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**Paper Title** Son, Are You on Facebook? The Impact of Parental Involvement in School Interventions About E-Safety

**Author(s)** Ellen Vanderhoven, iMinds-MICT-UGent; Tammy Schellens, Ghent University; Martin M. Valcke, Ghent University; Hannelore Montrieux, Ghent University

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## **Son, are you on Facebook?**

### **The impact of parental involvement in school interventions about e-safety**

#### **Abstract**

Media literacy interventions in secondary education typically have a limited impact on the participants' behavior. Therefore, we developed a new e-safety intervention using a design-based research methodology. In the current study, it was verified whether involving parents actively in this intervention was helpful to decrease unsafe behavior on social network sites, or at least the intentions to behave unsafely. A quasi-experimental study with pre- and post-test measures in secondary education (n=207) showed that parental involvement was beneficial to change the intentions to engage in certain unsafe behavior, and to reduce existing problematic behavior, particularly for boys. These findings have important implications for research and practice, guiding us toward more effective e-safety interventions.

**Key words:** parental involvement, intervention, secondary education, design-based research

## 1. Introduction

Research has shown that teenagers face a significant number of risks when using the increasingly popular social network sites (SNSs). Since they typically post a lot of personal information to build an online identity on their SNS profile (Hum e.a., 2011; Taraszow, Aristodemou, Shitta, Laouris, & Arsoy, 2010), and since more than half of the teenagers do not change their privacy settings so that only friends can see their page (Livingstone, Haddon, Görzig, & Olafsson, 2011), privacy risks are of growing concern to parents, researchers and governments (Safer Internet Programme, 2009). As the safe use of technology is increasingly important in order to participate in society in the 21<sup>st</sup> century (Livingstone, 2004; Mishna, Cook, Saini, Wu, & MacFadden, 2010), numerous prevention campaigns and interventions aim to change risky behavior, such as posting too much personal information or sexual information, and not using the privacy settings (Insafe, 2014). However, research has revealed that these interventions often affect awareness about risks, but only have a limited impact on pupils' behavior (Duran, Yousman, Walsh, & Longshore, 2008; Mishna et al., 2010).

For this reason, we used a design-based research approach to develop new educational materials. In several cycles of development, evaluation and revision, an intervention was aimed that has an impact on unsafe behavior. As can be seen in Figure 1, important characteristics of effective materials were revealed in four intervention studies, resulting in materials that have an impact on unsafe behavior. Nonetheless, there was still room for improvement.

