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Does It Matter What Mama Says: Evaluating the Role of Parental Mediation in European Adolescents' Excessive Internet Use

Veronika Kalmus
Institute of Journalism and Communication, University of Tartu, Tartu, Estonia

Lukas Blinka
Faculty of Social Studies, Masaryk University, Brno, Czech Republic

Kjartan Ólafsson
Faculty of Humanities and Social Sciences, University of Akureyri, Akureyri, Iceland

*This study investigated the relationship between adolescents' excessive Internet use (EIU) and parental mediation. A random stratified sample of 11- to 16-year olds (N = 18 709) and their parents from 25 European countries (*EU Kids Online II *project) was analysed to explore to what extent different types of parental mediation and other factors predict EIU. Active parental involvement in the child's Internet use (when the child had experienced online harm) and restrictive mediation were associated with lower EIU. Harmful online experiences, time spent online, scope of online activities and adolescents' age predicted higher EIU. © 2013 The Author(s) Children & Society © 2013 National Children's Bureau and Blackwell Publishing Limited.*

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Introduction

Along with increasing Internet penetration since the 1990s, the addictive potential of the medium has been studied and discussed, especially with respect to children and adolescents. Excessive Internet use (EIU) can be defined as the manifestation of excessive, obsessive, compulsive or generally uncontrollable and problem-causing use of new digital technologies (Smahel and others, 2012). The phenomenon is also often termed as Internet addiction, pathological Internet use, problematic Internet use, etc. (e.g. Kwon, 2010). For the purpose of the present study, five dimensions of Internet addiction derived by Griffiths (2000) from the concept of behavioural addiction (e.g. Marks, 1990) were used for measuring EIU: (1) preoccupation by the Internet use, (2) subsequently spending an increasing amount of time online, (3) a lack of success to limit it, which leads to (4) significant mood changes and (5) social conflicts.

Adolescents, college students and young people are most often shown to be at risk of EIU (Tsai and Lin, 2003). With a tendency among children in many countries starting using the Internet at an ever-younger age, research on EIU involving tweens or pre-teens also exists. Children and young people have become the most prominent group of Internet users who tend to be engaged in the most time-consuming online activities such as online gaming or

using social networking sites. According to Beard and Wolf (2001), as adolescence is essential for experimenting with and gaining social skills, an adolescent who is obsessed and spending too much time online may later suffer from a lack of social experience. Beard (2010) highlights many negative consequences of adolescents' EIU. The phenomenon is associated with diminishing of time spent with the family members and increased family tension, e.g. in the form of more frequent arguments and lying to parents. Serious problems may stem from decreased school performance — truancy problems and drops in grades; abandoning of hobbies and previously favourite after-school activities; and withdrawal from natural peer relationships.

The phenomenon of EIU has been most often studied within the psychological paradigm, where it is explained through the psychological characteristics of Internet users and vulnerability of individuals. Accordingly, personal and psychological predictors, e.g. lower self-esteem (Kim and Davies, 2009) or higher sensation seeking (Lin and Tsai, 2002), have usually been highlighted while social factors have only seldom been in the focus of excessive Internet use studies (Ko and others, 2007; Lam and others, 2009; Yen and others, 2007a). However, as Young (1998) and Beard (2010) have stated, the cause of the problem may come not from the Internet itself but from how and in which social context the medium is used. For adolescents, the family is still a highly important mediator of their Internet use. Our contribution focuses on one aspect of the family context, aiming to shed light on the role played by parents in the form of specific behavioural strategies — namely, parental mediation of adolescents' Internet use.

Evidence suggests that children's access to and use of the Internet in the EU member states is high and continues to grow (Livingstone and Haddon, 2009). At the same time, studies into the role of parents in mediating children's Internet use, particularly those evaluating the effectiveness of parental mediation, are rather scarce in European countries (Livingstone and Haddon, 2008). Some previous studies have tried to evaluate the effectiveness of different types of parental mediation in reducing children's exposure to online risks (Kirwil and others, 2009; Duerager and Livingstone, 2012), or in advancing children's digital skills and online opportunities (Garmendia and others, 2012). Research on the relationship between parental mediation and EIU, however, is lacking. The originality of this study lies in filling this gap by analysing how different types of parental mediation and other relevant factors predict EIU among 11- to 16-year-old children.

