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CHILDREN'S INTERNET ADDICTION, FAMILY-TO-WORK CONFLICT, AND JOB OUTCOMES: A STUDY OF PARENT–CHILD DYADS[1]

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This paper examines the role of parenting behaviors in influencing children's Internet addiction and the consequences of children's Internet addiction on parents' job outcomes. First, we draw on attachment theory to theorize that five parenting behaviors (i.e., parental control, monitoring, unstructured time, dissuasion, and rationalization) affect children's Internet addiction and their effects are moderated by the children's views of parent–child attachment. Second, we draw on research on the work–family interface to theorize that children's Internet addiction affects parents' job outcomes (i.e., job satisfaction, organizational commitment, and work exhaustion) and the effects are mediated by family-to-work conflict. We tested our hypotheses using an integrated research approach that includes quantitative and qualitative data. We conducted an online survey to collect quantitative responses from 776 parent–child dyads. The results of our model showed that the effects of parenting behaviors on children's Internet addiction, except for dissuasion, were moderated by the children's views of parent–child attachment. Also, family-to-work conflict mediated the effects of children's Internet addiction on parents' job satisfaction, organizational commitment, and work exhaustion. We collected qualitative data via interviews from 50 parents to cross-validate the results from the quantitative study.

Keywords: Family-to-work conflict, Internet addiction, parent–child attachment, parent–child dyads, job satisfaction, organizational commitment, work exhaustion, dark side of IT

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Introduction

An important social consequence of such popularity is Internet addiction (Young 2004). There is growing concern that the Internet can be a substantial time-sink and it is even considered to be an addictive phenomenon (Turel, Serenko, and Giles 2011; Young 2004).[2] The Internet can foster various addictions including addiction to pornography, game-playing, auction sites, social networking sites, and surfing of the Web (Greenfield and Davis 2002; Laffey 2007; Turel and Serenko 2012; Turel, Serenko, and Giles 2011; Xu et al. 2012). With the explosion of applications targeted at young people, children and adolescents are in particular danger of spending excessive amounts of time on hedonic pursuits using the Internet (Fortson et al. 2007). In the United States, 92% of children (between the ages of 13 and 17) use the Internet daily, with 24% online almost constantly, for different purposes such as online discussion boards, instant messaging, social networking, and games (Lenhart 2015). Children's excessive use of the Internet is associated with Internet addiction and other negative consequences such as poor academic performance, social isolation, and aggressive behavior (Jackson 2008; Young 2004). As an increasingly common phenomenon, children's Internet addiction warrants further research, especially in terms of its antecedents and consequences.

While technology adoption (e.g., Hong et al. 2006; Thong et al. 2006; Venkatesh et al. 2003; Venkatesh et al. 2011, Venkatesh, Thong, and Xu 2012, 2016) is one of the main streams of information systems (IS) research, and there are many studies on technology adoption by individuals (e.g., Thong et al. 2011; Xu, Thong, and Tam 2017; Xu, Thong, and Venkatesh 2014), organizations (e.g., Thong 1999; Thong et al. 1994), and governments (e.g., Chan et al. 2010; Hu et al. 2009; Venkatesh, Chan, and Thong 2012; Venkatesh, Thong et al. 2016), there is much less IS research on the social impacts, especially the dark side, of technology. User addiction to technologies, including the Internet, is a relatively new phenomenon (see Turel, Serenko, and Giles 2011). Although some research has examined the antecedents of Internet addiction, many of these antecedents pertain to individual characteristics (e.g., Chou and Hsiao 2000; Young 1998) and an individual's technology perceptions and use such as enjoyment and habit (e.g., Turel and Serenko 2012). There is little research investigating the influence of external forces from important others (e.g., parents, teachers, friends) on an individual's Internet addiction. One exception is Xu et al. (2012), which examined how adolescents' perceptions of parents' and teachers' prevention practices can reduce adolescents' online game addiction. In line with this, prior research has noted that parental factors should be taken into consideration and are expected to influence the extent to which children engage in addictive behaviors (e.g., Graham et al. 1991; Komro and Toomey 2002; Laird et al. 2003; Weinberg and Glantz 1999). Therefore, we suggest that, as with other behaviors to which children can become addicted, parents can influence their children's Internet addiction through specific parenting behaviors.

Compared to studies examining antecedents of technology addiction, there have been few studies examining the consequences of technology addiction. Prior research has suggested that technology addiction could influence an individual's use of a technology. For example, Turel, Serenko, and Giles (2011) found that addiction to online auctions will influence users' perceptions of usefulness, ease of use, and enjoyment that in turn influence intentions to use. Further, there is evidence that technology addiction could exhibit a cross-domain influence on work- or family-related outcomes. For example, Turel, Serenko, and Bontis (2011) found that user addiction to organizational mobile emails will lead to broader consequences related to an individual's work environment (i.e., work overload and organizational commitment) and family environment (i.e., technology–family conflict and work–family conflict). Given the mutual influences of parents and children on each other's beliefs and behaviors (e.g., Barling et al. 1998; Barling et al. 1999; Lim and Sng 2006; Schmitt et al. 1999), we suggest that children's Internet addiction in the family domain could have a cross-domain influence on parents' job outcomes.

Against this backdrop, we examine the role of parenting behaviors in influencing children's Internet addiction and the broader consequences of children's Internet addiction on parents' work. First, we draw on attachment theory (Bowlby 1969, 1973, 1980, 2005) to understand how parenting behaviors and parent–child attachment will influence children's Internet addiction. We identify five key parenting behaviors (i.e., parental control, monitoring, unstructured time, dissuasion, and rationalization) and posit that their effects on children's Internet addiction will be moderated by their perceptions of parent–child attachment. Second, we draw on prior research on work–family interface (e.g., Ford et al. 2007; Frone et al. 1992) to examine how children's Internet addiction will influence parents' job outcomes. We posit that children's Internet addiction, as a stressor in the family domain, will influence parents' job outcomes through

[2]There is controversy as to whether the concept of addiction should be applied only to cases involving a physical dependence on a substance (e.g., Holden 2001). There is a growing view that the concept of addiction can be extended to behaviors that do not involve a substance such as compulsive gambling, video game playing, and television viewing (Griffiths 1999; Young 2004). We adopt this view and define Internet addiction as a type of behavioral, non-substance addiction.

increasing family-to-work conflict. We used an integrated research approach that includes quantitative and qualitative data and concomitant analyses (Venkatesh et al. 2013; Venkatesh, Brown, and Sullivan 2016). We first tested the hypotheses using quantitative (survey) data obtained from 776 parent–child dyads. Then, we analyzed the qualitative (interview) data obtained from the parents to confirm the proposed relationships.

Our work makes two key contributions to the Internet addiction literature. First, our work extends prior research that suggested the influence of external forces from important others (e.g., parents, teachers, friends) on technology addiction (e.g., Xu et al. 2012). We draw on attachment theory to conduct a more nuanced examination of how parenting behaviors, in particular, can influence children's Internet addiction and how the effectiveness of parenting behaviors will be affected by parent–child attachment. Second, our work extends prior research that examined the consequences of technology addiction (e.g., Turel, Serenko, and Bontis 2011; Turel, Serenko, and Giles 2011). We draw on the concept of family-to-work conflict to examine the consequences of children's Internet addiction on parents' job outcomes. This examination of family-to-work conflict complements previous research that primarily focused on how role pressures associated with technology use in the work domain affect one's participation in the family role, known as work-to-family conflict (e.g., Ahuja et al. 2007; Ayyagari et al. 2011). Overall, this work advances our understanding of the effects of parenting behaviors on children's Internet addiction and the effects of children's Internet addiction on parents' job outcomes.

Theory Development

In this section, we first define Internet addiction. Next, we introduce attachment theory, describe different parenting styles, and identify a set of specific parenting behaviors. Then, we discuss our hypotheses regarding the moderating effects of parent–child attachment on the relationships between parenting behaviors and children's Internet addiction. Finally, we describe the concept of work–family interface and discuss hypotheses regarding the effects of children's Internet addiction on family-to-work conflict and, ultimately, parents' job outcomes. Our proposed model is depicted in Figure 1.

Internet Addiction

As Turel, Serenko, and Giles (2011) noted, technology addiction is a special type of behavioral, non-substance addiction. Adapting their definition of technology addiction, we define Internet addiction as a psychological state of maladaptive dependency on Internet use to such an extent that the following typical behavioral addiction symptoms arise: (1) salience: the Internet dominates a person's thoughts and behaviors; (2) withdrawal: negative emotions arise if a person cannot use the Internet; (3) conflict: the use of the Internet conflicts with other tasks, which impairs normal functioning; (4) relapse and reinstatement: a person is unable to voluntarily reduce his or her use of the Internet; (5) tolerance: a person has to use the Internet to a greater extent to produce thrill; and (6) mood modification: using the Internet offers thrill and relief, and results in mood changes. In line with Turel, Serenko, and Giles, we suggest that Internet addiction will also manifest as an obsessive pattern of Internet use at the cost of other important activities.

