Child Security in Cyberspace Through Moral Cognition

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ABSTRACT

The increasing number of threats in cyberspace has meant that every internet user is at a greater risk than ever before. Children are no exception to this exploitation, incurring psychological and financial stress. Technology is on a persistent pursuit of offering exquisite solution to address the problems associated with children on the cyberspace. With every new product for parental control to secure children, comes a new technique to trespass the same. Consequently it summons an approach to look beyond technology; this paper aims to explore the relevance of moral cognition to decision making capability of children on the internet & the possibility of minimizing related risks using the observation. The authors establish a correlation between cognitive moral development and the cyber vulnerability level of children of age between 12 and 16 years, based on an empirical research using a comprehensive set of questionnaires and standard tests. The findings also paves path for future researchers to further analyze and implant features in the parental control software that would stimulate moral cognition, thereby redefining parental control software as parental care software.

Keywords: Age Group, Children, Cognition Moral Development, Cyberspace, Exposure Index, Vulnerability

INTRODUCTION

Recent studies have been conducted across the globe that has identified the number of attacks targeting children in cyber space, vindicating that the numbers are increasing. The key findings of one such research in India revealed 53% of children have shared personal information online including their home address (Mishra & Anindita, 2011) and 12% of children have shared their parent's credit card information on the internet (Mishra & Anindita, 2011). Another

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crucial finding was that 39% of the children who participated in the research don't tell their parents about their online activities (Mishra & Anindita, 2011). Parents try to deal with this problem by implementing parental control software, plug-ins for internet security suites and server-based filtering by ISPs. In spite of these attempts to limit the activities of children online, the rise in the number of cyber-attacks that successfully target children demonstrates that the parental control software is not meeting its objectives. However, as the internet is evolving to be one of the most popular avenues for self-expression and social interactions, children have started engaging indiscriminately in information exchange thus paving the way for cyber exploitation. The focus of our research is to examine the role of moral cognition in combating this vulnerability. The research is conducted by synthesizing several studies. These studies consist of; identifying those factors that significantly influence the ethical decisions of children between the ages of 12 and 16, the percentage of homogeneous decisions taken on the internet and the real world, extrapolating the cognitive moral development (CMD) of those children and also examining the level of vulnerability of these children on cyber space. The correlation between these analyses is achieved by performing an empirical research on 108 children (40 boys and 68 girls) from Bangalore, Chennai and Hyderabad in India. The results of our research demonstrate the potential value of incorporating moral cognition in the design of parental control software to improve the safety of children on the internet.

Research Objective

The aim of our research is to advocate the role played by moral cognition of children in safeguarding them in cyberspace. This is achieved by combining the results of our research survey which investigated the following:

1. Which factors influence an individual's ethical decisions?
2. Understanding the homogeneity that exists between decision making in the real world and in cyberspace.
3. Quantifying the cognitive moral development (CMD) of the participants.
4. Assessing the exposure level of these children in cyberspace.

We will evaluate the empirical results to assess the role of moral cognition to facilitate cyber control of children's online activities. It will demonstrate the need to effectively utilize those factors which influence moral decisions and contribute to the moral cognition development of a child .The inference from the findings can also be used to embed contents or tailor the parental control software in such a manner that they will stimulate moral cognition which would reduce the number of successful cyber-attacks on children.

Literature Review

Parental Control Software designed to protect children on the internet has many shortcomings. The major concern with this type of software is not just its failure to prevent children accessing unauthorised content, but also its psychological impact. While those technically competent children could find ways to circumvent the parental controls, others may become susceptible to psychological complications that affect the mental health. Since we are attempting to blend the essence of moral cognition (a psychological element) with Parental Control Software (technological aid), our research study looks at the technological and psychological spheres of parental control.

Technological Standpoint

Major findings of a study conducted by the European Commission indicate that 84% of the software programs tested to block certain websites are less efficient at filtering web 2.0 content that includes social networking sites and related blogs (Europa Press Release, 2011). The survey also reveals that only 28% of the