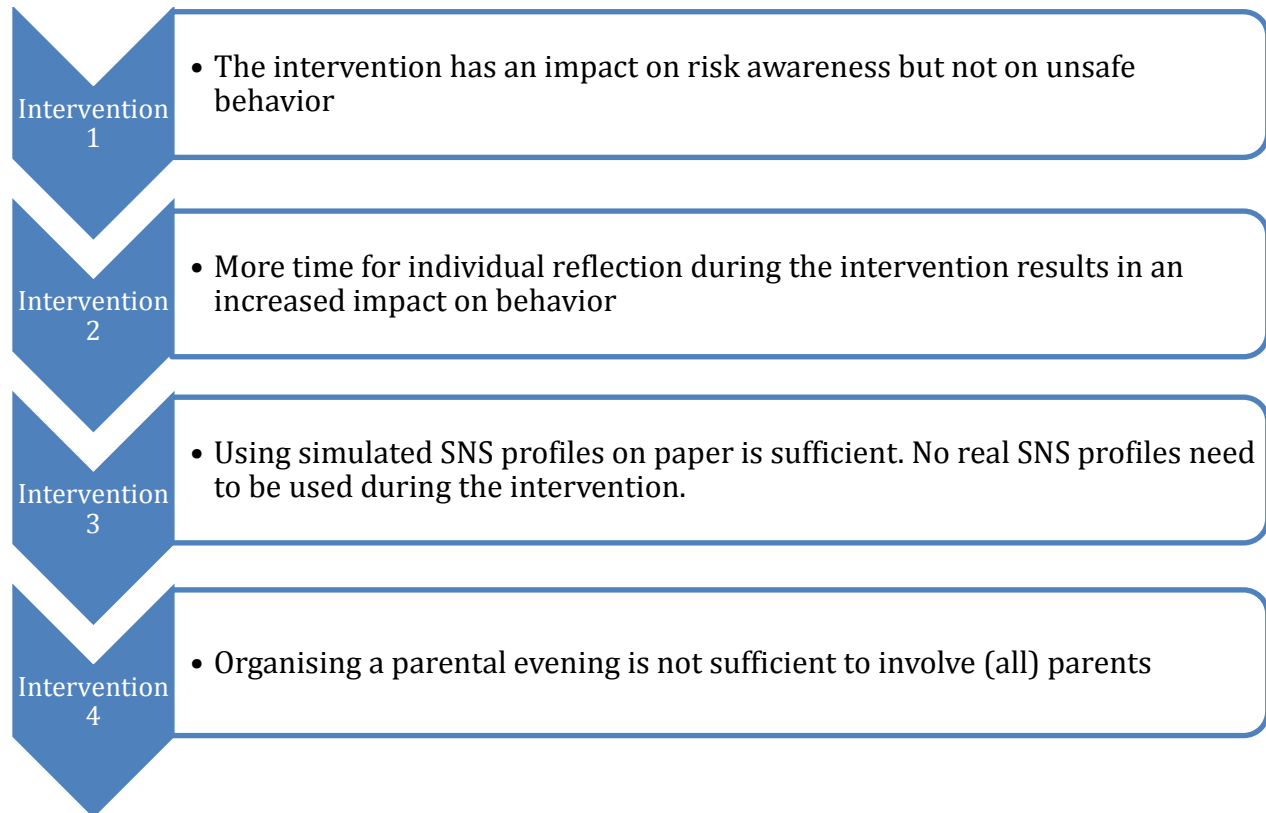


Figure 1. The main conclusions of the first four intervention studies of the design-based research process (Authors, 2014a).

Therefore, in the fifth revision of the materials, theories about behavioral change directed the adaptations. The Theory of Planned Behavior (Ajzen, 1991) states that behavior is determined by the intention to execute this behavior, which is in turn determined by the subjective norm (social pressure), the perceived behavioral control and the attitudes towards the behavior (see Figure 2). Following this theory, it can be hypothesized that influencing one of the predictors of behavior during an intervention results in a change in the intention to execute this behavior and finally in a change in behavior. In the second intervention study of the design-based research procedure (see Figure 1) we established indeed that influencing the subjective norm by decreasing negative peer pressure during the intervention has a positive impact on the safety of pupils' online behavior (Authors, 2012).