Attachment Theory

The role of parents in the context of children's Internet addiction can be viewed through the lens of attachment theory (Bowlby 1969, 1973, 1980, 2005). Attachment theory posits that the quality of attachment between the parent and the child can influence the child's behavior (Bowlby 2005). The quality of the parent–child attachment is characterized by three broad dimensions: (1) degree of parental understanding and mutual trust; (2) extent and quality of communication with parents; and (3) extent of anger and alienation from parents (Armsden and Greenberg 1987). The quality of attachment will change as children develop and become more autonomous, and as they begin to encounter new situations and challenges outside of the family context (Karavasilis et al. 2003). Attachment theory and a number of complementary theoretical views (e.g., Cox and Harter 2003; Erikson 1963; Sroufe 1995) emphasize the importance of the parent–child attachment in the emergence of the child's self and in understanding the course of the child's development. In particular, the parent's early sensitive responding to the child's signals is considered key to the development of better decision-making ability and self-regulation that in turn is often associated with lower addictive behaviors (Brown 1998; Sroufe 1995; Xiao 2011).

Attachment theory suggests that good attachment between parents and children leads to emotionally stable, well-adjusted adults, whereas poor attachment leads to insecurity, anger, and acting out among children (Dutton et al. 1994). Research has shown that good parent–child attachment is characterized by positive reinforcement, understanding of social roles of both the parent and child, open and effective communication, clear definition of the rules the child is expected to follow, respect of the rules by the child, and mutual respect between

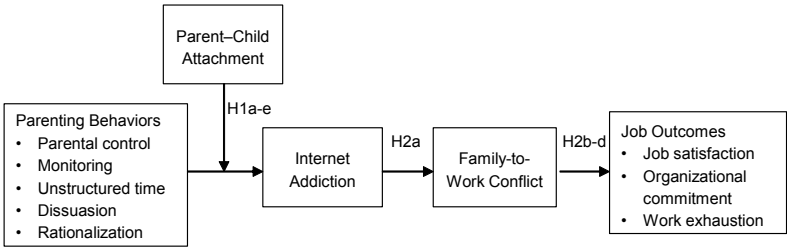

Figure 1. Research Model

parent and child (Ackard et al. 2006; Orbuch et al. 2005). Poor attachments are characterized by distrust, bickering, frequent punishments, consequent child rebellion, destructive behaviors, and children seeking escapes (Gerard et al. 2006; Hollenstein et al. 2004).

Parenting Styles and Parenting Behaviors

To identify key parenting behaviors for our hypotheses development, we first draw on the parenting literature to define key parenting styles that shape parenting behaviors. Then, we draw on the literature in IS and parenting to identify specific parenting behaviors that relate to the key parenting styles. Finally, we demonstrate the relevance of the identified parenting behaviors by suggesting how parents may vary in their use of different parenting behaviors depending on their parenting styles.

The parenting literature suggests that a parenting style consists of two dimensions: demandingness and responsiveness (Baumrind 1989). Demandingness refers to the extent to which parents show control, expectations of maturity, and supervision in their parenting, whereas responsiveness refers to the extent to which parents show affective warmth, acceptance, and involvement (Aunola et al. 2000). Based on these two dimensions, four distinct parenting styles can be derived: authoritative, authoritarian, permissive, and neglectful (Aunola et al. 2000; Maccoby and Martin 1983). First, authoritative parents are both demanding and responsive. Authoritative parenting is characterized by parents displaying firm control, while recognizing the child's individual interests and personality (Heath 2005). Rules are set but unquestioning obedience is not expected; rather, communication between parent and child is emphasized (Baumrind 1966, 1967). Authoritative parents believe in explained, rational discipline and strive to integrate the needs of the child with those of other family members (Baumrind 2005; Heath 2005). Second, authoritarian parents are demanding but not responsive. They view the child as wayward and favor using punitive means to curb the willful nature of their children. Authoritarian parenting restricts the child's autonomy, places high demands in terms of household responsibilities on the child, and uses force to gain the child's compliance to rules. This parenting style emphasizes the power differential in the parent–child dyad, with expectations of unquestioning obedience from the child, with little or no discussion. Third, permissive parents are responsive but not demanding. They provide love and friendship, emphasizing communication, yet seldom set rules or provide consequences for the child's behaviors. Children of permissive parents are granted more freedom to do as they please but are expected to communicate with their parents about the use of that freedom. Permissive parents allow the child to do what the child wants to a substantially greater degree than do authoritarian or authoritative parents. Finally, neglectful parents are neither responsive nor demanding. They do not expend the necessary time and energy required of the role of a parent (Heath 2005). They are uninvolved and seemingly uninterested in the child's development. Children of such parents have little responsibility, little guidance, and a distinct lack of communication or interaction with their parents.

The distinction among the four parenting styles suggests that they can be characterized by a predisposition to different parenting behaviors, such as setting and enforcing rules, restricting freedom of self-control, involving and communicating with the child, and providing guidance (Baumrind 2005; Heath 2005). We draw on the IS and parenting literatures to identify specific parenting behaviors that will influence children's Internet use and addiction: (1) parental control, defined as setting rules that the parent expects the child to follow (e.g., Bumpus and Wemer 2009; Giles and Price 2008; Lee 2012; Li et al. 2013; Young 2004); (2) monitoring, defined as surveillance of the child and oversight of parental rules (e.g., Bumpus and Wemer 2009; Lin et al. 2009; Sun et al. 2005; Xu et al. 2012; Young 2004); (3) unstructured time, defined as providing freedom and opportunities for responsible behavior by the child (e.g., Chak and Leung 2004; Sun et al. 2005; Valcke et al. 2010; Young

2004); (4) dissuasion, defined as advising against a behavior by means of exhortation, argument, coaxing, browbeating, or coercion (e.g., Turel and Serenko 2012; Xu et al. 2012); and (5) rationalization, defined as providing education and guidance to encourage rational thinking so as to reduce the chance of problematic behaviors (e.g., Liu et al. 2012; Valcke et al. 2010; Xu et al. 2012).

To demonstrate the connection of the five identified parenting behaviors to the key parenting styles, we present a matrix of how the five parenting behaviors may vary across the four parenting styles (see Table 1).[3] Authoritative and authoritarian parents, who are both demanding, will set rules for the child, enforce the rules, and limit the autonomy of the child. They are likely to exert a great deal of parental control and monitoring, and allow less unstructured time for the child. Authoritative parents, who are responsive, are likely to use rationalization, but not dissuasion, to advise the child against excessive Internet use because they emphasize communication and involvement with the child. In contrast, authoritarian parents, who are nonresponsive, are likely to use dissuasion, but not rationalization, because they expect unquestioning obedience from the child, with little or no discussion. Permissive and neglectful parents, who are both nondemanding, are likely to exert less parental control and monitoring, and allow more unstructured time for the child. Permissive parents, similar to authoritative parents who are responsive, are more likely to use rationalization and not dissuasion to educate the child against excessive Internet use. In contrast, neglectful parents are unlikely to use dissuasion and rationalization because of their distinct lack of communication and interaction with the child.

In sum, the five parenting behaviors, although not exhaustive, provide the key bases for examining how parent–child attachment will moderate parental influence on children's Internet addiction. Focusing the examination on parenting behaviors will yield more actionable insights when compared to focusing on the more general and abstract parenting styles (i.e., authoritative, authoritarian, permissive, and neglectful) or their dimensions (i.e., demandingness and responsiveness) because parenting behaviors are actions that parents can change depending on their objectives in general and as it relates to children's Internet addiction in particular.

[3]It should be noted that Table 1 does not intend to show a balanced or complete view of different combinations of parenting behaviors at high or low levels. Some other combinations of parenting behaviors may exist (e.g., high in both parental control and unstructured time), which correspond to a mixed parenting style.

Moderating Role of Parent–Child Attachment

We suggest that the quality of the parent–child attachment influences the effectiveness of parenting behaviors. Specifically, we will examine how the child's perception of parent–child attachment moderates the effects of parenting behaviors on the child's Internet addiction. In general, if the child has a positive perception of parent–child attachment, then the child is likely to conform to the parent's expectations for acceptable (non-excessive) Internet use, which makes Internet addiction less likely to occur. In contrast, if the child has a negative perception of parent–child attachment, then it is likely that the child will rebel against the parent as a means of gaining the parent's attention (Baumrind 1966, 1967; Ward 2006), thus contributing to excessive Internet use[4] and, eventually, addiction.

