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Orginal Article

Explaining A Model to Reduce Cyber Risks in the Online Space: the Relationship of E-Social-Emotional Competencies with Digital Habitual Behavior with the Mediation of Cognitive Emotion Regulation and the Moderation of Gender

Fatemeh Farzadi[*]
Keyhan Fathi[**]

Abstract

The increased use of the internet has introduced several behavioral patterns into the daily lives of adolescents, such as online rumors, disregard for others while using mobile phones, and media multitasking during homework. These common habits, if continued, can lead to cybernetic risks. In this context, socio-emotional competencies can act as protective factors against cybernetic risks. The aim of this study was to investigate the causal relationship between electronic social-emotional competencies and digital habitual behavior, with the mediating role of cognitive emotion regulation and the moderating role of gender. The statistical population included male and female high school students (first to third years) in Ahvaz city during the academic year 2022–2023. A sample of 610 participants (238 boys, 372 girls) was selected using multistage random sampling. Participants completed the Electronic Social-Emotional Competence Scale, the Digital Habitual Behavior Scale, and the Cognitive Emotion Regulation Questionnaire. The proposed model was evaluated using structural equation modeling, and multi-group comparisons were performed to test gender moderation. Correlation results showed that dimensions of social-emotional competence, except for electronic social competence, had a negative relationship with three subscales of digital habitual behavior. Moreover, electronic emotional awareness showed a stronger correlation with digital habitual behavior in boys than in girls ($\beta = -0.23$). Structural equation modeling revealed a positive relationship between electronic social-emotional competence and cognitive emotion regulation, and a negative relationship with digital habitual behavior. Additionally, cognitive emotion regulation was found to mediate the relationship between social-emotional competence and digital habitual behavior. Gender moderation indicated differences between the models for girls and boys, with the girls' model showing higher scores in terms of relationships. The findings suggest that electronic social-emotional competencies, along with cognitive emotion regulation, serve as protective factors against digital habitual behaviors, preventing their transformation into cybernetic risks.

Keywords: electronic social-emotional competencies ؚenternet, cognitive emotion regulation**,** digital habitual behavior

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* Assistant Professor, Department of psychology, Institute for Higher Education ACECR, Khuzestan, Iran.

** Assistant Professor, Department of psychology, Institute for Higher Education ACECR, Khuzestan, Iran. *Corresponding Author:* Keyhan.fathi@acecr.ac.ir

Extended Abstract

Introduction

The increased use of the internet has introduced various behavioral patterns into adolescents' daily lives, including online gossip, ignoring others while using mobile phones, and media multitasking during homework. These habitual behaviors, although often perceived as benign or temporary, can become automatic and resistant to change, potentially leading to negative psychological outcomes such as anxiety, reduced academic performance, and impaired face-to-face social interactions. These common habits, if persisted, may lead to cybernetic risks such as cyberbullying, online addiction, and digital burnout. Adolescents are particularly vulnerable due to their still-developing prefrontal cortex, which governs impulse control and long-term planning, making them more susceptible to forming maladaptive digital habits. In this context, social-emotional competencies—including emotional awareness, self-regulation, and interpersonal skills—can act as protective factors against such cybernetic risks. However, little research has examined how these competencies operate specifically in the electronic environment (e-SECs) and whether their effect on digital habits is explained through cognitive emotion regulation strategies or differs by gender. Therefore, the aim of the present study was to investigate the causal relationship between electronic social-emotional competencies (e-SECs) and digital habitual behavior (DHB), with the mediating role of cognitive emotion regulation (CER) and the moderating role of gender.

Method

The method of descriptive correlational research was structural equation modeling. The statistical population of the current research was male and female students from the first to third year of Ahvaz high schools in the academic year 1401-1402. Subjects responded to electronic social-emotional competence tools, normal digital behavior and cognitive emotion regulation questionnaire. The proposed model was evaluated using a structural equation method. Also, in order to test the moderation of gender in the causal relationship between multiple variables, multiple group analyzes have been used.

Results

The highest correlation in the girls' group was between electronic social-emotional competence and media multitasking from the dimensions of normal digital behavior (r=0.69) and in the boys' group, between electronic social-emotional competence and ignoring (r=0.75). . Thus, from a relational angle,

we identify that there is a relationship between typical digital behaviors and e-competencies, specifically with e-impulsivity self-regulation, e-emotional regulation, and e-emotional autonomy. Also, most of these relationships are negative and significant at the $P < 0.01$ level in the two groups of boys and girls. Correlation of typical digital behavior with social e-emotional awareness in two groups of boys and girls is very low, but this did not happen with e-impulsive self-control, e-emotional regulation, and e-emotional independence. Also, the results of structural equation model analysis show that there is a significant relationship between electronic social-emotional competence with cognitive regulation of emotion and electronic social-emotional competence with normal digital behavior and cognitive regulation of emotion with habitual digital behavior. Also, the indirect relationship of social-emotional competence of digital habitual behavior with the mediation of cognitive regulation of emotion was also confirmed. On the other hand, in order to test the gender-invariance of the causal relationship between the research variables, the multi-group analysis method was used. The results showed that the gender moderation hypothesis is acceptable.

Discussion

The study aimed to propose a model for reducing cyber risks by examining the causal link between electronic social-emotional competencies (e-SECs) and digital habitual behavior (DHB), with cognitive emotion regulation (CER) as a mediator and gender as a moderator. Findings confirm that e-SECs protect against DHB by helping adolescents recognize and manage emotions in virtual contexts, reducing automatic digital actions. A key finding is that CER fully mediates the e-SECs–DHB relationship. Having e-SECs alone is insufficient; they must be translated into adaptive strategies like reappraisal and perspective-taking to reduce DHB effectively.

Gender differences emerged: girls showed stronger path coefficients and more complex relationships, possibly due to higher emotional awareness. Boys showed a stronger direct link between low e-SECs and ignoring others online. This suggests tailored interventions: for girls – reduce media multitasking and emotional over-sharing; for boys – focus on empathy and reducing online disregard.

Practically, schools and families should teach e-SECs and CER skills, not just restrict internet use. Digital literacy programs should include recognizing emotional triggers, reappraisal before posting, and healthy boundaries. Clinicians can use CER training for adolescents with problematic digital habits. Limitations: cross-sectional design and self-report bias. Future longitudinal and clinical studies are needed. Conclusion: e-SECs combined

with adaptive CER act as a protective shield against harmful digital habits, with gender-specific pathways requiring differentiated approaches.

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