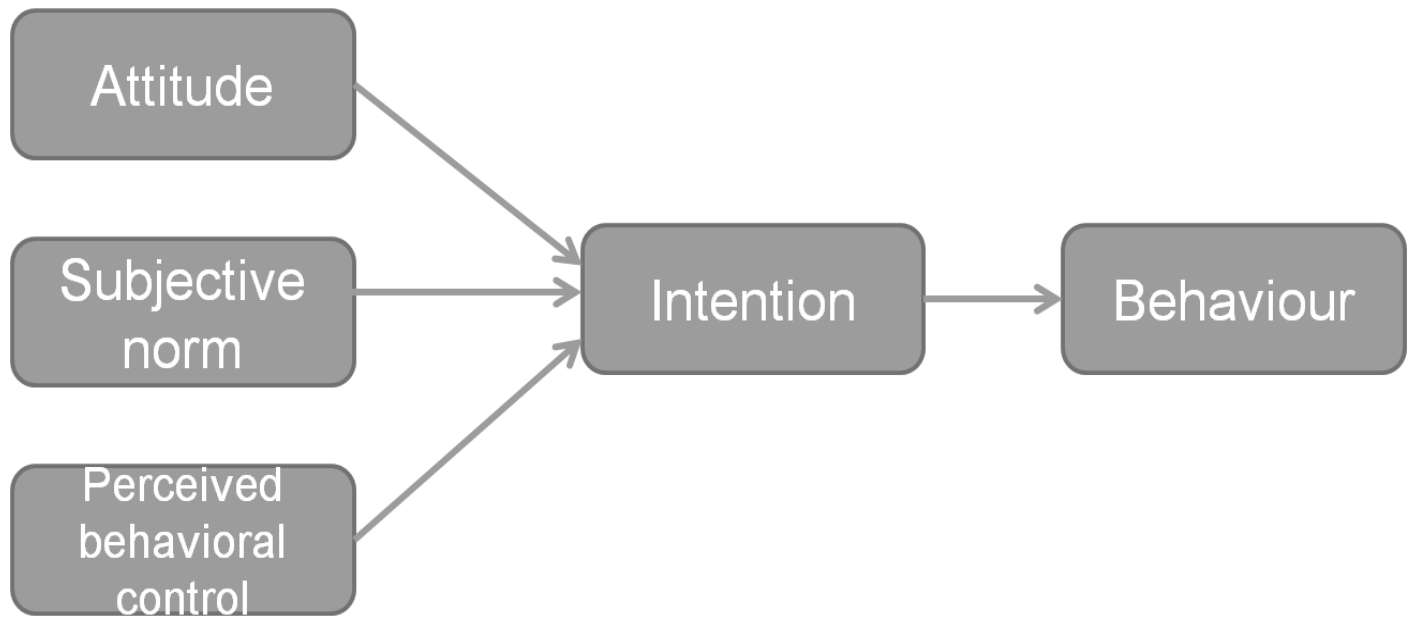


Figure 2. A simple representation of the Theory of Planned Behavior, as described by Ajzen (1991).

In light of these results, it was interesting to note that, next to peers, parents have a crucial role in the life of adolescents. Parents are often thought to be primarily responsible for the moral socialization of the child (Maccoby, 2007) and are seen as important actors in the education about online risks (Marwick, Murgia-Diaz, & Palfrey, 2010; Pasquier e.a., 2012; Safer Internet Programme, 2009). Moreover, a review of studies about prevention research found that encouraging positive relationships between parents and children is a vital characteristic of effective prevention campaigns (Nation e.a., 2003). Therefore, while peer pressure negatively influences the effectiveness of the intervention, parental involvement in school interventions might have a positive impact on their effectiveness.

In the fourth intervention study of the design-based research (see Figure 1), it appeared however that involving parents by organizing a parental information evening was insufficient to involve all parents in an e-safety prevention campaign, as only a limited number of parents seemed to attend these information evenings (Authors, 2014b). The parents who attend are often

higher educated and already more aware of internet safety than those with lower levels of education (Vandoninck, d' Haenens, & Segers, 2012). To increase the impact of parental involvement on pupils' behavior, a more active involvement seems to be necessary, recognizing the parallels between parenting and teaching and thus promoting the positive development of youth (Berkowitz & Bier, 2005).

In the current study, the intervention tested in the fourth study was adapted so that the parental information evening was replaced by a homework task that needed to be finished with the parents. It was questioned whether this active involvement of parents in the intervention, which is stimulating parent-child communication, is beneficial for the impact of prevention campaigns about online safety on pupils' intentions and their behavior and therefore resulted in an added value for the intervention.

Furthermore, since without intervention parents give more instructions about safely using the internet to girls than to boys (Segers & Van den Cruyce, 2012), it was studied whether parental involvement in a school intervention has a differential effect depending on the pupil's gender.

## **2. Method**

### **2.1 Design and participants**

Schools and parents of the participating pupils were asked for an informed consent. We then set up a quasi-experimental study in 20 authentic classroom settings in secondary education ( $n=207$ , mean age 12.6,  $SD=0.8$ ), randomly divided into two conditions with a different level of parental involvement. In the control condition, pupils participated in an intervention about risks on SNSs without parental involvement, including an individual homework task as used in the third intervention study. In the experimental condition, the same intervention was offered, but the

pupils' parents were involved during the homework task. Before and after this intervention, pupils had to fill out an online questionnaire.

## **2.2 Educational materials**

First, a homework task needed to be completed. Pupils had to answer questions about a worst-case-scenario, simulated SNS profile, which scaffolded them towards the privacy risks on the profile. In the control condition, pupils could answer these questions by themselves, while in the experimental condition one of their parents was asked to answer the same questions. After both answering all the questions individually, pupils and parents had to sit together and discuss the similarities and differences in their answers. In both conditions, the homework task was followed by a course given by the regular teacher, in which the risks were explored, the homework exercise was discussed, a voting game further deepened the understanding of the different risks, and, finally, some real-life newspaper items were used to provide a summary of the theory.

## **2.3 Measures**

A mixed-methods approach was used, collecting both quantitative and qualitative data from pupils in a pre- and post-test online survey, to overcome the weaknesses of single approaches (Denscombe, 2008).

