

## Cyberbullying among Adolescents: A Comparison between Iran and Finland

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### Abstract

**Objective:** The study aimed at investigating differences in frequencies of both victimization and perpetration of cyberbullying among adolescents from Iran and Finland.

**Method:** Data from a total of 1250 adolescents (615 boys, 635 girls) of three age groups (10, 13, and 15 years of age) were collected in Mashhad, Iran (n = 630) and Ostrobothnia, Finland (n = 620). The questionnaire consisted of variables measuring various types of cyberbullying, such as sending nasty text messages, nasty e-mails, and putting up nasty pictures and films on internet.

**Results:** Both victimization and perpetration of cyberbullying of all kinds were clearly more frequent in Iran. Both sex and age differences occurred, but these showed different patterns in Iran and Finland.

**Conclusion:** The overall higher levels of cyberbullying in Iran suggest that there are considerable cultural differences in the regulation of aggressive outlets among adolescents of the two countries studied. The variation in cyberbullying patterns due to sex and age in Iran and Finland points in the same direction.

**Keywords:** Cyberbullying; Aggression; Adolescence; Sex differences; Iran; Finland

### Introduction

Tokunaga defined cyberbullying as follows: "Cyberbullying is any behavior performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others" [1]. However, it is not always easy to distinguish between what should be considered as bullying rather than as regular aggression. Olweus [2] pointed out two crucial aspects that distinguish between bullying and non-bullying aggression: aggression may be a single act, whereas bullying involves repeated acts; furthermore, bully-victim relationships characteristically have an imbalance of power, making it difficult for the victim to defend himself or herself [2]. The concept of a power imbalance in cyberbullying is more complicated than in traditional forms of bullying [3]. Accordingly, it may be difficult to conclusively show that you have a case of cyberbullying rather than a case of general cyber aggression at hand. For the sake of communication, we will, however, in the following use the concept of cyberbullying for describing the phenomenon.

Since the advent of the internet and smart phone technology, cyberbullying among adolescents has become a social problem of considerable proportions. Researchers worldwide agree on that more than a third of adolescents have experiences of cyberbullying. Hinduja and Patchin [4] found that more than 32% of boys and over 36% of girls have been victims of cyberbullying. Somewhat less, 18% of boys and 16% of girls, reported perpetrating others online, mostly in chat rooms. Mishna et al. [5] showed that over 30% of adolescent students are involved in cyberbullying either as victim or perpetrator, while 25% were involved as both bullies and victims. Females were more likely than males to be bully-victims. The amount of hours per day a student is on the internet was a risk factor.

Katzer et al. [6] reported that 43.1% of participants in chat rooms in Germany have been victimized by cyberbullying. Katzer [7] found that 47% of victims of cyberbullying knew their bullies from school, while 34% knew the bullies only from the internet; 19% knew them from both school and internet. Olenikin-Shemesh et al. [8] found that

32% of adolescents reported knowing someone who was victimized.

Brighi et al. [9] found that being either a direct or an indirect victim of traditional bullying was a very strong predictor for becoming also a victim of cyberbullying for both males and females Erentaite et al. [10] found that 35% of victims of traditional bullying were also bullied in cyberspace. Adolescents who were bullied, particularly indirectly and verbally, showed a higher risk of victimization in cyberspace a year later.

Vandebosch and Cleemput [11] found even higher figures: the majority of pupils at secondary school, or 63.8%, believed that cyberbullying was a big problem. They found that 61.9% of secondary school pupils had been victims, 52.5% had been perpetrators, and 76.3% had been bystanders to at least one potentially offensive internet and mobile phone incident during the last 3 months.

**Concomitants of cyberbullying:** Sourander et al. [12] suggested that both cyberbullying and cyber victimisation are associated with psychiatric and psychosomatic problems. Cyber victimization was related with living in a family with more than two parents, perceived difficulties, emotional and peer problems, whereas cyberbullying was related to perceived difficulties, hyperactivity, conduct problems, frequent smoking, and drunkenness. Yabbar [13] found that adolescents who suffer from depressive symptoms have three time greater risk to become targets of Internet harassment compared with adolescents with milder symptomatology. Olenikin-Shemesh et al. [7] also find higher scores of depressive mood in victims of cyberbullying, in comparison

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with non-victimized adolescents.