Our analysis is based on a large European sample, obtained by the international research network *EU Kids Online II*. As the European Commission's policy initiatives on Internet safety mostly address the pan-European level, we also use the European-wide sample in this study, while taking into account differences between countries through multilevel modelling.

Children and excessive Internet use

Previous analyses conducted on the *EU Kids Online* survey data (Livingstone and others, 2011) show that European children are highly active Internet users. Most of 9- to 16-year-old Internet users in Europe (60%) go online every day or almost every day. On average, they spend about one and a half hour online per day, with time spent online increasing notably with growing age. In addition, children are going online at an ever-younger age: while 13- to 16-year-old adolescents report having become digitally active at the age of 10–11, 9- to 10-year olds were only seven when they first went online. On the one hand, this may have a positive effect: the younger the children start using the Internet and the more they use it, the more online opportunities they take up (Livingstone and Helsper, 2007). On the other hand, early adoption of digital technologies and frequent Internet use expose children to significantly more online risks, potentially including EIU.

Among European children, the incidence of Internet addiction is rather low: approximately 4% were identified in both Norway (Johansson and Götestam, 2004) and the Czech Republic (Smahel and others, 2009). The pathological phenomenon, however, can be potentially harmful for a larger population, as in both countries about 16% of adolescent Internet users were identified as showing some inclination towards EIU. The prevalence of EIU tends to increase with the growing age of children (Smahel and Blinka, 2012).

Contradicting most of the studies from East Asian countries, where boys are more often at risk of EIU (e.g. Yen and others, 2007b), gender differences are usually not confirmed on European samples. That is, both boys and girls are similarly prone to negative effects of EIU (see, for instance, Milani and others, 2009). According to Blinka and Smahel (2012), although the effect of gender on EIU is insignificant in most of European countries, some cultural differences can still be found. For instance, in Italy and Lithuania, boys tend to suffer slightly more from EIU, while in Norway and the UK, girls are more likely to spend too much time online.

Parents' role in mediating children's Internet use

Family context may play a significant role in adolescents' behavioural addictions: low family function (Ko and others, 2007), higher parent-adolescent conflict (Yen and others, 2007a), or dissatisfaction with the family (Lam and others, 2009) are associated with higher tendencies to show symptoms of Internet addiction. More concretely, Xiuqin and others (2010) show that parental rearing practices low on emotional warmth, high on rejection and over-involvement, and high on punishment are more likely to foster Internet dependency among adolescents. On the contrary, parents who are assertive and committed, and whose parenting techniques are supportive and explanative, are more likely to shield their children from compulsive behaviours such as Internet addiction.

Parental rearing behaviours purposely regulating and managing the relationship between children and the Internet can broadly be classified into 'restrictive mediation' and 'instructive mediation', distinguishing between rule-making versus active efforts to interpret media content for children (see Kirwil and others, 2009; for an overview). More specifically, Livingstone and Helsper (2008) have depicted four factors of parental mediation: an active 'co-use', and three types of 'restrictive mediation' (use of technical filtering/monitoring tools, rule-making and monitoring of visited websites and e-mails). Previous studies (e.g. Kirwil and others, 2009; Livingstone and Helsper, 2008) have described several individual-level differences between parents based on their gender, education and Internet use, as well as on the child's gender and age. For instance, Kirwil and others (2009) have shown that the more parents use the Internet, the more they practise instructive or social strategies of mediation and apply restrictions (with the exception of parents who use the Internet daily). Furthermore, parents tend to reduce their social mediation activities and set fewer restrictions as the children grow older.

A few studies have connected general parenting styles to mediation strategies within the context of Internet use. Eastin and others (2006) have demonstrated that parenting style has a significant effect on almost all mediation techniques, with authoritative parents using instructive and restrictive strategies more than authoritarian and neglectful parents; also, technological blocking has been found to be strongest among authoritative parents, followed by authoritarian and neglectful. Similarly, Rosen and others (2008) have shown that authoritative parents are more likely to mediate their children's MySpace use. Moreover, authoritative parenting style is related to less high-risk online behaviour on the part of adolescents, for example, low rates of disclosure of personal information (Rosen and others, 2008).

