Predictors of Adolescents' Excessive Internet Use: A Comparison across European Countries

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Summary

Using data collected from the EU Kids Online II project, a random stratified sample of 18.709 adolescents aged 11-16 years, from 25 European countries, was used to analyse the relationship between excessive Internet use (EIU) and a set of psychological, behavioural, and demographic variables. At a European level, psychological variables were the best predictors, accounting for more of the variation in EIU than both behavioural and demographic variables combined. On a national level, the most stable predictor was emotional difficulties, while all the other variables shifted across countries.

Introduction

Excessive Internet use (EIU), often called Internet addiction, problematic Internet use, and similar can be depicted as manifestation of excessive, obsessive, compulsive, or generally problem causing use of the Internet (Smahel, Brown & Blinka, in press). New digital technologies have become an integrated part of adolescents lives, thus their misuse can have a significant influence on the well-being of young people. Literature has shown that excessive time spent online can lead to truancy problems, a decrease in school results, hobby abandonment, increased family tension, emotional problems, or even physical health issues (Young, 2010). The research question in this study was, to what extent can EIU be predicted by the psychological, behavioural or demographic variables. The data was analysed on both a European level and a national level using 25 separate country samples.

	Model 1		Model 2		Model 3	
	B	Beta	B	Beta	B	Beta
(Constant)	.704		.495		-.145	
Emotional problems	.211	.148**	.197	.138**	.213	.149**
Sensation seeking	.103	.194**	.051	.097**	.048	.091**
Conduct problems	.271	.153**	.200	.113**	.206	.116**
Risky offline behavior			.059	.093**	.048	.075**
Sexual exposure			.043	.074**	.031	.053**
Meeting strangers			.100	.147**	.082	.120**
Cyberbulling			.062	.050**	.062	.049**
Sexting			.052	.063**	.055	.066**
Age					.018	.060**
Gender					.016	.015*
Time online					-.117	-.123**
R^2	.122		.194		.213	
ΔR^2	.122		.072		.019	
adjusted R^2	.121		.193		.212	

Note: * $p < 0.05$, ** $p < 0.01$. Gender: minus = boys

Table 1. Linear regression: Factors associated with excessive Internet use

Materials and Methods

The present study used data from the international research project EU Kids Online II led by the London School of Economics. From each of the 25 European countries a random stratified sample of 1000 adolescents was collected, with the final n=25,142 youth (50% girls) and their parents. However, for the present study only those aged 11-16 were analysed (n= 18,709). Further methodological details can be found on www.eukidsonline.net.

The dependent variable, excessive Internet use scale consisted of 5 items with 4-point Likert-type responses, covering the 5 dimensions of behavioural addiction: salience, withdrawal symptoms, conflict, tolerance, and relapse and reinstatement. The EIU index was created as the mean value of the five items (Cronbach's alpha

= 0.767). Independent variables consisted of scales or items divided into 3 groups; psychological, behavioural and demographical. Psychological variables: emotional problems - 5 items; conduct problems - 5 items; sensation seeking - 2 items. Behavioural variables: Risky offline behaviour - 5 items; meeting online strangers; cyberbulling, aggressor; sexting, sending sexual messages; exposure to pornographic material online. Demographic variables: age, gender, time spent online.

Results

To discover the associations between EIU and the above mentioned variables, a hierarchical 3 step regression was conducted with EIU as a dependent variable. The whole European sample was used for this analysis. As shown in Figure 1, the strongest associations were found with emotional problems, conduct problems, tendency to meet strangers met online in the offline world, and time spent online. The psychological, behavioural and demographic variables accounted for 21.3% of the variance in EIU. The demographic variables and time spent online accounted for only 1.9% of the variance.

The same regression was also conducted for each of the 25 countries separately. As shown in the Figure 2, on a country level the variance of predictors is noticeable. The psychological predictors, especially emotional problems and conduct problems, and meeting online strangers were the most stable across the countries. The proposed regression model seems to be more suitable for adolescents from Nordic countries, for which it accounts for about 30-40% of the variance.

Conclusion

The psychological variables, especially emotional problems and conduct problems, emerged as the most strongly associated with EIU among European adolescents. The tendency to meet people in the offline world who were first met online also played a role. Surprisingly, age and gender were not strongly associated with EIU. Although time spent online was a good predictor, its explanative value was rather week compared to the psychological variables, combined with gender and age accounting for only 1.9% of the variance. On a national level, emotional problems, conduct problems, and meeting online strangers were the most stable predictors. Most of the behavioural and demographic variables tended to vary between countries which could point to strong cultural differences: for example, whereas gender was not significantly associated to EIU in most countries, in Lithuania, Estonia and Italy the boys tended

	R^2	Emotional problems	Sensation seeking	Conduct problems	Risky offline behavior	Sexual exposure	Meeting strangers	Cyber-bulling	Sexting	Age	Gender
Austria	.325		mid		low		low				
Belgium	.246			low	low		low				
Bulgaria	.238						high			low	
Cyprus	.163	low		low	low		low			low	
Czech Rep.	.260	low		low		low	low				
Germany	.399	low	low	mid	low	low			low	low	
Denmark	.377	mid	low				mid				
Estonia	.220	low		low			low		-low		-low
Greece	.346	low	low	mid		low	mid				
Spain	.282	low	low	low			low			low	
Finland	.329	mid	low				mid	low			
France	.222	low			low		low				
Hungary	.229	low		low		low	low	mid		low	
Ireland	.276	low		low			low			low	
Italy	.277	low	low	mid		low					-low
Lithuania	.324			mid		low					-mid
Netherlands	.238	low			low		low		mid	low	
Norway	.350			low		mid	low			mid	low
Poland	.229			low			mid		low		
Portugal	.212				low		low		low		
Romania	.213			low		low					
Sweden	.382			mid		low	low				
Slovenia	.273	mid	low		low	-low			low		
Turkey	.250	low					low				
UK	.263	low		low	low		mid	low			low

Note: Beta >0.3 high, 0.2-0.3 = middle, 0.1–0.2 = low, empty cell = not significant. Gender: minus = boys

Table 2. Power of predictors of excessive Internet use in European countries

to have higher EIU, while in contrast, in the UK and Norway it was the girls.

Acknowledgment

This study draws on the work of the EU Kids Online network funded by the EC (DG Information Society) Safer Internet plus Programme (project code SIP-KEP-321803), and was supported by a grant from the Ministry of Education, Youth and Sports of the Czech Republic, MSM0021622406, and grant No. 8527, financed by the Estonian Science Foundation.

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