Loneliness has been shown to be a particularly important concomitant of cyberbullying, especially of victimization from cyberbullying. Sahin [14] found that there was a significant correlation between becoming a cyber-victim and loneliness among adolescents, regardless of gender. Olenikin-Shemesh et al. [8] also found that victimized adolescents have a higher sense of loneliness than non-victimized adolescents. A study by Schultz-Krumbholz et al. [15] showed that high scores on both perpetration and victimization of cyberbullying were related to enhanced loneliness, but only in boys. Brighi et al. [9] found that low self-esteem in family relationships was a predictor for cyberbullying in boys, while loneliness in relationships with parents was a predictor for cyberbullying in girls.

Ortega et al. [16] suggested that bullying via mobile phone is less likely to provoke feelings of loneliness than bullying via the internet, or indirect bullying. They found that cyberbullying and indirect bullying produce similar emotional profiles.

Cyberbullying in Iran has hardly been researched at all. The present study was of explorative nature, and investigated both victimization from and perpetration of cyberbullying among adolescents of three age groups: 10, 13 and 15 years of age. The data was compared with data collected with the same instrument from a comparison group from Finland consisting of adolescents of the same age groups.

## Method

### Sample

Data from 630 school children from three age groups (10, 13, and 15 years of age) were collected in Mashhad, Iran, in both public and private schools (totaling 12 schools). Data from a comparison group (same age groups,  $n = 620$ , totaling 10 schools) from Ostrobothnia, Finland, was also collected. Participating schools were selected in order to be as representative as possible for the regions in question. The total sample consisted of 1250 adolescents (615 boys, 635 girls), mean age = 12.7 years,  $SD = 2.1$ . The age distribution was similar in Iran and Finland, and among boys and girls.

### Instrument

The questionnaire consisted of variables measuring various types of cyberbullying, such as sending nasty phone calls, nasty text messages, nasty e-mails, and putting up nasty pictures and films on Internet (Mini-DIA) [17]. For exact wordings of the items (Tables 1-4). The respondents had to respond on a Likert-type scale, ranging from 0 (never) to 4 (very often), how often they had been exposed to these behaviors (victim version), and how often they themselves had exposed others to such behaviors (perpetrator version).

### Procedure

Data was collected during regular school hours, by help of a paper-and-pencil questionnaire. All pupils who were present filled in the questionnaires, the response rate thus being 100% of those present.

	<i>F</i>	<i>Df</i>	<i>p</i> ≤	$\eta_p^2$	Group differences
<i>Effect of Country</i>					
Multivariate Analysis	464.97	6, 1241	.001	.692	
Univariate Analyses					
Another said nasty things to you on telephone	537.58	1, 1246	.001	.301	Iran > Finland
Another sent nasty SMS messages to you	480.60	"	.001	.278	Iran > Finland
Another sent nasty e-mails to you	604.47	"	.001	.327	Iran > Finland
Another put up nasty pictures of you on internet	1549.83	"	.001	.554	Iran > Finland
Another filmed you while someone else was evil against you	1756.78	"	.001	.585	Iran > Finland
Another filmed you while someone else was evil against you and then put the film on internet	1514.34	"	.001	.549	Iran > Finland
<i>Effect of Sex</i>					
Multivariate Analysis	7.17	6, 1241	.001	.034	
Univariate Analyses					
Another said nasty things to you on telephone	7.81	1, 1246	.005	.006	♀ > ♂
Another sent nasty SMS messages to you	2.59	„	<i>ns</i>	.002	
Another sent nasty e-mails to you	5.51	„	.019	.004	♀ > ♂
Another put up nasty pictures of you on internet	0.80	„	<i>ns</i>	.001	
Another filmed you while someone else was evil against you	22.83	„	.001	.018	♂ > ♀
Another filmed you while someone else was evil against you and then put the film on internet	3.17	„	.075	.003	
<i>Interaction effect Country x Sex</i>					
Multivariate Analysis	3.13	1, 1241	.005	.015	
Univariate Analyses					
Another said nasty things to you on telephone	1.22	6, 1241	<i>ns</i>	.001	
Another sent nasty SMS messages to you	10.15	"	.001	.008	Fi: ♀ > ♂
Another sent nasty e-mails to you	7.86	"	.005	.006	Fi: ♀ > ♂
Another put up nasty pictures of you on internet	9.08	"	.003	.007	Fi: ♀ > ♂
Another filmed you while someone else was evil against you	3.77	"	.053	.003	
Another filmed you while someone else was evil against you and then put the film on internet	.97	"	<i>ns</i>	.001	