Our study, based on a large-scale pan-European sample, seeks to investigate whether and how excessive Internet use is predicted by different types of parental mediation and other relevant factors such as characteristics of the child's Internet use and sociodemographic variables of the child and the parent. In relying on previous, indirectly related, research on parental rearing styles and adolescents' Internet addiction disorder (Xiuqin and others, 2010), we hypothesise that types of parental mediation that can be characterised as supportive and explanative (that is, instructive or active social strategies) are negatively associated with adolescents' EIU. Secondly, we hypothesise that types of parental mediation that broadly correspond to intrusive rearing style, lacking in responsiveness (that is, restrictive, monitoring or technical strategies), are not effective in preventing adolescents' EIU.

Method

Participants

A random stratified sample of 1000 Internet-using children aged 9–16, and one of their parents was interviewed in each of 25 European countries (see Livingstone and others, 2011 for the details). As questions about EIU were asked of 11- to 16-year olds only, this analysis covers 18 709 Internet users (9357 girls). Special attention was paid to ensure that the differences between countries were not caused by the methodology used. To minimise biases and maximise equivalence (van de Vijver and Leung, 2011), several *a priori* procedures were used (Görzig, 2012). The questionnaire, translated and back-translated from English into 24 languages, underwent first cognitive testing and then pilot testing to enhance comprehensibility. Several items and scales were supported by country-specific examples and culture-specific concepts. Data collection was adapted to best national practices and was conducted by a single agency employing specially trained interviewers in all 25 countries. Interviews took place during spring and summer 2010 in children's homes. They were conducted face to face supplemented with private questionnaire completion for sensitive questions, including those on EIU. Further methodological details are provided in Livingstone and others (2011), Görzig (2012) and on www.eukidsonline.net.

Measures

The dependent variable, EIU, was measured by five Likert-type questions on a 4-point scale ranging from 'never' to 'very often'. The index of EIU was created to cover five dimensions of Internet addiction derived by Griffiths (2000) from the concept of behavioural addiction. The dimensions and their indicators are: Salience — *I have gone without eating or sleeping because of the Internet*; Significant mood changes or withdrawal symptoms — *I have felt bothered when I cannot be on the Internet*; Tolerance — *I have caught myself surfing when I am not really interested*; Relapse and reinstatement — *I have tried unsuccessfully to spend less time on the Internet*; Conflicts in one's life — *I have spent less time than I should with either family, friends or doing schoolwork because of time I spent on the Internet.* We created the EIU index as the mean value of the five items (Cronbach's alpha is 0.77 for the overall sample, ranging from .64 in the Netherlands to 0.84 in Turkey). The EIU index ranges from 1 to 4.

Questions about parental mediation (all with binary yes/no response options), asked of children and one of their parents, were grouped into three indexes. *Active involvement in the child's Internet use* included nine questions asking whether parents sometimes: *Talk to the child about what s/he does on the Internet; Stay nearby when the child uses the Internet; Encourage the child to explore and learn things on the Internet on their own; Sit with the child while s/he uses the Internet; Do shared activities together with the child on the Internet*;

Explained why some websites are good or bad; Helped the child when something is difficult to do or find on the Internet; Suggested ways to use the Internet safely; Suggested ways to behave towards other people online. The KR-20 coefficient for this combination of variables is 0.80 for the overall sample, ranging from 0.58 in Norway to 0.87 in Turkey. The difference between countries in terms of the reliability coefficient suggests that a further study of cross-country differences in mediation styles could be of interest. It need not cause concern for this analysis as the coefficient is only the lower bound to the reliability and sometimes even a gross underestimate (see Sijtsma, 2009).