Parental control is the laying down and enforcing of rules that the parent expects the child to follow. Setting boundaries on the child's behavior through rules is an important aspect of child rearing (Hill 2005). Rules provide a framework for acceptable behavior and constitute the backbone of discipline. The more control the parent exercises in the child's life, the less likely Internet addiction is to occur because there will be less opportunity to overuse the Internet than in the case where parental control is less present. However, the effectiveness of parental control is subject to the quality of the parent–child attachment. When the child has a negative perception of parent–child attachment, it would suggest that the child is unhappy and is more likely to disregard parenting behaviors and see parental control as dictatorial, unfair, or even as punishment (Heath 2005). Any rules or boundaries that the parent advocates will be seen as an oppressive demand (Kaye 2005). The lack of mutual trust and communication present in poor attachments would suggest that the child is more likely to go out of his or her way to flout the rules that the parent sets both as a rebellious act as well as one that is a psychological cry for attention (Marsh et al. 2003). In contrast, when the child has a positive perception of parent–child attachment, it would suggest that the child is satisfied with the current parent–child relationship and is more likely to conform to the rules set by the parent, which can make Internet addiction less likely to occur. Thus, we hypothesize

H1a: *Parent–child attachment will moderate the relationship between parental control and*

[4]Excessive use is associated with a loss of sense of time or a neglect of basic drives and is considered to be a component of Internet addiction (Block 2008). However, some research has cautioned that it may not be appropriate to equate excessive use with addiction because the use of the Internet is necessary in some circumstances (e.g., for students to do their schoolwork) (Hansen 2002). Although not within the scope of this paper, future research can examine the conditions under which excessive use turns into addiction.

Table 1. Levels of Parenting Behaviors and Parenting Styles

Parenting Behavior \ Parenting Style	Authoritative	Authoritarian	Permissive	Neglectful
Parental Control	High	High	Low	Low
Monitoring	High	High	Low	Low
Unstructured Time	Low	Low	High	High
Dissuasion	Low	High	Low	Low
Rationalization	High	Low	High	Low

the child's Internet addiction, such that the negative effect of parental control on the child's Internet addiction will be stronger when parent–child attachment is high rather than low.

Monitoring is parental oversight of the rules that they endorse in their parenting activities. Common methods of monitoring children's Internet use include child disclosure, placing the computer in an observable or more public location (e.g., living room), and checking the Web surfing history (Xu et al. 2012). In attachments that are largely positive, the child will find the monitoring efforts of the parent to be appropriate and interpret such efforts as an avenue of communication with the parent (Armsden and Greenberg 1987). In particular, monitoring through child disclosure is likely to be robust, as more positive relationships tend to be more open and honest (Ginott and Goddard 2003). However, in cases of poor attachments, the child will interpret the monitoring efforts as a sign of distrust. It is also unlikely that the child will be forthcoming when asked for information by the parent in an effort to monitor and guide the child's Internet use. The monitoring effects will be ineffective, which may result in excessive Internet use and eventually, addiction. Thus, we hypothesize

H1b: *Parent–child attachment will moderate the relationship between monitoring and the child's Internet addiction, such that the negative effect of monitoring on the child's Internet addiction will be stronger when parent–child attachment is high rather than low.*

Unstructured time is the allotment of freedom and opportunities for responsible behavior by the parent giving the child control of what he or she does during a given block of time. The availability of such opportunities may account for much of the early onset of risk behaviors (Graham et al. 1991). In particular, huge blocks of unstructured time make it possible for the child to concentrate on online activities, thus contributing to Internet addiction (Young 2004). However, when the child views the parent–child attachment positively, granting unstructured time can be interpreted as a sign of trust that the parent believes the child is capable of making good decisions (Maccoby and Martin 1983). It is also a sign that the parent feels the child is mature and responsible enough to begin dictating his or her own activities (Zimmer-Gernbeck and Collins 2003). In contrast, when the child has a negative view of parent–child attachment, unstructured time could lead to excessive Internet use on the part of the child as a way of striking out at the parent who the child feels is uncaring, which can make Internet addiction more likely to occur. Thus, we hypothesize

H1c: *Parent–child attachment moderates the relationship between unstructured time and the child's Internet addiction, such that the positive effect of unstructured time on the child's Internet addiction will be weaker when parent–child attachment is high rather than low.*

Dissuasion is a common practice used by parents to prevent undesirable behaviors such as smoking, alcohol abuse, and unsafe sex (Xu et al. 2012). It refers to the parent's efforts in preventing the child from using the Internet by means of exhortation, argument, coaxing, browbeating, or coercion. The effectiveness of dissuasion is subject to the quality of the parent–child attachment. When the child has a positive perception of parent–child attachment, it would suggest that the child has frequent and satisfactory communication with the parent, making the parent's dissuasion efforts more effective. Also, good attachment signals mutual trust and respect, making it more likely for the child to consider and accept the parent's advice on limiting Internet use, even when the advice is not justified with sufficient reasoning. In contrast, in the case of poor attachment, the poor communication and mutual respect make it difficult for the parent to effectively convey his or her message to the child. Also, it is more likely for the child to react negatively to the parent's browbeating or coercion, which may result in excessive Internet use and eventually, addiction. Thus, we hypothesize

H1d: *Parent–child attachment will moderate the relationship between dissuasion and the child's Internet addiction, such that the negative effect of dissuasion on the child's Internet addiction will be stronger when parent–child attachment is high rather than low.*

Rationalization is the provision of education and guidance to encourage rational thinking so as to reduce the chance of problematic behaviors (Xu et al. 2012). It refers to the parent's efforts aimed at educating the child regarding the risks of excessive Internet use. Education and guidance from parents can help the child to realize the negative consequences of excessive Internet use, which eventually prevent addiction. Similar to the case of dissuasion, the parent's efforts at educating the child will be more effective when the attachment is positive. Frequent communication and mutual understanding will provide a good atmosphere for education and make the child more likely to follow the parent's guidance. Also, the parent's educational efforts can be interpreted as a sign of caring about the child's potential problems. In contrast, in cases of poor attachments, the lack of communication and mutual respect will create a difficult atmosphere for education. Thus, we hypothesize

H1e: *Parent–child attachment will moderate the relationship between rationalization and the child's Internet addiction, such that the negative effect of rationalization on the child's Internet addiction will be stronger when parent–child attachment is high rather than low.*

Work–Family Interface

The work–family interface, which concerns the balancing of work and family demands, has received much research attention (e.g., Ahuja 2002; Ahuja et al. 2007; Aryee et al. 2005; Duxbury et al. 1992; Ford et al. 2007; Frone et al. 1992; Ilies et al. 2009). In view of the different expectations of role performance in the work and family domains, prior research on the work–family interface has largely focused on the conflict that people experience in simultaneously performing their work and family responsibilities (Aryee et al. 2005). This conflict broadly refers to work–family conflict, defined as "a form of inter-role conflict in which role pressures from the work and family domains are mutually incompatible in some respect" (Greenhaus and Beutell 1985, p. 77). Work–family conflict is bidirectional in nature and can be specified as *work-to-family conflict* (i.e., work interfering with family) and *family-to-work conflict* (i.e., family interfering with work (Frone et al. 1992; Greenhaus and Beutell 1985). Work–family conflict can further be classified into three forms: time-based conflict, strain-based conflict, and behavior-based conflict (Greenhaus and Beutell 1985). Time-based conflict occurs when time devoted to one role makes it difficult to participate in another role, strain-based conflict occurs when strain experienced in one role intrudes into and interferes with participation in another role, and behavior-based conflict occurs when specific behaviors required in one role are incompatible with behavioral expectation in another role (Calson et al. 2000; Greenhaus and Beutell 1985).

Although most research views the workplace as the primary source of strain and emphasizes the impact of work on family (e.g., Ahuja et al. 2007), some research focusing on the spillover from family to work suggests that conditions in the family can also affect the quality of work life (Crouter 1984; Frone et al. 1992; Heller and Watson 2005; Williams and Alliger 1994). Stress experienced in the family can negatively influence work life by increasing family-to-work conflict (i.e., participation in the work role is made more difficult by virtue of participation in the family role) (Ford et al. 2007; Frone et al. 1992; Netemeyer et al.1996). In particular, the parental stressor, consisting of parental workload and the extent of children's misbehaviors, plays a key role in increasing family-to-work conflict (Frone et al. 1992). Family-to-work conflict has been found to partially mediate the effects of factors in the family domain on job satisfaction (Ford et al. 2007) and to be associated with other job outcomes such as organizational commitment, job tension, and turnover intention (Netemeyer et al. 1996).