*2.3.1 Quantitative data.* The survey started with a few general questions concerning the pupils' gender and age. In order to value the pupils' intentions to behave in different ways on SNSs and their actual behavior, several subscales were established based on the theory of planned behavior, following the manual of Fishbein and Ajzen (2009). Three particular behaviors that were aimed at were posting less personal information, posting less sexual information, and using privacy settings on SNSs. For every type of behavior, the intentions to

behave as such and the actual behavior were measured using three items on a 7-point Likert scale (1= safe, 7=unsafe; Chronbach's  $\alpha > .92$  for all scales).

*2.3.2 Qualitative data from pupils.* The post-test survey also comprised open questions about what they had learned during the course, whether they had made any changes on their SNS-profile, or somehow adapted their behavior after the intervention.

### **3. Results**

#### *3.2.1 Quantitative results*

Three multivariate repeated measures analyses were conducted with time of measurement as a within-subject variable and condition of parental involvement and gender as fixed factors. In the first one, the scales that measured the intention to post personal information and the actual posting of personal information were added as dependent variables. Pupils reported having less intention to post personal information, and actually posted less information after the intervention ( $F(1,169) = 24,451, p < .001$  and  $F(1,169) = 5,511, p = .02$ , respectively). However, a significant three-way interaction effect was found between time of measurement, parental involvement and gender ( $F(1,169) = 6,138, p = .01$  for intention and  $F(1,169) = 4,256, p = .04$  for behavior), indicating that this decrease in intention and behavior is dependent on gender and the level of parental involvement during the intervention. More concretely, boys only posted less information in the condition in which the homework task had to be completed together with the parents, whereas girls posted less personal information in both conditions (see Figure 3).