**Table 1:** Results of a multivariate analysis of variance (MANOVA) measuring sex differences in victimization from cyberbullying among Iranian and Finnish adolescents 10, 13, and 15 Years of Age ( $N = 1250$ ), cf.

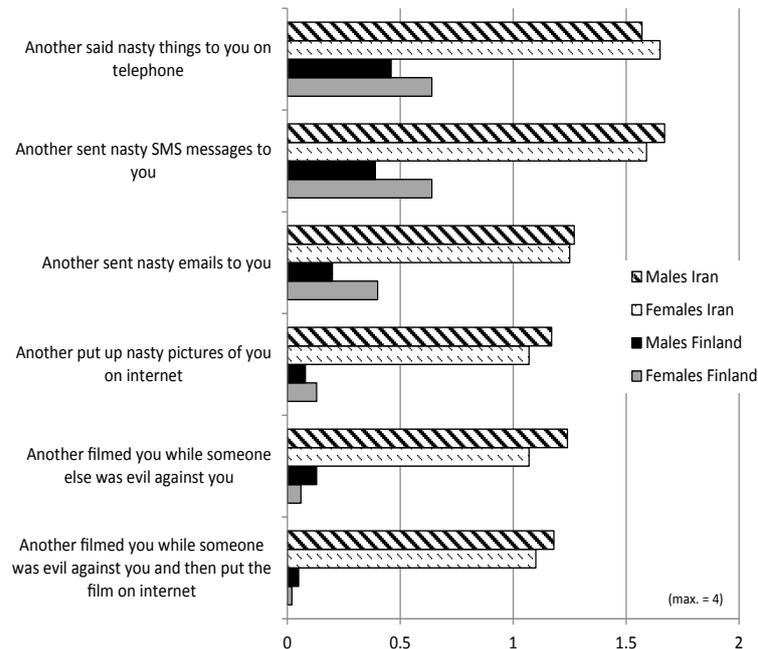


Figure 1: Sex differences in victimization from cyberbullying among Iranian and Finnish adolescents 10, 13, and 15 years of age (N = 1,250), cf.

### Strategy of analysis

A multivariate analysis of variance approach (MANOVA) was adopted for the study, using SPSS-21.

**Ethical considerations:** The study was approved by the ethical board of Åbo Akademi University, and conducted with the consent of school authorities in Iran and Finland, and the parents of the children.

### Results

Four two-way MANOVA analyses were conducted: (1) Sex x Country,

*Victim Version* of the questionnaire; (2) Country x Age group, *Victim Version* of the questionnaire; (3) Sex x Country, *Perpetrator Version* of the questionnaire; (4) Country x Age group, *Perpetrator Version* of the questionnaire. It was decided to perform two way-analyses rather than three-way (Country x Sex x Age group) analyses of variance in order to avoid having too small cells, and to make the interaction effects more intelligible. The results of these MANOVAs are presented in Tables 1-4 and Figures 1-4. The results for Country belonging is presented only in Tables 1 and 3, as they would have been identical in Tables 2 and 4.