Restrictive mediation included six indicators of rules set by parents that restrict the child's use of particular applications or activities: *Give out personal information to others on the Internet; Upload photos, videos or music to share with others; Download music or films on the Internet; Have one's own social networking profile; Watch video clips on the Internet; Use instant messaging*. The KR-20 coefficient for this combination of variables is 0.82 for the overall sample, ranging from 0.55 in Norway to 0.94 in Turkey.

Monitoring and technical solutions were measured by four questions on parents sometimes checking available records of the child's Internet use: *Which websites the child visited; The child's profile on a social network or online community; Which friends or contacts the child adds to social networking profile; The messages in the child's email or instant messaging account*, and three questions about parents making use of software or parental controls: *Parental controls or other means of blocking or filtering some types of website; Parental controls or other means of keeping track of the websites the child visits; A service or contract that limits the time the child spends on the Internet*. The KR-20 coefficient for this combination of variables is 0.81 for the overall sample, ranging from 0.55 in Ireland to 0.94 in Slovenia.

In following an hypothetical explanation, arising from previous analyses of the same data (Duerager and Livingstone, 2012), that parents may apply some mediation strategies *after* the child has had negative online experiences, we added in a variable indicating *whether the child had seen or experienced anything on the Internet in the past 12 months that bothered or upset them in any way*, and the interaction terms with the three mediation indexes.

Control measures included characteristics of adolescents' Internet use: age when first used the Internet (measured in years); total time spent on the Internet (measured by separate estimates for an average school day and an average non-school day, and combined to calculate total time in hours spent online per day); the scope of Internet activities (measured by the index of 17 online activities undertaken by children in past month); and digital literacy and safety skills (measured by the index of eight self-reported skills). An additional control was the parent's daily Internet use (0 — no; 1 — yes). Demographic controls included the child's age (in years), and the child's gender. We assume that all these control variables are contextual effects on EIU on the individual level as reported in previous studies (Smahel and Blinka, 2012).

Estimation procedure

Previous research (Livingstone and Bober, 2006) has described a generation gap between parents' and children's answers, with parents tending to report more mediating activities than are recognised by their children. The EU Kids Online survey found a generally high agreement between parent–child pairs, with parents claiming a practice that the child did not mention occurring in around one in six cases (Livingstone and others, 2011). As parents may be more aware of their practices that children might not notice or might forget, we used parents' answers in our analysis. Using children's answers on parental mediation instead of the parents' answers did not change the substantial results of the analysis.

We created two linear regression models: the first one with three indexes of parental mediation as the predictors, and the second one including also the control variables and interaction terms between having been bothered by something on the Internet and each of the three mediation variables. Subsequently, we conducted a multilevel analysis where countries were treated as level 2 units to control for potential country-level differences in EIU.

Results

Model 1 (see Table 1) indicates that three types of parental mediation alone account for some 3% of the variance in EIU. Partly contrary to our hypothesis, the strongest negative predictor is restrictive mediation where each activity or application banned by parents lowers the score of EIU of about 0.07. If parents ban all of the six activities or applications, that can be expected to account for a reduction in the EIU score of almost 0.5 (on a scale from 1 to 4). Technical solutions and monitoring make very little difference and so does active parental involvement. The latter is a statistically significant negative predictor of EIU; the regression coefficient, however, is within a small effect size.

Model 2 looks at the effect of the three different mediation strategies, controlling for parents' Internet use, demographics of the child and the characteristics of the child's Internet use. This model accounts for 16% of the variance. Model 3 includes the interaction between the child having been bothered or upset by something on the Internet and the three mediation variables to account for the differences that might exist between the different mediation approaches, depending on whether the child has had negative experiences on the Internet or not. This model accounts for 17% of the variance.

Children of parents who are daily Internet users have a lower EIU score than children whose parents do not use the Internet daily (parents' age was tested but had no effect). Of the demographic variables, age makes a small difference (older children having a higher EIU score), but gender does not. All of the variables, which measure the characteristics of the child's Internet use, are associated with a higher EIU score, especially more time spent online and having been bothered or upset by anything on the Internet in the past. In this model, none of the mediation variables has a noteworthy main effect. Active parental involvement, however, turns out to have an interesting effect for those children who have been bothered or upset by something on the Internet. For those children, active involvement of the parents in their Internet use is associated with a lower EIU score. The interaction effect between active involvement and being bothered is significant also when the other control variables are omitted from the model. Figure 1 shows how the predicted EIU score changes as active involvement increases from zero to nine for those children who have been bothered by something on the Internet and for those who have not had any such experiences. For those children who have had negative online experiences, active involvement by parents is associated with a lower EIU score.