Internet Addiction and Family-to-Work Conflict

Along with the rapid diffusion of the Internet and the availability of online services, surfing the Web for leisure and entertainment has become a common activity for children outside school hours that in turn fosters Internet addiction (e.g., Turel and Serenko 2012; Xu et al. 2012). As defined earlier, Internet addiction refers to a psychological state of maladaptive dependency on Internet use to an extent that various behavioral addiction symptoms arise, including salience, withdrawal, conflict, relapse and reinstatement, tolerance, and mood modification (Turel and Serenko 2012; Turel, Serenko, and Giles 2011). As noted earlier, Internet addiction will manifest as an obsessive pattern of Internet use at the cost of other important activities.

Internet addiction is considered to be a problematic behavior that is similar to, and is associated with, other problematic behaviors such as substance use and alcohol use (Ko et al. 2008). We suggest that children's Internet addiction will

increase parents' stress, time commitment, and involvement in family activities that contribute to strain-based, time-based, and behavior-based family-to-work conflict. First, parents are likely to experience increased parental stress as a result of the child's behavioral problems associated with Internet addiction. In general, parents of children with behavioral problems experience greater stress than parents of children with no behavioral problems (e.g., Donenberg and Baker 1993; Pelham and Lang 1993; Spratt et al. 2007). Voydanoff (2005) suggested that children's problems are a key aspect of strain-based family demands, which are linked to family-to-work conflict. She found that children's problems, such as alcohol or substance problems, emotional problems, problems at school or at work, and difficulty getting along with people, were positively related to family-to-work conflict. Also, the child's non-adherence to the parent's rules on Internet use, as a result of obsessive use, can cause significant stress to parents. Small et al. (1988) suggested that parents whose children do not adhere to their advice are essentially losing control over their children and such a loss of control can be stressful. In sum, parental stress resulting from the child's Internet addiction will increase strain-based family-to-work conflict.

Second, parents of Internet-addicted children face the need to cope with behavioral problems arising from Internet addiction. Some common coping strategies include improving open communication about pre-morbid problems in the family that drove the children to seek out psychological fulfillment of emotional needs online, assisting the Internet-addicted children in finding new hobbies, or listening to the children's feelings (Young 1999). In some extreme cases, parents have to seek cognitive or psychiatric treatment for their children (Golub and Lingley 2008). Such coping efforts can place a burden on existing family responsibilities of parents and will increase the demands from the family domain and parents' time commitment and involvement in the family. The resulting increased role conflict and family involvement will increase time-based and behavior-based family-to-work conflict (Carlson et al. 2000).

Taken together, the stress experienced at home resulting from children's Internet addiction may undermine the parents' ability or willingness to meet work obligations; similarly, more time commitment and involvement in the family will mean the parents may be less able to meet the demands and responsibilities at work. Thus, we hypothesize

H2a: *A child's Internet addiction will have a positive effect on his or her parent's family-to-work conflict.*

Family-to-Work Conflict and Job Outcomes

To demonstrate the predictive validity of family-to-work conflict in the work domain, we include three job outcomes—job satisfaction, organizational commitment, and work exhaustion—as the consequences of family-to-work conflict. Job satisfaction is defined as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences (Zhang et al. 2012). Organizational commitment is defined as the extent to which one is involved in, and identifies with, one's organization (Ahuja et al. 2007). Work exhaustion is defined as the depletion of mental resources to cope with one's work (Ahuja et al. 2007). These three job outcomes are often found to be correlates and consequences of work–family conflict (e.g., Amstad et al. 2011; Ford et al. 2007; Netemeyer et al. 1996).

The relationships between family-to-work conflict and these job outcomes can be explained by two complementary theoretical perspectives. First, role theory suggests that inter-role conflict (i.e., work-to-family conflict or family-to-work conflict) indicates a misfit between the work and family roles. This misfit, regardless of the direction, can be a source of stress that has negative effects on the parent's well-being, which is usually defined in terms of satisfaction in major realms of life such as job and family (Aryee et al. 1999). Also, inter-role conflict is considered to be a mediator between stressors in one domain and satisfaction in the other domain (Ford et al. 2007). Thus, family-to-work conflict, which represents a source of stress from the family domain by itself and, at the same time, a mediator between stressors in the family domain and satisfaction in the work domain, will have a negative effect on job satisfaction. Further, the scarcity hypothesis of role theory suggests that every person has a fixed amount of physical and psychological resources and that resources devoted to one role limit the resources available for other roles (Graves et al. 2007). Competing role demands in different domains make it difficult to meet the demands from each of these domains (Edwards and Rothbard 2000). Individuals who experience high levels of family-to-work conflict are more likely to feel overwhelmed by their failure to meet the demands at work and thus experience reduced commitment and a depletion of mental resources to cope with their work (Ahuja et al. 2007; Turel, Serenko, and Bontis 2011). Thus, family-to-work conflict will have a negative effect on organizational commitment and a positive effect on work exhaustion.

Second, conservation of resources (COR) theory (Hobfoll 1989, 2001) suggests that individuals seek to acquire and maintain resources. Loss of resources (e.g., family and work resources, time, energy), or the threat of such a loss, may cause stress. When applied to the context of work–family

interface, COR theory suggests that inter-role conflict leads to stress because resources are lost in the process of juggling both work and family roles (Grandey and Cropanzano 1999). These potential or actual losses of work and family resources lead to increased stress reactions, such as job and family dissatisfaction, depression, anxiety, or physiological tension. COR theory further suggests that the depletion of resources may result in burnout (emotional exhaustion), depersonalization, reduced personal accomplishment, decreased enthusiasm about work, hopelessness, and feelings of entrapment (Hobfoll and Shirom 2001). The above reasoning, consistent with role theory, suggests that family-to-work conflict can increase one's stress, resulting in reduced job satisfaction and organizational commitment, and increased work exhaustion. Thus, we hypothesize

H2b: *Family-to-work conflict will have a negative effect on the parent's job satisfaction.*

H2c: *Family-to-work conflict will have a negative effect on the parent's organizational commitment.*

H2d: *Family-to-work conflict will have a positive effect on the parent's work exhaustion.*

Method

Sample and Procedure

Research with children is systematically different from research with adults. According to the widely adopted definition from the United Nations Convention on the Rights of the Child (United Nations 1989), a child is generally defined as a person under the age of 18. Prior research suggests a number of differences between children and adults that may pose barriers to conducting research with children (e.g., Christensen and James 2000; Greig and Taylor 1999; Punch 2002). For example, children may have a limited and different use of vocabulary and understanding of words (Punch 2002). Thus, we focus only on older children in our study, as younger children may have even more of a limited vocabulary and have difficulty in understanding our measurement items (Bell 2003). Further, Internet use and other problematic behaviors, such as substance abuse, are more of an issue among teenagers/adolescents, thus making our target population suitable and important.

We used an integrated research approach that includes both quantitative and qualitative data and concomitant analyses (Venkatesh et al. 2013, Venkatesh, Brown, and Sullivan 2016). Quantitative data were collected from parents and their children to test the research model, and qualitative data were collected from the parents to cross-validate and draw further insights into the proposed relationships. We collected data from parent–child dyads through an online survey conducted in Hong Kong. We invited adults chosen randomly from a panel maintained by a market research firm. As this study involved minors, we obtained permission from the adults (parents) before we surveyed their children. In order to do so, we designed a matched pair survey. When the parent visited the survey Web site, the parent was asked to grant permission for his or her child to complete a survey. If the parent clicked on the button to grant permission, he or she would then proceed to fill out the parent survey. At the end of the survey, the parent was asked to enter the email address[5] of one child. If the parent had more than one child, he or she was asked to enter the email of the oldest child who was between the ages of 11 and 17 and who was living at home. A check was done to ensure that the parent did not enter his or her own email address for the email of the child. Once the parent completed the survey, it triggered an automatic email to the child to invite him or her to complete the child survey.

We assured both parents and children that their responses would be kept confidential. We did collect some identifying details from the parents (such as name, Hong Kong identity card number, telephone number, and their child's name and email) and their children (i.e., name and email) in order to match the responses for each parent–child pair. After we matched the responses, the identifying personal data were deleted from our records. Hence, we took the necessary steps to maintain the confidentiality of the respondents.