The results of the first MANOVA (Country x Sex, *Victim Version*);

	F	df	p ≤	η <sub>p</sub> <sup>2</sup>	Group differences
<i>Effect of Country</i>					
<i>Effect of Age</i>					
Multivariate Analysis	3.23	2, 2480	.001	.015	
Univariate Analyses					
Another said nasty things to you on telephone	5.51	2, 1244	.004	.009	15 > 13, 10 yrs
Another sent nasty SMS messages to you	4.81	"	.008	.008	15 > 13, 10 yrs
Another sent nasty e-mails to you	.40	"	ns	.001	
Another put up nasty pictures of you on internet	2.84	"	.06	.005	10 > 13, 15 yrs
Another filmed you while someone else was evil against you	1.52	"	ns	.002	
Another filmed you while someone else was evil against you and then put the film on internet	6.59	"	.001	.010	10 > 13, 15 yrs
<i>Interaction effect Country x Age</i>					
Multivariate Analysis	6.54	2, 2480	.001	.031	
Univariate Analyses					
Another said nasty things to you on telephone	.38	2, 1244	ns	.001	
Another sent nasty SMS messages to you	11.32	"	.001	.018	Iran: 15 > 13, 10 yrs
Another sent nasty e-mails to you	.82	"	ns	.001	
Another put up nasty pictures of you on internet	9.894	"	.001	.016	Iran: 10 > 13, 15 yrs
Another filmed you while someone else was evil against you	4.79	"	.008	.008	Iran: 10 > 13, 15 yrs
Another filmed you while someone else was evil against you and then put the film on internet	10.33	"	.001	.016	Iran: 10 > 13, 15 yrs

Table 2: Results of a multivariate analysis of variance (MANOVA) measuring age differences in victimization from cyberbullying among Iranian and Finnish Adolescents 10, 13, and 15 Years of Age (N = 1250), cf.

