

## Regular Article

# Attention deficit hyperactivity symptoms and Internet addiction

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## Abstract

The objective of this study was to evaluate the relationship between attention deficit-hyperactivity/impulsivity symptoms and Internet addiction. In total, 535 elementary school students (264 boys, 271 girls; mean age, 11.0 ± 1.0 years) were recruited. The presence or severity of Internet addiction was assessed by the Young's Internet Addiction test. Parents and teachers of the children completed the DuPaul's attention deficit hyperactivity disorder (ADHD) rating scale (ARS; Korean version, K-ARS) and Child Behavior Checklists. Children with the highest and lowest quartiles in K-ARS scores were defined to be in ADHD and non-ADHD groups, respectively. Five children (0.9%) met criteria for a definite Internet addiction and 75 children (14.0%) met criteria for a probable Internet addiction. K-ARS scores had significant positive correlations with Young's Internet Addiction test scores. The Internet addiction group had higher total scores of K-ARS and ADHD-related subcategories in the Child Behavior Checklists than the non-addiction group. The ADHD group had higher Internet addiction scores compared with the non-ADHD group. Therefore, significant associations have been found between the level of ADHD symptoms and the severity of Internet addiction in children. In addition, current findings suggest that the presence of ADHD symptoms, both in inattention and hyperactivity-impulsivity domains, may be one of the important risk factors for Internet addiction.

## Key words

attention deficit hyperactivity disorder, children, Internet addiction.

## INTRODUCTION

Internet addiction is a relatively new concept in psychiatry. Internet addiction, including personal computer game addiction, is currently becoming a serious mental health problem among children and adolescents in South Korea.<sup>1</sup> Many children and adolescents indulge themselves in Internet surfing and personal computer games at home or at Internet cafés which are equipped with high-speed Internet access. The rate of

Internet use in elementary school students in Korea was reported as 91.3% in one recent study.<sup>2</sup>

Internet addiction, also described as pathological Internet use, is conceptualized by an individual's inability to control his or her use of the Internet, which eventually causes marked distress and/or functional impairment.<sup>3–5</sup> The description regarding Internet addiction in the psychological literature has been based on the definition for substance dependence or pathological gambling.<sup>6</sup> Internet addiction is now classified as an impulse control disorder, while not yet completely settled in its definition.<sup>3,4,7,8</sup> It shares characteristics of substance dependence such as preoccupation, changes of mood, tolerance, withdrawal, distress, and functional impairment.

Previous studies regarding child and adolescent Internet addiction have mainly been case summaries,

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