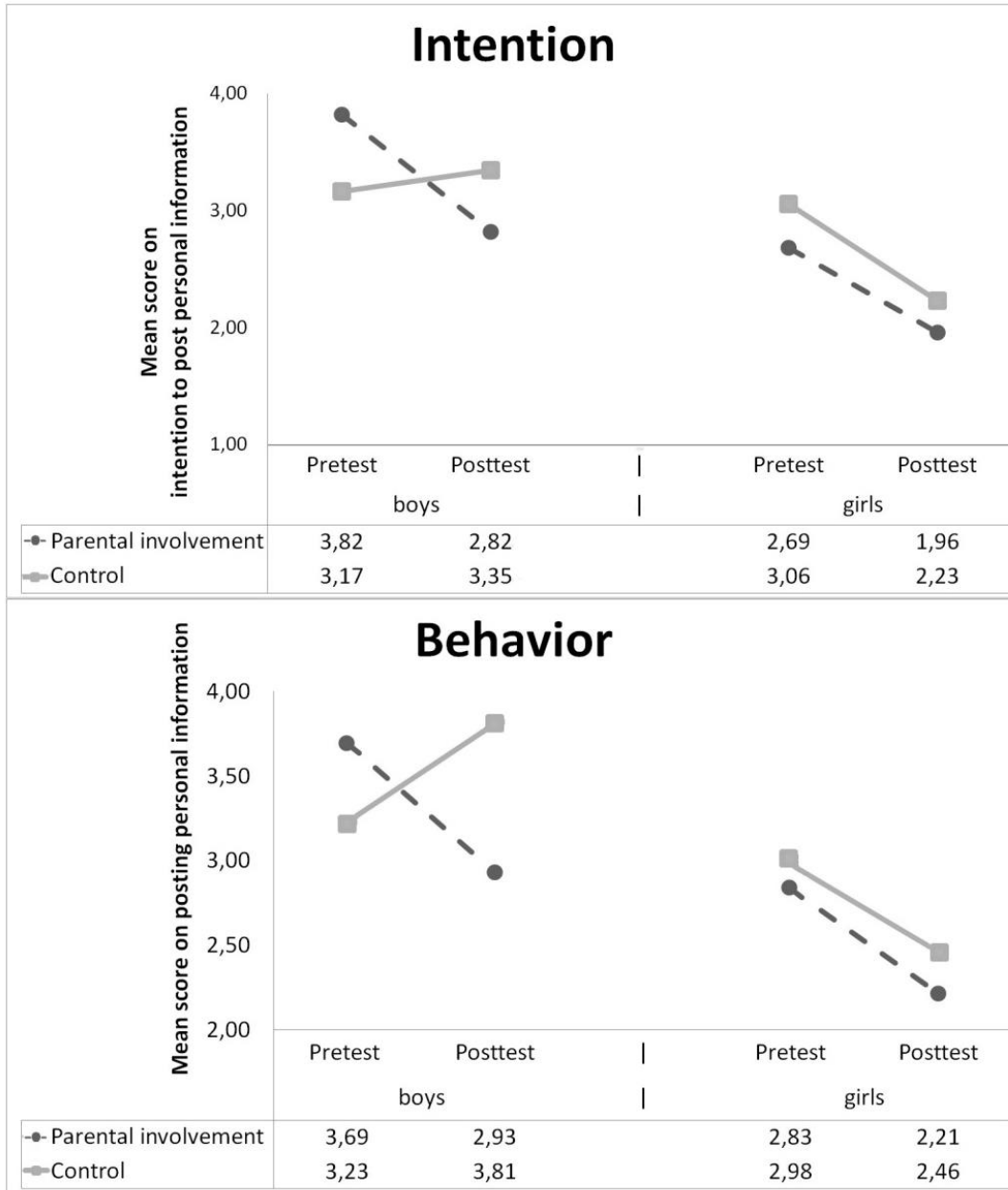


Figure 3. Three-way interaction between time of measurement, condition of parental involvement and gender on the intention to post personal information and actually posting personal information.

The same tendency was found in the second multivariate repeated measures analysis with regard to posting sexual information (intention and behavior as dependent variables). The intention to post sexual information generally decreased after the course ( $F(1,168)= 25,293$ ,

$p < .001$ ). Again, a three-way interaction was detected between time of measurement, parental involvement and gender ( $F(1,168) = 5,434, p < .02$ ): boys benefited more from the condition where their parents are involved, whereas girls benefited from both interventions. However, with regard to the actual posting of sexual information (as opposed to the intention to do this in the future), both boys and girls benefited from parental involvement ( $F(1,168) = 5,237, p = .02$ ). Furthermore, in the third repeated measures analysis it was found that the pupils' intentions to use the privacy settings of their SNSs increased after the course ( $F(1,168) = 6,157, p = .01$ ), but there were no differences between the conditions with different parental involvement or between pupils with a different gender, nor was there any impact on the actual behavior.

### *3.2.1 Qualitative results*

The qualitative data will be analyzed by coding the answers to the open questions, and  $\chi^2$ -tests will be used to reveal differences according to conditions and gender. These analyses are not yet finalized, but will be presented at the AERA 2015 conference if accepted.

## **4. Discussion & Conclusion**

As opposed to involving parents by organizing a parental information evening (Authors, 2014b), including parents in a school intervention appeared to be beneficial for changing behavioral intentions and behavior. Moreover, for certain risky behavior, the intervention with parental involvement seemed particularly important for boys. This is in line with the expectations, since previous research showed that without any school interventions parents are already more concerned about girls and therefore give them more e-safety instructions (Segers & Van den Cruyce, 2012). For this reason, there is less added value in involving parents in school interventions for girls than for boys. This demonstrates the importance of involvement

and guidance of parents for both boys and girls when it comes to preventing harm caused by the use of SNSs.

Moreover, the results of this study illustrate that a well-developed homework task provides an excellent opportunity get parents involved in an intervention, which is beneficial for the impact of this intervention. This implies that other prevention campaigns that aim at behavioral change could benefit from a similar approach.

As this study is part of a design-based research procedure, more cycles of revision and evaluation could be conducted. Possible suggestions to improve the intervention even further can be based on other predictors of behavior, following the theory of planned behavior (Ajzen, 1991), such as perceived behavior control. A focus on skills, for example how to change your privacy settings, can increase feelings of perceived behavioral control, and so change behavior with regards to the use of privacy settings.

This research has important implications for several parties, such as prevention researchers, developers and teachers. Governmental and non-profit organizations often still finance the development of prevention campaigns and educational materials that are not evidence-based. The current research shows the invaluable contribution of evaluation studies and particularly design-based research. Five iterative intervention studies result not only in effective interventions, but also in suggestions for design criteria that can guide us toward more effective prevention campaigns.

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