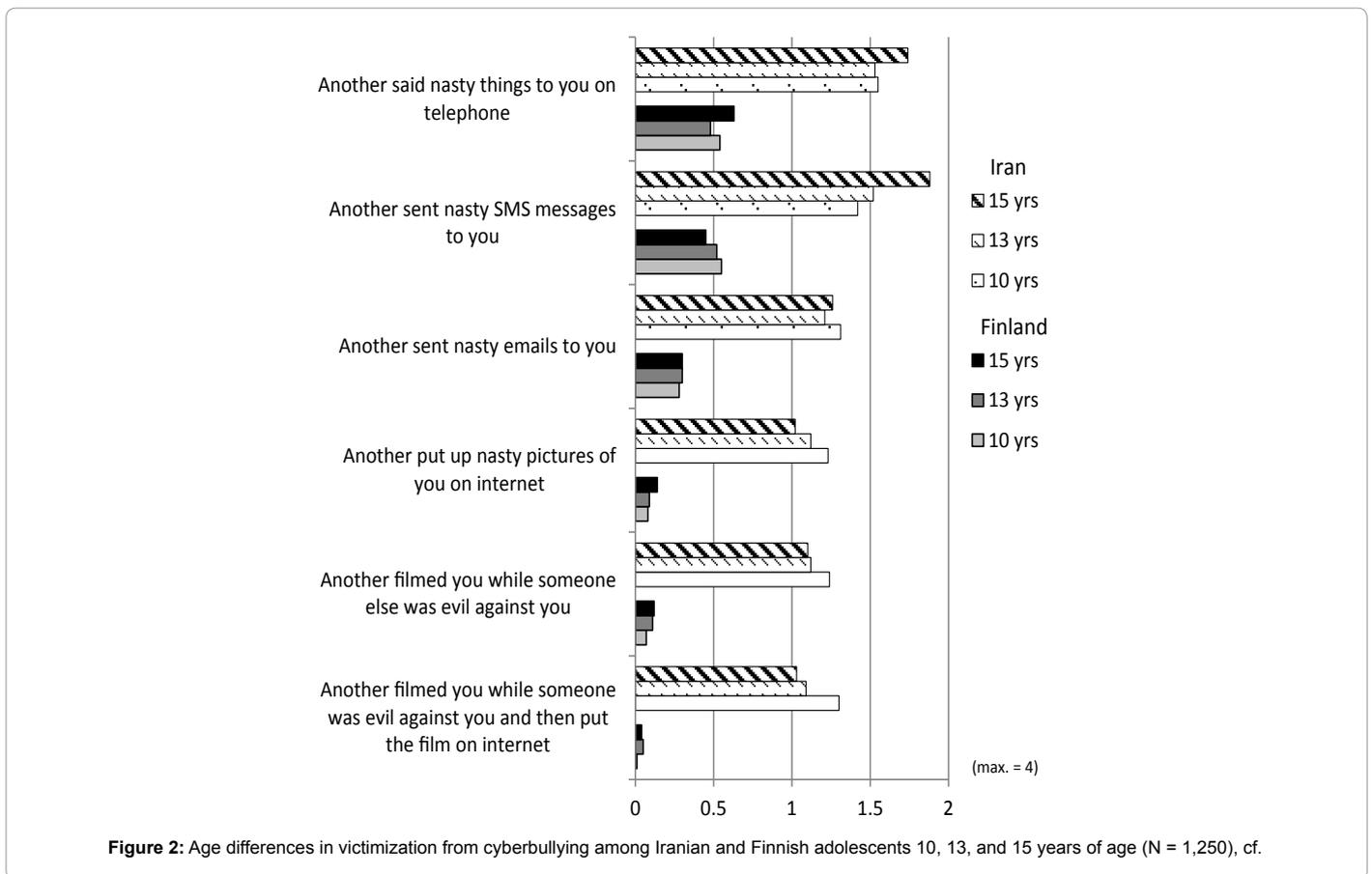


Table 1 and Figure 1 reveal that victimization from cyberbullying was significantly more commonly reported in Iran. This was true in the case of all six forms of cyberbullying measured. A look at sex differences revealed that as far as the aggregated data from both countries was concerned, girls were more exposed to nasty telephone communications and nasty e-mails, while boys were more exposed to being filmed while someone else was evil against them.

An analysis of interaction effects of Country x Sex showed that sex differences were more prominent in the Finnish than in the Iranian sample: Finnish girls were more exposed to nasty SMS messages and nasty e-mails, while Finnish boys were more exposed to having nasty pictures of them put up on the Internet.

The results of the second MANOVA (Country x Age Group, *Victim Version*) are presented in Table 2 and Figure 2. The interaction effect between Country and Age group shows some unexpected features: In Iran, the 10-year-old age group had been exposed to having nasty pictures of themselves and nasty films of themselves put up on the internet to a higher extent than the older age groups. On the other hand, the Iranian 15-year-olds had been exposed to having nasty SMS messages sent to them than the younger age groups, which seems more in line with expectations.

The results of the third MANOVA (Country x Sex, *Perpetrator Version*) are presented in Table 3 and Figure 3. The main effect of Country reveals that Iranian adolescents performed more cyberbullying, of all kinds, than Finnish adolescents. The results are thus corresponding very well to those of the Victim Version of the questionnaire.

However, there were noteworthy interaction effects between Country and Sex. Finnish girls performed more cyberbullying than Finnish boys on four variables measured: they said more often nasty things on their mobile phone; they sent more often SMS messages with a nasty content; the same was true for nasty e-mails; and, they also more often put up nasty pictures on the internet. A similar sex difference did not exist within the Iranian sample.

On the other hand, Iranian boys more often than Finnish boys filmed others while doing something evil against them, and then put the film clip up on the Internet.

The results of the fourth MANOVA (Country x Age group, *Perpetrator Version*) are presented in Table 4 and Figure 4. Again, some noteworthy interaction effects were found. Iranian 15-year-olds seemed to use their mobile phones for bullying purposes more than the younger age groups: they more often said nasty things to others by telephone, and they also more often than the younger age groups sent nasty SMS messages.

