

Department of Psychology, CUHK:  
Online Game Playing and Early Adolescents' Online Friendship, Cyberbullying and  
Academic Performance

Table 1  
*Comparing average time spent per day on different types of games*

	Average time spent per day		
	All students	Boys	Girls
MMOGs **	67 minutes	86 minutes	47 minutes
Solitary computer games **	44 minutes	52 minutes	35 minutes
Handheld video games e.g. NDS, PSP **	44 minutes	55 minutes	32 minutes
Home video consoles e.g. Wii, Playstation 3	31 minutes	36 minutes	26 minutes

\*\* $p < .01$  (represents significant difference between gender)

Table 2  
*Eight Items of Cyber-victimization scale and cyberbullying scale*

<i>Cyber-victimization scale</i>	<i>Cyberbullying scale</i>
1. Others gossip or say mean things about me in online games/ on the internet.	1. I gossip or say mean things about others in online games/ on the internet.
2. Others say "If you don't do what I say, I will stop liking you" in online games/ on the internet.	2. I say "If you don't do what I say, I will stop liking you" to others in online games/ on the internet.
3. Others get mad at me, then they ignore or stop talking to me in online games/ on the internet.	3. I get mad at others, then I ignore or stop talking to others in online games/ on the internet.
4. Others steal my account or my belongings (e.g. money, weapons) in online games/ on the internet.	4. I steal others' account or belongings (e.g. money, weapons) in online games/ on the internet.
5. Others pretend to be my friends as a kind of revenge in online games/ on the internet.	5. I pretend to be others' friends as a kind of revenge in online games/ on the internet.
6. Others tell bad or stories about me, saying that I am a bad kid, in online games/ on the internet.	6. I tell bad or stories about others, saying that others are bad kids, in online games/ on the internet.
7. Others try to get others to dislike me because they are angry at me in online games/ on the internet.	7. I try to get others to dislike someone else because I am angry at them in online games/ on the internet.
8. Others say that they would help me but then betray me in online games/ on the internet.	8. I say that I would help others but then betray others in online games/ on the internet.

Table 3  
*Prevalence rate of Traditional school and online bullying and victimization*

Scale	score of scale >1 (have once experienced it)	score of scale >2 (have experienced it quite often)	score of scale >3 (have experienced it frequently)
Traditional school victimization	80.5%	36.1%	6.5%
Traditional school bullying	65.2%	21.9%	1.8%
Cyber-victimization	47.3%	16.3%	5.3%
Cyberbullying	31.2%	12.1%	4.0%

*Note. Participants were asked to rate on a 1 to 5 likert scale, with 1 as never; 2 as seldom, 3 as often, 4 as usually, 5 as everyday.*

Traditional school bullying refers to exerting direct or indirect aggressive acts with intention to harm in school, playground, etc. A sample item is: “I tease or make fun of others”.

Traditional school victimization means receiving direct and indirect, verbal or psychological attacks from people with the intention to harm them in school, playground, etc. A sample item is “Others tease or make fun of me”.

Cyberbullying refers to exerting deliberate and repeated harassment or threat to others in the cyberspace. A sample item is: “I gossip or say mean things about others in online games/ on the internet”.

Cyber-victimization means receiving deliberate and repeated harassment or threat by others in the cyberspace A sample item is: “Others gossip or say mean things about me in online games/ on the internet”.

Table 4  
*Percentages of participants by categories*

Participants by category (%)	
Participants who have played MMOGs in the last 3 months)	Yes (55.8%) No(44.2%)
Participants who have played MMOGs with others together (classmates or people they know from the internet)	Yes (93.4%) No (6.6%)

Table 5a

*Comparing best friendship quality in MMOGs and in real life (best friend in real life and in MMOGs is the SAME person; 27 % of those who have MMOGs friendship selected this)*

	Real life friendship	MMOGs friendship
Companionship	3.90	3.78
Help	3.90	3.75
Security	3.76	3.72
Closeness*	3.98	3.70

*Note. Companionship, Help, Security and Closeness are four constructs that can represent how good a friendship quality is.*

*Participants were asked to rate on a 1 to 5 likert scale to show how good the quality each construct is, with 1 as the lowest, 5 as the highest*

\* $p < .05$  (represents significant difference between two types of friendships)

Table 5b

*Comparing best friendship quality in MMOGs and in real life (best friend in real life and in MMOGs is NOT the same person; 73 % of those who have MMOGs friendship selected this)*

	Real life friendship	MMOGs friendship
Companionship**	3.85	3.51
Help**	3.82	3.52
Security*	3.66	3.54
Closeness**	3.84	3.42

*Note. Companionship, Help, Security and Closeness are four constructs that can represent how good a friendship quality is.*

*Participants were asked to rate on a 1 to 5 likert scale to show how good the quality each construct is, with 1 as the lowest, 5 as the highest*

\* $p < .05$ ; \*\* $p < .01$  (represents significant difference between two types of friendships)

Table 6 *Correlations among measured variables (represented by pearson's r)*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. School victimization	-									
2. School bullying	.49**	-								
3. Cyber-victimization	.30**	.35**	-							
4. Cyberbullying	.23**	.42**	.66**	-						
5. Social competence	-.36**	-.16**	-.17**	-.09	-					
6. Friendship satisfaction	-.38**	-.30**	-.24**	-.24**	.55**	-				
7. Self-esteem	-.31**	-.21**	-.20**	-.19**	.39**	.26**	-			
8. Life satisfaction	-.18**	-.17**	-.14**	-.15**	.32**	.25**	.42**	-		
9. Real life friendship	-.13*	-.24**	-.20**	-.26**	.27**	.28**	.14*	.18**	-	
10. MMOGs friendship	-.12*	-.15**	-.06	-.07	.26**	.31**	.19**	.17**	.45**	-

\*\* It represents the correlation is significant.

A negative correlation means when one variable increases, the other variable decreases, e.g, the correlation between cyber-victimization and social competence is  $-.17$ , suggesting that when cyber-victimization increases, social competence decreases.

A positive correlation means when one variable increases, the other variable increases, e.g. the correlation between online friendship and social competence is  $.26$ , suggesting that when online friendship quality increases, social competence increases.

The bigger the value of pearson's  $r$ , the stronger the relationship between the two variables.

Table 7  
*Correlations (represented by pearson's r) among total time spent on computer games, academic performance on Chinese, English, Maths and Social Studies*

	Total Time spent on computer games
Chinese	-.19**
English	-.27**
Maths	-.19**
Social Studies	-.16**

\*\*It represents the correlation is significant.

A negative correlation means when one variable increases, the other variable decreases, e.g, the correlation between time spent on computer games and Chinese is -.19, which means when time spent on computer games increases i.e. academic performance on Chinese decreases.

The bigger the value of figure is, the stronger the relationship between the two variables.