We received responses from 1,210 parents and 890 children, resulting in 890 matched pairs. After removing the responses with missing data, the final sample consisted of 776 valid matched pairs for data analysis. The main reason for the missing data was due to the responding parent not being employed, with other reasons being missing data for either the child or the parent. Of the parents, 520 (67%) were mothers. The average age of the parents was 41.17 years (SD = 6.61). There were 85% couples and 15% single parents. The average monthly household income was HK$19,220 (SD = 4,435). About 50% of the households had one computer, about 35% had two computers, and the rest had more than two computers. About 80% of the participants had a fixed-rate Internet service. In terms of education, about 30% of parents

[5]The parents were asked to enter their children's email addresses assigned by their schools. In Hong Kong, most schools assign an email address to students for communication about school-related issues, such as assignment submission and school news. The use of school-assigned email address helps alleviate the possible sampling bias that restrictive parents may not allow their children to have their own email accounts.

had undergraduate degrees or higher, 60% had a diploma (2-year degree), and the rest did not complete high school education.

The sample of children consisted of 401 (52%) girls. The average age of the children was 14.12 years (SD = 2.12). In terms of education, about 80% were in secondary schools, and about 20% were in primary schools. The children had an average of 4.80 years of Internet experience (SD = 2.31), with almost all of them accessing the Internet primarily from their homes. About 40% had their own computers, with a fourth of this group having computers in their bedrooms.

Threats to Validity of Survey

A potential threat to the validity of most surveys is common method bias (Podsakoff et al. 2003). We used multiple respondents (i.e., parent and child) to obtain data for different variables. We also employed the marker variable technique (Malhotra et al. 2006) and included a marker variable (fashion consciousness) in our survey. The average correlations between the marker variable and the other variables were .05 for the parent survey and .07 for the child survey, respectively. These procedures gave us confidence that common method bias was not an issue in our study.

Measurement

Appendix A provides the list of items used. We measured all the main constructs with multiple items, originally set up in English. The questionnaire was administered in Chinese and English, the main *lingua francas* in Hong Kong. The items were translated to Chinese and back-translated to English by professional translators. Minor wording discrepancies were discussed and resolved. Each parent (respondent) reported his or her perceptions of the children's Internet addiction using nine items adapted from Turel, Serenko, and Giles (2011); children reported their level of Internet addiction using nine items adapted from the same scale.[6] Children reported their perceptions of parent–child attachment using 28 items adapted from Armsden and Greenberg (1987). Parents responded to the five parenting behaviors (i.e., parental control, monitoring, unstructured time, dissuasion, and rationalization) family-to-work conflict, and three job outcomes (i.e., job satisfaction, organizational commitment, and work exhaustion). Parental control was measured with eight items adapted from Bumpus and Wemer (2009). Monitoring was measured with five items adapted from Bumpus and Wemer (2009) and Xu et al. (2012). The three items for unstructured time were self-developed based on Young's (2004) description of risk factors of Internet abuse using a multistage procedure with the following steps (see DeVellis 2003): generating candidate items, experts' reviewing of items, card sorting, and a pilot test. Dissuasion and rationalization were measured with four items each, adapted from Xu et al. (2012). Family-to-work conflict was measured with a multidimensional scale (i.e., behavior-, time-, and strain-based family interference with work) consisting of nine items adapted from Carlson et al. (2000). Job satisfaction was measured with five items adapted from Heller and Watson (2005). Organizational commitment and work exhaustion were measured with four items each, adapted from Ahuja et al. (2007).

We included various control variables in the prediction of each of the dependent variables. For all dependent variables, we controlled for demographic data, such as gender (0 = men/boys, 1 = women/girls) for both parent and child, age of both parent and child, parent's marital status (0 = couple, 1 = single), and household income.

For the dependent variable of Internet addiction, we controlled for Internet cost (0 = variable rate, 1 = fixed rate) and computer possession (i.e., whether the child had his/her own computer; 0 = no, 1 = yes). We also controlled for the child's perceptions of the levels of anxiety, depression, loneliness, peer relationships, habit, and Internet use that were significant in prior research on technology and other types of addictions (e.g., Crowley et al. 1992; Turel and Serenko 2012). Anxiety was measured with six items adapted from Marteau and Bekker (1992). Depression was measured with six items adapted from Barber (2001). Loneliness was measured with five items adapted from Waaktaar and Torgersen (2012). Peer relationships was measured with three items adapted from Uruk and Demir (2003). Habit was measured with three items adapted from Turel and Serenko (2012). Internet use was measured with one item adapted from Turel and Serenko (2012), asking how much time (in minutes) the child spent on the Internet on an average day. Finally, we followed Turel, Serenko, and Giles (2011) to assess the impact of social desirability bias with 13 items adapted from their work. Internet addiction reported by the child and the parent were marginally negatively correlated with social desirability bias, that is, -.06

[6] Although prior research has found moderate agreement between parents' and children's reports of behavioral and emotional problems (e.g., Achenbach et al. 1984; Petot et al. 2011), some research has noted that each informant contributes unique information about an individual's problems and advocated obtaining responses from multiple sources (e.g., van der Ende et al. 2012). Thus, both parents' and children's report of Internet addiction were measured to allow for cross-validation of the results. Our primary results were based on parents' report of Internet addiction, which is a more objective view than children's self-report and is also logically more closely related to parents' family- and work-related perceptions. The results based on children's self-reported Internet addiction are presented in Appendix C. The two sets of results were largely consistent and both supported the hypotheses.

and -.04 (both nonsignificant), respectively, thus suggesting that social desirability bias was not a major issue in this study.

For the dependent variable of family-to-work conflict, we controlled for variables that were significant in the work–family interface literature (e.g., Ford et al. 2007; Frone et al. 1992; Frone et al. 1997), including family hours, family time commitment, family involvement, family (marital) stressors, family (parental) stressors, and work-to-family conflict. Family hours was measured with one item adapted from Ford et al. (2007). Family time commitment was measured with one item adapted from Frone et al. (1997). Family involvement was measured with five items adapted from Frone et al. (1992). Family (marital) stressors and family (parental) stressors were measured with four items each, adapted from Frone et al. (1992). Work-to-family conflict was measured with a multidimensional scale (i.e., behavior-, time-, and strain-based work interference with family) consisting of nine items adapted from Carlson et al. (2000).

For the dependent variables of job outcomes (i.e., job satisfaction, organizational commitment, and work exhaustion), we controlled for key predictors from prior research (e.g., Frone et al. 1992; Frone et al. 1997), including job involvement, job insecurity, work overload and work stress. Job involvement was measured with five items adapted from Frone et al. (1992). Job insecurity was measured with five items adapted from Frone (2008) and Lim and Loo (2003). Work overload was measured with four items adapted from Frone (2008) and Frone et al. (1997). Work stress was measured with six items adapted from Frone et al. (1997).

We modeled all constructs as unidimensional reflective constructs except for parent–child attachment, parental control, monitoring, work-to-family conflict, and family-to-work conflict. Parental control and monitoring were modeled as formative constructs.[7] Following Armsden and Greenberg's (1987) recommendation, we modeled parent–child attachment as a second-order formative construct consisting of three reflective first-order constructs (i.e., trust, communication, and alienation). We modeled work-to-family conflict and family-to-work conflict as second-order formative constructs consisting of three reflective first-order constructs (i.e., time-based conflict, strain-based conflict, and behavior-based conflict). We modeled the second-order constructs using a two-stage approach (Ringle et al. 2012). We assessed the construct validity and reliability of the formative constructs by examining the factor weights and examining for possible multicollinearity (Cenfetelli and Bassellier 2009). For these scales, all factor weights were significant at $p < .001$, ranging from .28 to .41 for parent–child attachment, .30 to .44 for parental control, .25 to .40 for monitoring, .21 to .35 for work-to-family conflict, and .21 to .39 for family-to-work conflict. Further, all variance inflation factor values were below 3. In sum, the results suggest that the formative constructs possessed adequate construct validity and reliability.

All multi-item scales with reflective indicators demonstrated adequate reliability, with Cronbach's alphas and composite reliabilities above .70. Next, we examined discriminant validity. The average variance extracted (AVE) for each construct was greater than the recommended 0.50 level and the correlations between variables were all below the square root of AVE of either construct. Table 2 shows the reliabilities and AVEs. Due to the large number of variables in our study, we conducted four separate sets of confirmatory factor analysis (CFA) on different subsets of multiple-item variables using partial least squares (PLS). The first CFA included all variables measured in the child survey; the second CFA included variables predicting Internet addiction measured in the parent survey; the third CFA included variables predicting family-to-work conflict measured in the parent survey; and the fourth CFA included variables predicting job outcomes measured in the parent survey. The results showed that the factor loadings for all items exceeded .70 and were higher than the cross-loadings in all sets of CFA (see Appendix B). Overall, these results provided support for the reliability and validity of our scales.