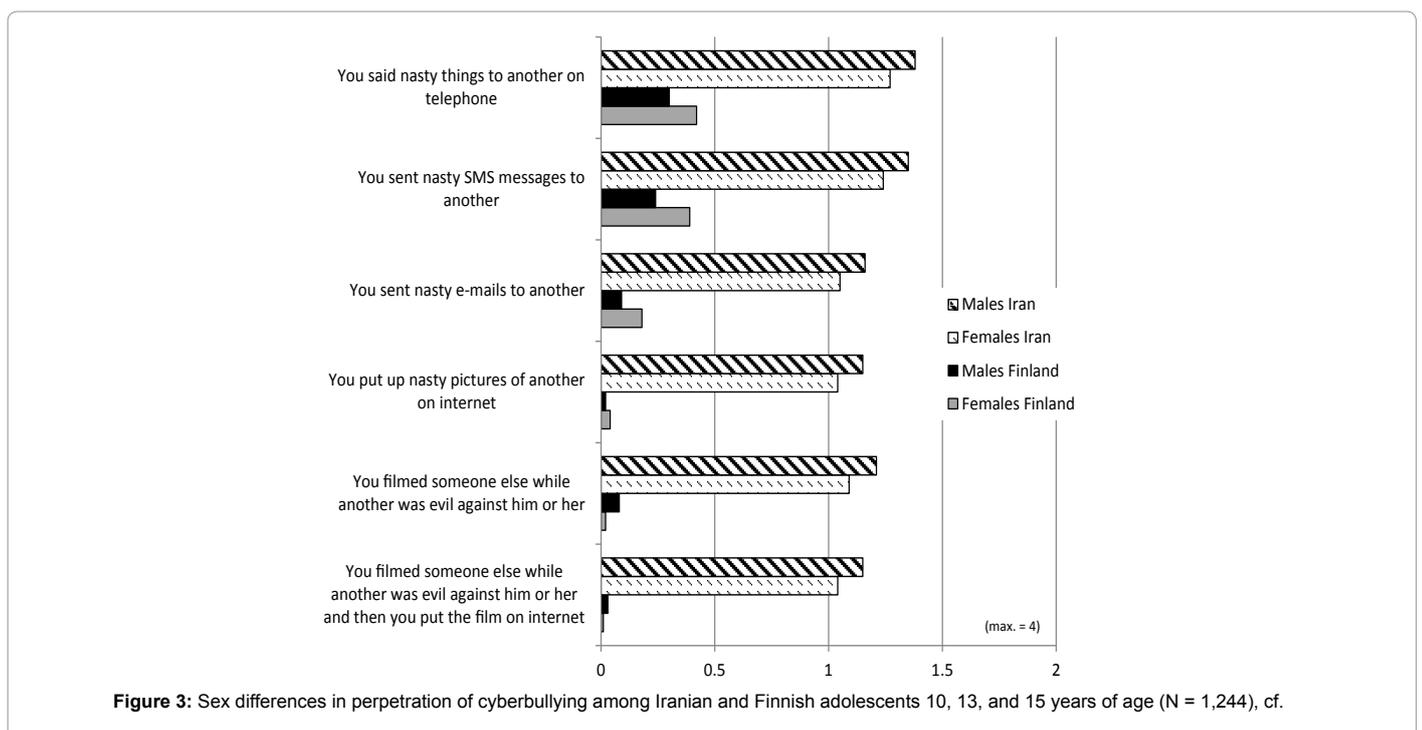
However, the Iranian 10-year-olds scored higher than the older age groups on putting up nasty pictures on the Internet, and also on filming others while doing something evil, and then putting it up on the Internet. This age difference did not exist at all among the Finnish sample.

