbullying. The order of presentation of the content of cyberbullying tools should also be considered, especially when using an instrument that takes participants a great deal of time to complete their responses.

Additionally, in view of the enormous influence of peers in the adolescent period, it would also be interesting to examine how students perceive their peers' cyberbullying behavior, intentions and attitudes and compare themselves with others.

Implications for educators to help stop cyberbullying

As many studies have shown, punishment is not the best response to discourage deviant behavior; it may also have some side effects (Mayhew & Harris, 1978). Some studies note that rules and punishments that make students feel unfair may even increase the probability of victims being bullied (Kupchik & Farina, 2016). Therefore, instead of taking punitive measures, we suggest that teachers attempt to reduce bullying via moral education. It is also necessary to clearly inform students about the concept and scope of cyberbullying because the literature indicates that students are less able to distinguish between joking and bullying or consider offensive jokes acceptable in some cases. For example, Steer et al. (2020) found that banter might be regarded as a more socially acceptable interaction for perpetrators with high popularity or social status.

Interventions to reduce cyberbullying should be targeted. As Harrison and Polizzi (2022) mentioned, the effect of incorporating specific moral theories into character education to reduce risky online behaviors is still unclear; rather than doing so, understanding the moral theories that adolescents tend to use when faced with moral dilemmas may better enable appropriate programs to be developed. Taking our research results as an example, moral equity should be strengthened and nurtured in course designs for female students, not only because moral equity is the strictest moral philosophy applied by students in evaluating cyberbullying but also because it is the philosophy commonly used by female students; thus, it is expected to have a disincentive effect on bullying intentions. In addition, building a friendly community culture may be conducive to anti-cyberbullying (Shu, 2019), and this factor should not be overlooked.

Declarations

Conflict of interest The authors declare no competing interests.

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Huang, C. L., Zhang, S., & Yang, S. C. (2020). How students react to different cyberbullying events: Past experience, judgment, perceived seriousness, helping behavior and the effect of online disinhibition. *Computers in Human Behavior*, *110*, 106338.
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Current themes of research

Bullying and academic dishonesty in the perspective of psychology. Relationships among anxiety, subjective well-being, altruism, and COVID-19. Learning style, sense of presence, and cognitive load on learning outcomes in an immersive virtual reality learning environment, and learning performance from the perspective of positive psychology. Learning and teaching related to STREAM interdisciplinary education under the framework of education for sustainable development (steam learning literacy, such as cooperation, problem-solving skills, creatively, critical thinking as well as morality, etc.). Personality traits, friendship development model, friendship quality, and happiness of mobile game players.

The relevant publications in the field of Psychology of Education:

Huang, C. L., Zhang, S., & Yang, S. C. (2020). How students react to different cyberbullying events: Past experience, judgment, perceived seriousness, helping behavior and the effect of online disinhibition. *Computers in Human Behavior*, *110*, 106338.
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Current themes of research

Relationships among anxiety, subjective well-being, altruism, and COVID-19. Learning style, sense of presence, and cognitive load on learning outcomes in an immersive virtual reality learning environment, and learning performance from the perspective of positive psychology. Learning and teaching related to STREAM interdisciplinary education under the framework of education

for sustainable development (steam learning literacy, such as cooperation, problem-solving skills, creatively, critical thinking as well as morality, etc.). Personality traits, friendship development model, friendship quality, and happiness of mobile game players.

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Luo, Y.-F, Chen, L. C., Yang, S. C. & Hong, S. (2022). Knowledge, attitude, and practice (KAP) toward COVID-19 pandemic among the public in Taiwan: A cross-sectional study. *International Journal of Environmental Research and Public Health*, 19, 2784.

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