Results

Results of Model Testing

Table 2 reports the descriptive statistics and correlations of the variables. The hypotheses were tested using partial least squares (PLS).[8] To increase readability, we present the results in separate tables, with each showing the results of a part of the full model. Table 3 presents the results of the models predicting the child's Internet addiction reported by the parents. Model 1 includes only the control variables. Model 2 includes the control variables and direct effects of the five hypothesized parenting behaviors and parent–child attachment. Model 3 includes the two-way interactions between each of the parenting behaviors and parent–child attachment. The results showed that four parenting behaviors had signifi-

[7]The items of these constructs capture different parenting practices. The combination of the items causes changes in these constructs and thus these constructs are modeled as formative (Petter et al. 2007).

[8]In order to ensure greater robustness of our findings, we also analyzed our data using a traditional ordinary least squares approach that treated items as unit weighted. The pattern of results found was identical to what we report here, thus suggesting that our results were not an artifact of idiosyncrasies of the technique used.

Table 2. Means, Standard Deviations, and Correlations for all Study Variables

Variables	M	SD	CA	CR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Gender of child (c)	NA	NA	NA	NA	NA																	
2. Gender of parent (p)	NA	NA	NA	NA	.17**	NA																
3. Age of child (c)	14.12	2.12	NA	NA	.08	.05	NA															
4. Age of parent (p)	41.17	6.61	NA	NA	.10	.08	.20**	NA														
5. Marital status (p)	NA	NA	NA	NA	.14*	.13*	.10	.15*	NA													
6. Household income (p)	19,220	4,435	NA	NA	.08	-.28***	.15*	.22***	.08	NA												
7. Anxiety (c)	4.44	1.71	.71	.75	.15*	.10	.19**	.13*	.10	.08	.82											
8. Depression (c)	4.17	1.34	.76	.75	.17**	.15*	.14*	.15*	.14*	.16**	.15*	.83										
9. Loneliness (c)	5.08	1.37	.79	.80	.19**	.17**	.16**	.07	.13*	.15*	.17**	.19**	.79									
10. Peer relationships (c)	4.18	1.80	.84	.81	.22***	.10	.19**	.13*	.10	.10	.19**	.21***	.14*	.84								
11. Internet cost (p)	NA	NA	NA	NA	.05	.08	.05	.08	.05	.01	.08	.05	.05	.07	NA							
12. Computer possession (p)	NA	NA	NA	NA	.10	.05	.09	.14*	.02	.04	.14*	.10	.10	.01	.10	NA						
13. Habit (c)	4.96	1.61	.82	.80	-.19**	.13*	.13*	.16**	-.15*	.15*	.19**	.24***	.13*	.17**	.03	.19**	.80					
14. Internet use (c)	12.81	4.13	.85	.82	-.23***	.10	.23***	.19**	.17**	.20**	.23***	.27***	.19**	.23***	.05	.24***	.29***	.83				
15. Parental control (p)	4.13	1.66	NA	NA	.15*	.07	.13*	.15*	.10	.13*	.17**	.14*	.24***	.13*	.10	.20**	.17**	.27***	NA			
16. Monitoring (p)	5.01	1.38	NA	NA	.17**	.05	.14*	.16**	.13*	.14*	.15*	.17**	.10	-.07	.05	.10	.15*	.21***	.16**	NA		
17. Unstructured time (p)	4.76	1.35	.76	.79	.10	.10	.10	-.19**	.15*	.17**	.14*	.19**	.17**	-.13*	.04	.17**	.16**	.15*	.19**	-.24***	.85	
18. Dissuasion (p)	3.95	1.39	.79	.75	.12*	.11*	.15*	.13*	.07	.19**	.15*	.15*	.15*	.05	.02	.15*	.19**	.13*	.13*	.15*	.13*	.83
19. Rationalization (p)	4.03	1.35	.75	.76	.13*	.15*	.13*	.14*	.19**	.07	.17**	.21***	.10	.05	.06	.03	.19**	.10	.19**	.08	.10	.02
20. Parent–child attachment (c)	4.17	1.38	NA	NA	.19**	.13*	.22***	.07	-.10	-.14*	.15*	-.19**	.07	.13*	.04	.08	-.21***	.17**	-.17**	.16**	.13*	.07
21. Child's Internet addiction (c)	4.88	1.30	.80	.78	-.17**	-.20**	.16**	.13*	-.28***	.10	.19**	.19**	.12*	-.24***	.11*	.13*	.10	.18**	-.21***	-.22***	.20**	-.14*
22. Child's Internet addiction (p)	5.13	1.28	.75	.77	.10	-.28***	.13*	.10	-.25***	-.19**	.13*	.13*	.17**	.15*	.20**	.10	.13*	.19**	-.21***	-.21***	.30***	.20**
23. Family hours (p)	11.20	5.12	NA	NA	.14*	.20**	.21***	-.13*	.13*	-.19**	.14*	.15*	-.27***	.04	.02	.10	-.17**	-.19**	.13*	.24***	.08	.05
24. Family time commitment (p)	0.28	0.13	NA	NA	.15*	.13*	.22**	-.17**	.17**	-.24***	.19**	.24***	-.24***	.11*	.08	.07	-.14*	-.17**	.14*	.21***	.10	.04
25. Family involvement (p)	4.87	1.31	.76	.79	.13*	.22***	.24***	-.14*	.19**	-.20**	.13*	.21***	-.23***	.12*	.11*	.02	.06	.10	.20**	.18**	.14*	.10
26. Family (marital) stressors (p)	3.91	1.41	.84	.83	-.07	.17**	.28***	.23***	.05	-.17**	.17**	.26***	.24***	.08	.07	.01	.19**	.24***	.20**	.20**	.13*	.11*
27. Family (parental) stressors (p)	4.66	1.68	.82	.80	-.10	.15*	.30***	.21***	.13*	-.24***	.15*	.25***	.21***	.10	.06	.08	.24***	.29***	.07	.17**	.22***	.13*
28. Work-to-family conflict (p)	4.68	1.41	NA	NA	.10	.19**	.21***	.19**	-.29***	.28***	.22***	.24***	.29***	-.10	.10	.10	.20**	.21***	.13*	.24***	.21***	.12*
29. Family-to-work conflict (p)	5.01	1.31	NA	NA	.08	.24***	.24***	.15*	-.31***	.29***	.25***	.31***	.31***	-.07	.13*	.08	.19**	.24***	.17**	.21***	.27***	.05
30. Job involvement (p)	5.13	1.39	.81	.80	.10	.10	-.16**	.14*	-.17**	.24***	.07	.17**	.15*	.08	.05	.10	.28***	.30***	.08	.09	.29***	.02
31. Job insecurity (p)	3.80	1.28	.82	.81	.07	.07	.16**	-.13*	-.20**	.08	.10	.09	.05	.13*	.05	.13*	.13*	.17**	.05	.13*	.22***	.07
32. Work overload (p)	4.95	1.41	.84	.80	.15*	-.23***	.23***	.20**	.31***	.31***	.15*	.21***	.21***	.15*	.06	.07	.24***	.29***	.17**	.15*	.24***	.19**
33. Work stress (p)	4.99	1.46	.85	.81	.05	-.29***	.21***	.25***	.34***	.35***	.17**	.25***	.23***	.13*	.09	.04	.21***	.33***	.19**	.16**	.28***	.21***
34. Job satisfaction (p)	4.65	1.31	.82	.84	.10	.25***	-.25***	.19**	.13*	.19**	.13*	-.24***	.07	.05	.04	.03	-.10	-.14*	.13*	-.14*	-.17**	-.15*
35. Organizational commitment (p)	4.13	1.28	.83	.80	.13*	.33***	-.29***	.19**	.10	.20**	.15*	-.20**	.13*	.10	.02	.01	-.08	-.19**	.19**	-.19**	-.14*	-.28***
36. Work exhaustion (p)	5.04	1.29	.79	.77	.05	-.29***	.17**	.25***	.20**	.30***	.17**	.19**	.10	.07	.01	.02	.15*	.25***	.22***	.20**	.28***	.19**