## Discussion

The Iranian adolescents clearly had higher scores of cyberbullying, on all items, and both as perpetrators and victims. This finding might

	<i>F</i>	<i>df</i>	<i>p</i> ≤	$\eta_p^2$	<i>Group differences</i>
<i>Effect of Country</i>					
Multivariate Analysis	615.86	6, 1235	.001	.750	
Univariate Analyses					
You said nasty things to another on telephone	654.29	1, 1240	.001	.345	Iran > Finland
You sent nasty SMS messages to another	658.28	"	.001	.347	Iran > Finland
You sent nasty e-mails to another	1608.60	"	.001	.565	Iran > Finland
You put up nasty pictures of another on internet	2924.51	"	.001	.702	Iran > Finland
You filmed someone else while another was evil against him or her	1428.18	"	.001	.535	Iran > Finland
You filmed someone else while another was evil against him or her and then you put the film on internet	2843.08	"	.001	.696	Iran > Finland
<i>Effect of Sex</i>					
Multivariate Analysis	3.17	1, 1235	.004	.015	
Univariate Analyses					
You said nasty things to another on telephone	0.06	1, 1240	<i>ns</i>	.001	
You sent nasty SMS messages to another	0.17	"	<i>ns</i>	.001	
You sent e-mails to another	0.02	"	<i>ns</i>	.001	
You put up nasty pictures of another on internet	6.17	"	.013	.005	♀ > ♂
You filmed someone else while another was evil against him or her	8.77	"	.003	.007	♂ > ♀
You filmed someone else while another was evil against him or her and then you put the film on internet	10.60	"	.001	.008	♂ > ♀
<i>Interaction effect Country x Sex</i>					
Multivariate Analysis	3.87	6, 1235	.001	.018	
Univariate Analyses					
You said nasty things to another on telephone	9.42	1, 1240	.002	.008	Fi: ♀ > ♂
You sent nasty SMS messages to another	11.10	"	.001	.009	Fi: ♀ > ♂
You sent nasty e-mails to another	16.73	"	.001	.013	Fi: ♀ > ♂
You put up nasty pictures of another on internet	10.81	"	.001	.009	Fi: ♀ > ♂
You filmed someone else while another was evil against him or her	1.25	"	<i>ns</i>	.001	
You filmed someone else while another was evil against him or her and then you put the film on internet	4.27	"	.039	.003	Iran: ♂ > ♀

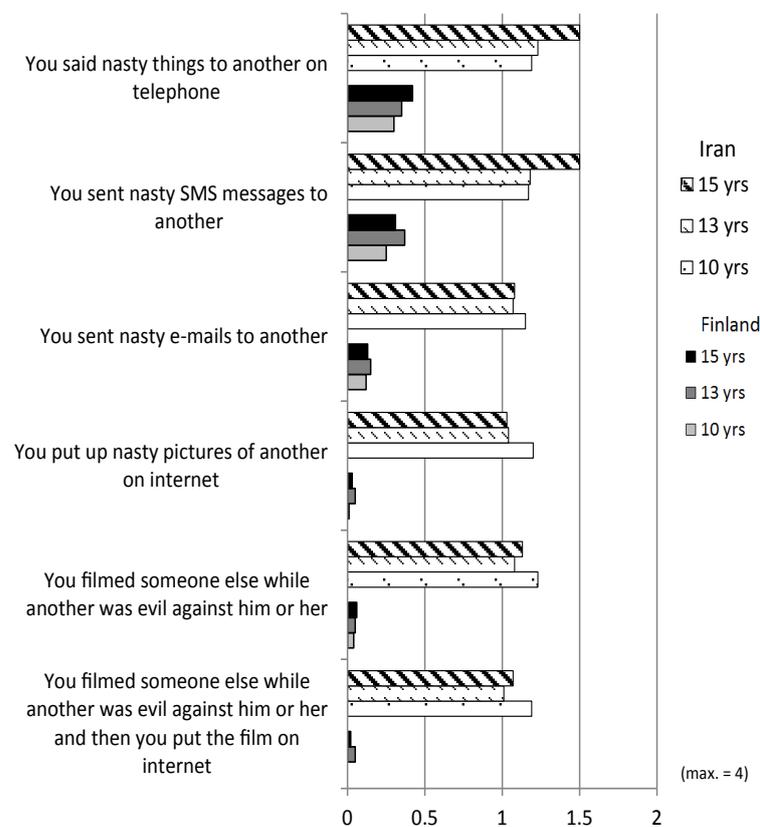
**Table 3:** Results of a multivariate analysis of variance (MANOVA) measuring sex differences in perpetration of cyberbullying among Iranian and Finnish adolescents 10, 13, and 15 Years of Age (N =1,244), cf.