The fourth model adds a random intercept term for the dependent variable and thus accounts for the between-country variation in excessive Internet use. The country level accounts for some 5% of the variation in the EIU score, but mostly the parameter estimates obtained by the linear regression (Model 3) are similar in the multilevel model. The main exception is parents' Internet use indicating that some of the effect attributed to this variable in the linear regression model is due to country differences in adults' Internet use. Also, the interaction effect between the child having been bothered by something on the Internet and monitoring and technical solutions is significant in Model 4. For those children who have had negative online experiences, parents' using monitoring and technical solutions is associated with a higher EIU score. A random coefficients model where the effect of parental

Table 1: Linear models predicting EIU

	Model 1				Model 2				Model 3				Model 4			
	B	SE	Beta	*P*	*B*	SE	Beta	*P*	*B*	SE	Beta	*P*	*B*	SE	Beta	*P*
Constant	1.603	0.010		0.000	1.325	0.017		0.000	1.318	0.017		0.000	1.328	0.028		0.000
Parental mediation																
Active involvement (0–9)	−0.005	0.002	−0.023	0.007	0.002	0.002	0.008	0.399	0.004	0.002	0.018	0.077	0.000	0.002	0.000	0.969
Restrictions (0–6)	−0.067	0.003	−0.179	0.000	−0.008	0.004	−0.021	0.025	−0.009	0.004	−0.024	0.013	−0.014	0.004	−0.048	0.000
Monitoring and technical solutions (0–7)	0.006	0.002	0.020	0.018	0.009	0.003	0.032	0.000	0.007	0.003	0.025	0.012	0.003	0.003	0.012	0.226
Parents' Internet use																
Parent uses the Internet daily					−0.058	0.011	−0.044	0.000	−0.058	0.011	−0.044	0.000	−0.029	0.012	−0.023	0.014
Demographics																
Girls (compared with boys)					−0.015	0.009	−0.014	0.079	−0.015	0.009	−0.014	0.085	−0.010	0.009	−0.009	0.239
Age					0.016	0.003	0.049	0.000	0.016	0.003	0.050	0.000	0.018	0.003	0.076	0.000
Child's Internet use																
Age of first Internet use					0.000	0.002	0.000	0.984	0.000	0.002	0.000	0.983	−0.003	0.002	−0.014	0.170
Time spent online (hours)					0.112	0.005	0.220	0.000	0.111	0.005	0.219	0.000	0.113	0.005	0.216	0.000
Online activities (out of 17)					0.019	0.002	0.119	0.000	0.019	0.002	0.119	0.000	0.022	0.002	0.149	0.000
Digital skills (out of 8)					0.012	0.002	0.053	0.000	0.012	0.002	0.053	0.000	0.008	0.002	0.037	0.000
Child has been bothered online					0.239	0.012	0.156	0.000	0.290	0.033	0.189	0.000	0.285	0.032	0.179	0.000
Interaction between being bothered and…																
Active involvement									−0.015	0.006	−0.063	0.007	−0.016	0.006	−0.062	0.005
Restrictions									0.009	0.010	0.011	0.349	0.012	0.010	0.016	0.225
Monitoring and technical solutions									0.013	0.007	0.024	0.063	0.013	0.007	0.024	0.049
Random-effects parameters																
Constant													0.114	0.017		0.000
Residual													0.489	0.003		0.000

Model 1: $F_{(3,\ 16828)} = 193.44$; $P < 0.001$; $R^2 = 0.033$.
Model 2: $F_{(11,\ 13286)} = 230.84$; $P < 0.001$; $R^2 = 0.160$.
Model 3: $F_{(14,\ 13271)} = 1820.05$; $P < 0.001$; $R^2 = 0.166$.
Model 4: log likelihood = −9403.69; Wald $\chi^2_{(14)} = 2677.87$; $P < 0.001$.