Variables	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
19. Rationalization (p)	.77																	
20. Parent–child attachment (c)	.15*	NA																
21. Child's Internet addiction (c)	-.18**	-.24***	.85															
22. Child's Internet addiction (p)	-.35***	-.23***	.39***	.80														
23. Family hours (p)	.13*	.14*	-.15*	-.17**	NA													
24. Family time commitment (p)	.14*	.17**	-.17**	-.13*	.17**	NA												
25. Family involvement (p)	.15*	.13*	-.19**	-.19**	.19**	.29***	.81											
26. Family (marital) stressors (p)	.10	-.20**	.14*	.20**	-.14*	-.19**	-.17**	.83										
27. Family (parental) stressors (p)	.07	-.17**	.19**	.21***	-.20**	-.15*	-.13*	.23***	.85									
28. Work-to-family conflict (p)	.10	-.13*	.33***	.25***	-.13*	-.17**	.19**	.31***	.28***	NA								
29. Family-to-work conflict (p)	-.17**	-.15*	.36***	.34***	-.13*	-.20**	.21***	.27**	.14*	.13*	NA							
30. Job involvement (p)	.13*	-.10	-.17**	.13*	-.17**	-.13*	-.19**	-.15*	-.19**	-.14*	-.35***	.83						
31. Job insecurity (p)	.17**	.10	.14*	.14*	.07	.10	.05	.13*	.21***	.15*	.17**	-.17**	.85					
32. Work overload (p)	.13*	.13*	.13*	.16**	.15*	.08	.13*	.26***	.24***	.29***	.31***	.13*	.17**	.79				
33. Work stress (p)	-.17**	.14*	.28***	.19**	.17**	.14*	.19**	.25***	.21***	.25***	.33***	.25***	.29***	.35***	.80			
34. Job satisfaction (p)	.08	.07	-.34***	-.35***	.10	.14*	.14*	-.15*	-.20**	-.21***	-.44***	.37**	-.25***	-.29***	-.33***	.85		
35. Organizational commitment (p)	.10	-.13*	-.26***	-.22***	.07	.10	.15*	-.14*	-.17**	-.25***	-.30***	.39**	-.21***	-.30***	-.31***	.28***	.81	
36. Work exhaustion (p)	-.13*	.14*	.25***	.28***	.13*	.14*	.16**	.12*	.13*	.21***	.47***	.15*	.30***	.31***	.44***	-.19**	-.23***	.85

Notes. n = 776. Square roots of Average Variance Extracted (AVE) appear on the diagonal in parenthesis. (c) reported by child; (p) reported by parent. M and SD are unavailable for categorical variables. Cronbach Alpha (CA), Composite Reliability (CR) and AVEs are unavailable for single-item measures, categorical variables and formative constructs. *p < .05; **p < .01; ***p < .001.

Table 3. Predicting Internet Addiction

	Child's Internet Addiction (p)		
	Model 1	**Model 2**	**Model 3**
Block 1: Control Variables			
Gender of child (c; 1: female; 0: male)	.04	.03	.02
Gender of parent (p; 1: female; 0: male)	-.21***	-.17**	-.13*
Age of child (c)	.05	.03	.02
Age of parent (p)	.07	.05	.02
Marital status (p) (0: single parent; 1: couple)	-.20**	-.17**	-.13*
Household income (p)	-.12*	-.10	-.05
Anxiety (c)	.04	.03	.02
Depression (c)	.07	.05	.04
Loneliness (c)	.10	.08	.04
Peer relationships (c)	.05	.04	.02
Internet cost (p)	.12*	.10	.08
Computer possession (p)	.07	.05	.04
Habit (c)	.06	.04	.03
Internet use (c)	.11*	.07	.05
Block 2: Parenting Behaviors and Parent–Child Attachment			
Parental control (PC) (p)		-.12*	-.07
Monitoring (M) (p)		-.12*	-.08
Unstructured time (UT) (p)		.14*	.11*
Dissuasion (D) (p)		-.13*	-.07
Rationalization (R) (p)		-.24***	-.15**
Parent–child attachment (PA) (c)		-.17**	-.13*
Block 3: Interactions			
PC × PA			-.16**
M × PA			-.29***
UT × PA			-.17**
D × PA			.05
R × PA			-.20**
R^2	.25	.35	.48
DR^2		.10***	.13***

Notes: (c) reported by child; (p) reported by parent. Parents reported perceptions of their child's (not their own) Internet addiction.
*p < .05; **p < .01; ***p < .001.

cant interactions with parent–child attachment (β = -.16, p < .01 for parental control; β = -.29, p < .001 for monitoring; β = -.17, p < .01 for unstructured time; β = -.20, p < .01 for rationalization). The control variables, parenting behaviors, parent–child attachment, and interactions accounted for 48% of the variance in the child's Internet addiction reported by the parents.

In order to understand the interactions and examine support for our predicted pattern of results, we plotted the significant interactions, per Aiken and West (1991). Figures 2(a)–2(d) show how parental control, monitoring, unstructured time, and rationalization interact with parent–child attachment, respectively.

Figure 2(a) illustrates the simple slopes of children's Internet addiction on parental control at high and low values of parent–child attachment. The results of the slope test show that when parent–child attachment was high, parental control had a negative effect on the child's Internet addiction reported by the parent (β = -.23, p < .001). When parent–child attachment was low, parental control had no effect on the child's

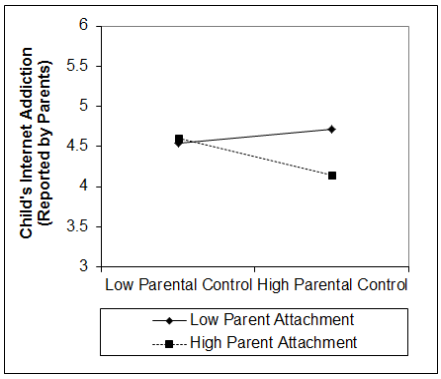

Figure 2(a). Parental Control × Parent–Child Attachment

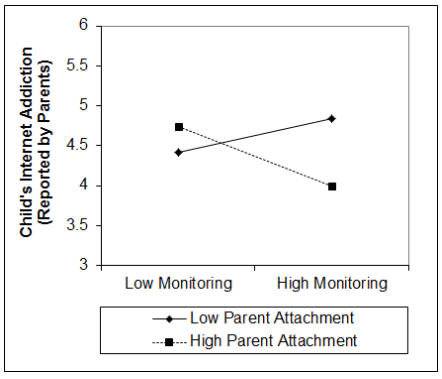

Figure 2(b). Monitoring × Parent–Child Attachment

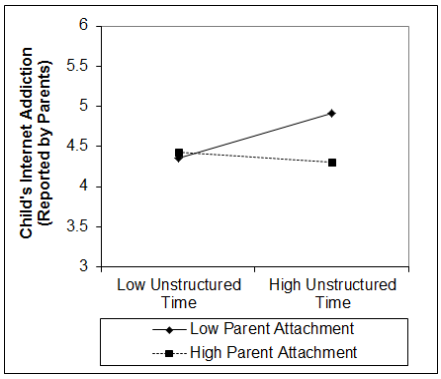

Figure 2(c). Unstructured Time × Parent–Child Attachment

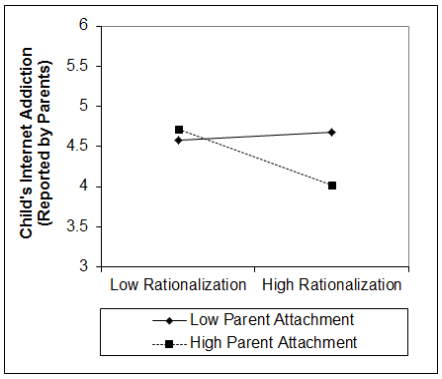

Figure 2(d). Rationalization × Parent–Child Attachment

Figure 2. Interactions between Parenting Behaviors and Parent–Child Attachment

Internet addiction reported by parents (β = .09, p > .05). These results indicate that parental control was effective in reducing the child's Internet addiction only when the child had a positive view of parent–child attachment, thus supporting H1a.

Figure 2(b) illustrates the simple slopes of Internet addiction on monitoring at high and low values of parent–child attachment. The results of the slope test show that when parent–child attachment was high, monitoring had a negative effect on the child's Internet addiction reported by the parent (β = -.37, p < .001). When parent–child attachment was low, monitoring had a positive effect on the child's Internet addiction reported by the parent (β = .21, p < .001). These results indicate that monitoring was effective in reducing the child's Internet addiction only when the child has a positive view of parent–child attachment, thus supporting H1b.

Figure 2(c) illustrates the simple slopes of Internet addiction on unstructured time at high and low values of parent–child attachment. The results of the slope test show that when parent–child attachment was high, unstructured time had no effect on the child's Internet addiction reported by the parent (β = -.06, p > .05). When parent–child attachment was low, unstructured time had a positive effect on the child's Internet addiction reported by parents (β = .28, p < .001). These results indicate that unstructured time will increase the child's Internet addiction only when the child had a negative view of parent–child attachment, thus supporting H1c.