**Figure 3:** Sex differences in perpetration of cyberbullying among Iranian and Finnish adolescents 10, 13, and 15 years of age (N = 1,244), cf.

	<i>F</i>	<i>Df</i>	<i>p</i> ≤	$\eta^2_2$	<i>Group differences</i>
<i>Effect of Country</i>					
<i>Effect of Age</i>					
Multivariate Analysis	5.03	12, 2468	.001	.024	
Univariate Analyses					
You said nasty things to another on telephone	12.13	2, 1238	.001	.019	15 > 13, 10 yrs
You sent nasty SMS messages to another	8.20	"	.001	.013	15 > 13, 10 yrs
You sent nasty e-mails to another	.59	"	<i>ns</i>	.001	
You put up nasty pictures of another on internet	5.27	"	.005	.008	10 > 13, 15 yrs
You filmed someone else while another was evil against him or her	1.80	"	<i>ns</i>	.003	
You filmed someone else while another was evil against him or her and then you put the film on internet	3.91	"	.02	.006	10, 15 > 13 yrs
<i>Interaction effect Country x Age</i>					
Multivariate Analysis	4.88	12, 2468	.001	.023	
Univariate Analyses					
You said nasty things to another on telephone	3.09	2, 1238	.046	.005	Iran: 15 > 13, 10 yrs
You sent nasty SMS messages to another	7.86	"	.001	.013	Iran: 15 > 13, 10 yrs
You sent nasty e-mails to another	1.72	"	<i>ns</i>	.003	
You put up nasty pictures of another on internet	11.36	"	.001	.018	Iran: 10 > 15, 13 yrs
You filmed someone else while another was evil against him or her	2.72	"	.066	.004	Iran: 10 > 13, 15 yrs
You filmed someone else while another was evil against him or her and then you put the film on internet	10.39	"	.001	.017	Iran: 10 > 15, 13 yrs

**Table 4:** Results of multivariate analysis of variance (MANOVA) measuring age differences in perpetration of cyberbullying among Iranian and Finnish adolescents 10, 13 and 15 Years of Age (N = 1,244), cf.



**Figure 4:** Age differences in perpetration of cyberbullying among Iranian and Finnish adolescents 10, 13, and 15 years of age (N = 1,250), cf.

seem surprising, as Finland is technologically a highly developed country, where mobile phones and internet facilities are more easily available than in Iran. Accordingly, Finnish adolescents should have better opportunities for cyberbullying than their Iranian counterparts. The findings of this study does not offer a solution, but a higher level of aggressiveness in general among Iranian adolescents may be an explanation. It may reflect the difficult psychosocial challenges that the Iranian society is exposed to.

Another surprising finding was that the youngest age group among the Iranians, the 10-year-olds, had the highest scores of putting up humiliating pictures and films of others on the internet. Again, the present study does not offer a solution to why this is the case. In Finland, this age difference did not occur. On the other hand, the 15-year-old Iranians used their mobile phones more for bullying purposes (both in the form of SMS messages and in the form of nasty phone calls) than the younger age groups. These discrepancies may reflect differences in maturity and adaptation to the cyber world.

In regard to sex differences, girls in Finland used cyberbullying significantly more than Finnish boys. In particular, Finnish girls sent nasty SMS messages, nasty e-mails, and put up humiliating pictures on the internet to a higher degree than Finnish boys. It appears that cyberbullying is a type of aggression that fits the mentality of Finnish girls. This sex difference was not found in Iran. The findings of the study thus reveal clear cultural differences in cyberbullying patterns among adolescents of the two countries. Further studies are required in order to explain these differences.

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