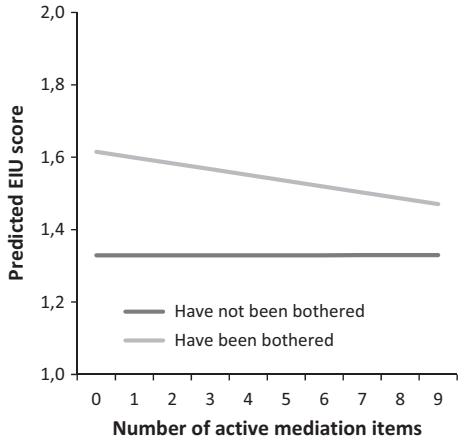

Figure 1: Predicted EIU score by the level of active mediation and whether the child has been bothered by something online.

mediation was allowed to vary between countries was also tested, but did neither offer a better fit nor did the parameter estimates change compared with a model with random intercepts only.

Discussion

The findings of this study showed, partially contrary to our expectations, that restrictive mediation, consisting of direct rules limiting the child's use of particular applications or activities, was associated with lower EIU among adolescents. Likewise, Duerager and Livingstone (2012) found that parental restrictions led to a significantly smaller probability of children's exposure to online risks and their experience of being bothered or upset online. It is possible that restrictive mediation, when comprising clear rule-setting and parental explanations, is characteristic of authoritative rather than authoritarian parenting, as shown also by Eastin and others (2006). According to our analysis, the effect of restrictive mediation, however, reduced significantly after inserting the control variables.

Our analysis confirmed that parental monitoring and technical solutions were not strongly correlated with a lower EIU score. This specific sub-type of restrictive approach, which probably lacks in parental explanations and responsiveness, broadly corresponds to an intrusive and authoritarian rearing style. Thus, in general, our results indirectly support the findings from previous research on parental rearing styles and adolescents' Internet addiction disorder (Xiuqin and others, 2010): types of parental mediation that broadly correspond to intrusive rearing style are not very effective in preventing adolescents' EIU. We also suggest an additional interpretation of the weak positive correlation between EIU and parental monitoring and technical restrictions: it is possible that authoritarian parents, while realising that the child spends too much time online, lack parenting skills to do much more than monitoring or relying on technical solutions. Consequently, the more the child uses the Internet, the more the parents try to control their online activities, alas producing, more probably than not, undesirable outcomes. Similarly, Duerager and Livingstone (2012) have demonstrated that parental monitoring is linked to more online risks among 9- to 14-year olds and higher probability of being bothered or upset from risky experiences among 11- to 14-year olds, suggesting that monitoring, representing parents' attempt to prevent further problems, is most likely to follow from children's negative experiences. The logic of this interpretation is

also supported by the interaction between the child having been bothered online and monitoring and technical solutions as a weak but significant positive predictor of EIU we found in Model 4.

Secondly, we found active parental involvement in children's Internet use to be a weak predictor of lower EIU among adolescents. Interestingly, the model controlling for demographic variables, characteristics of Internet use and the interaction effects between types of parental mediation and the child's negative online experiences, showed that for those children who had been bothered or upset by something on the Internet, active parental involvement in their online activities was associated with a lower EIU score. As an analysis of the same data set by Duerager and Livingstone (2012) has shown, active parental mediation of Internet use, realised through encouraging, sharing, or discussing the child's online activities, tends to prevent children's exposure to online risks without reducing their positive online opportunities. Our analysis rather suggests that this strategy of instructive mediation is indicative of supportive and healthy atmosphere in the family, which may have a positive impact on the psychosocial and personality development of adolescents (Xiuqin and others, 2010), even in case they have experienced something negative online.

Among the characteristics of Internet use, the strongest positive predictor was a previous negative online experience. This corresponds to the usage hypothesis (Livingstone and others, 2011): those children who use the Internet for longer and for more activities also come across more risks and harmful experiences online. Not surprisingly, the time adolescents spend online was another highly significant positive predictor of EIU. Also, the greater the number of different applications adolescents used, the higher the EIU they reported. This is partially surprising as EIU is often linked to specific online applications, especially online games (e.g. Ko and others, 2007). Our findings, however, suggest that excessive uses of various applications may be interconnected. Contrary to common-sense expectations, adolescents' digital literacy and safety skills did not contribute to lowering the EIU level, which implicates that media literacy as measured in this study lacks the aspect of avoiding compulsive Internet use.

Among demographic variables, age was the strongest positive predictor of EIU. This corresponds to increasing online risks among older adolescents (e.g. Livingstone and Helsper, 2008). In line with some previous research on European samples (Johansson and Götestam, 2004; Milani and others, 2009), gender was not a significant predictor of EIU.

It is important to note that parental mediation alone accounted for mere 3% of the variance in EIU. On the one hand, this may indicate relative ineffectiveness of parental strategies in dealing with certain types of online risks faced by adolescents (Livingstone and Helsper, 2008). On the other hand, many other factors, most notably psychological variables such as emotional or conduct problems, and sensation seeking, as well as adolescents' risky offline and online behaviour, may play an important role in predicting EIU (Smahel and Blinka, 2012). Finally, a broader family context needs to be taken into account. Our findings showed that parents' familiarity with the Internet, indicated by daily use, was a significant predictor of lower EIU among children. We suggest that parental mediation of children's Internet use needs to be seen as a set of embedded practices, influenced, among many other factors, by parents' cognitive and time resources (cf. Kalmus and Roosalu, 2012) and the quality of the parent–child relationship (Chakroff and Nathanson, 2011).

As stated by Beard (2010), a majority of the research on EIU has been carried out in Taiwan, South Korea and China; thus, it is mostly unknown what factors of the phenomenon are universal and what are culturally specific. Only a small number of studies have been carried out in European countries (e.g. Johansson and Götestam, 2004; Milani and others, 2009; Smahel and others, 2009); these, however, lack similar methods and design, and they can hardly be compared to each other. Our approach, while concentrating on the pan-European

level, also took into account the between-country variation in excessive Internet use. Compared to the results of linear regression analysis, the multilevel model did not reveal major differences in the parameter estimates of parental mediation (also when the effect of parental mediation was allowed to vary between countries) and control variables, except for parents' Internet use. Thus, we can conclude that the effect of parental mediation on adolescents' excessive Internet use is more or less universal in Europe. Still, we can expect other cultural differences among European countries — both in the prevalence of EIU among adolescents and in parental mediation and rearing styles. As an example, using the same sample from the *EU Kids Online* survey, Blinka and Smahel (2012) showed that EIU among adolescents from Nordic countries is more often connected to emotional distress than it is in other European countries, especially in those from South Europe. Also, predominant parental strategies for mediating children's Internet use vary greatly among European countries (Kalmus and Roosalu, 2012). Due to the space limit of this article, we propose more detailed cross-cultural comparisons as a future research direction, allowing country specifics to become a more definite basis for policy recommendations.

In general, our study implicates that the effect of parental mediation on adolescents' EIU is very modest. Among parental strategies studied, we recommend active involvement in the child's online activities through support and discussion, presumably accomplishable in a positive and warm general atmosphere in the family. In line with Duerager and Livingstone (2012), we suggest that policy initiatives should encourage parents to develop active social strategies that help empower children online by enhancing their opportunities and skills, while also contributing to reducing problem-causing uses of the Internet and to increasing children's resilience to harmful online experiences. Also, as strategies for mediating children's Internet use seem to be inextricably connected to general parenting styles (Eastin and others, 2006; Rosen and others, 2008), awareness-raising campaigns and training courses for parents should consider those links in developing more comprehensive approaches to effective parenting.

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*Correspondence to: Lukas Blinka, Faculty of Social Studies, Masaryk University, Jostova 10, 602 00 Brno, Czech Republic, Tel.: +420 608 072 497; Fax: +420 549 491 920. E-mail: blinka@fss.muni.cz

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