Figure 2(d) illustrates the simple slopes of Internet addiction on rationalization at high and low values of parent–child attachment. The results of the slope test show that when parent–child attachment was high, rationalization had a negative effect on the child's Internet addiction reported by the parent (β = -.35, p < .001). When parent–child attachment was low, rationalization had no effect on the child's Internet addiction reported by the parent (β = .05, p > .05). These results indicate that rationalization was effective in reducing the child's Internet addiction only when the child had a positive view of parent–child attachment, thus supporting H1e.

Table 4. Predicting Family-to-Work Conflict

	Family-to-Work Conflict	
	Model 1	**Model 2**
Gender of parent (p)	.23***	.21***
Age of parent (p)	.19**	.14*
Marital status (p)	.14*	.13*
Household income (p)	.13*	.12*
Family hours (p)	-.08	-.07
Family time commitment (p)	-.14*	-.12*
Family involvement (p)	.14*	.14*
Family (marital) stressors (p)	.16**	.13*
Family (parental) stressors (p)	.10	.08
Work-to-family conflict (p)	.09	.08
Child's Internet addiction (p)		.35***
R^2	.33	.43
ΔR^2		.10***

Notes: (p) reported by parent. Family-to-work conflict was modeled as a second-order formative, first-order reflective construct. The patterns for predicting each first-order construct are not shown because they are identical. *p < .05; **p < .01; ***p < .001.

Table 4 presents the results of the models predicting family-to-work conflict. Model 1 includes only the control variables. Model 2 includes the control variables and direct effects of Internet addiction reported by parents. After controlling for the effects of various known predictors of family-to-work conflict, the child's Internet addiction reported by the parents had a significant effect ($\beta = .35$, $p < .001$) on family-to-work conflict, thus supporting H2a. The control variables and the child's Internet addiction reported by the parent accounted for 43% of the variance in family-to-work conflict.

Table 5 presents the results of the models predicting the three job outcomes (i.e., job satisfaction, organizational commitment, and work exhaustion). Model 1 includes only the control variables. Model 2 includes the control variables and direct effect of family-to-work conflict. After controlling for the effects of various known predictors of the job outcomes, family-to-work conflict had a significant effect on job satisfaction ($\beta = -.34$, $p < .001$), organizational commitment ($\beta = -.20$, $p < .01$) and work exhaustion ($\beta = .35$, $p < .001$), thus supporting H2b, H2c, and H2d, respectively. The control variables and family-to-work conflict accounted for 46%, 38%, and 55% of the variance in job satisfaction, organizational commitment, and work exhaustion, respectively.

To test whether family-to-work conflict mediated the relationship between children's Internet addiction and the three job outcomes, we followed the procedures for testing mediation outlined by Baron and Kenny (1986) and by Preacher and Hayes (2008). The results in Tables 4, 5, and 6 together indicated that family-to-work conflict partially mediated the effect of Internet addiction on job satisfaction, organizational commitment, and work exhaustion. First, Internet addiction had a positive effect on family-to-work conflict (see Table 4). Second, family-to-work conflict had significant effects on the three job outcomes (see Table 5). Finally, Internet addiction had significant direct effects on the three job outcomes and the effects were weaker (but remained significant) when family-to-work conflict was added as a predictor (see Table 6). To further validate the mediating effect of family-to-work conflict, we used Preacher and Hayes' resampling approach to test the indirect effects mediated by family-to-work conflict. The results confirmed our findings.

One potential concern, given the nature of our study and the analysis approach, is whether the causal ordering can be reversed. It is indeed possible that some of the relationships operate bi-directionally. To provide evidence supporting our causal flow, we conducted two tests. First, consistent with prior research (e.g., Venkatesh et al. 2017), we employed an instrumental variables regression with Heckman's (1979) correction for various endogenous variables in our model. Specifically, we used two instrumental variables (gender and age of parent) and Heckman's two-stage approach to account for the potential reverse causation that children's Internet addiction may affect parenting behaviors (e.g., parents adjust their parenting behaviors in response to children's Internet addiction) and that parents' family-to-work conflict may affect

Table 5. Predicting Job Outcomes

	Job Satisfaction		Organizational Commitment		Work Exhaustion	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Control Variables						
Gender of parent (p)	.13*	.12*	.20**	.17**	-.14*	-.13*
Age of parent (p)	.14*	.13*	.13*	.13*	.15**	.15**
Marital status (p)	.08	.05	.05	.04	.13*	.12*
Household income (p)	.13*	.13*	.12*	.11*	.19**	.17**
Job involvement (p)	.23***	.21***	.17***	.16***	.08	.05
Job insecurity (p)	-.14*	-.13*	-.19**	-.17**	.20**	.19**
Work overload (p)	-.24***	-.23***	-.21***	-.21***	.23***	.22***
Work stress (p)	-.23***	-.21***	-.20**	-.19**	.40***	.35***
Family-to-Work Conflict (p)		-.34***		-.20**		.35***
R^2	.35	.46	.33	.38	.44	.55
ΔR^2		.11***		.05**		.11***

Notes: (p) reported by parent. *p < .05; **p < .01; ***p < .001.

Table 6. Mediating Effect of Family-to-Work Conflict

	Job Satisfaction		Organizational Commitment		Work Exhaustion	
	Model 2a	Model 2b	Model 2a	Model 2b	Model 2a	Model 2b
Control Variables						
Gender of parent (p)	.13*	.13*	.17**	.15*	-.16**	-.14*
Age of parent (p)	.12*	.12*	.13*	.12*	.15*	.13*
Marital status (p)	.07	.06	.02	.02	.13*	.12*
Household income (p)	.13*	.13*	.11*	.11*	.20**	.17**
Job involvement (p)	.24***	.21***	.20***	.15*	.09	.03
Job insecurity (p)	-.14*	-.13*	-.17**	-.15*	.22***	.19**
Work overload (p)	-.22***	-.21***	-.23***	-.20**	.23***	.20**
Work stress (p)	-.21***	-.20***	-.22***	-.20**	.36***	.33***
Child's Internet Addiction (p)	-.23***	-.12*	-.14*	-.12*	.16**	.13*
Family-to-Work Conflict (p)		-.31***		-.14*		.24***
R^2	.38	.49	.34	.38	.35	.46
ΔR^2		.11***		.04*		.11***

Notes: (p) reported by parent. * p< .05; **p < .01; ***p < .001.

children's Internet addiction (e.g., children were negatively influenced by their parents' problems). The pattern of results found after controlling for the Inverse Mills Ratio to account for potential endogeneity was still the same (see Appendix D). Second, we chose a subsample of children whose parents' report of children's Internet addiction was negligible (N = 139). Clearly, in this subsample, the parenting behaviors were exogenous and not driven by children's Internet addiction. In this subsample, we found that the interplay of parenting behaviors and parent–child attachment in predicting children's report of Internet addiction was consistent with what we observed in the overall sample, thus supporting the proposed causal flow (see Appendix E).

Results of Qualitative Analysis

We collected interview data concerning the main constructs and relationships in our model. We asked the parents about the following: (1) the motivations behind their use of various

parenting behaviors; (2) the effects of parenting behaviors on their children's Internet addiction; (3) the seriousness of children's Internet addiction as a family stressor; (4) whether and how children's Internet addiction affects the parents' family life and responsibilities; and (5) whether and how children's Internet addiction affects the parents' ability to work. We analyzed about 180 pages of qualitative (interview) data from 50 parents and the results generally confirmed the results from our quantitative model testing reported earlier.

Relationship between Parenting Behaviors and Children's Internet Addiction

Our interviews (corresponding parenting behaviors in parentheses) suggested that parents viewed parenting behaviors as means to prevent their children from being addicted to the Internet.

> *"If I do not monitor my son's [Internet] use, I think it will get out of control."* (Monitoring)

> *"If I give my daughter too much computer time, she will become addicted to online games and all these social media apps."* (Unstructured time)

> *"I have to keep tabs on my kid so that his Internet use and gaming doesn't get out of control."* (Parental control)

Further, the results suggested that parents found parenting behaviors to be particularly effective in preventing or reducing their children's Internet addiction when they had a good relationship with their children. In contrast, some parents found parenting behaviors to be ineffective or even induce Internet addiction because of the poor relationship with their children.

> *"My son understands that I will do what's best for him. He knows that when I say he is grounded from using the Internet or want to reduce his play time or Internet time, it is for his benefit."* (Dissuasion)

> *"We have a very good relationship with our daughter. She knows our rules exist for a reason and she respects our rules. This includes rules about the Internet. Without these rules, I think she may be in the newspaper as a poster child for an Internet addict."* (Rationalization)

> *"I don't know what to do. The more we place restrictions, the more our son uses the Internet. It's been years since we have been able to talk to him."* (Parental control)

> *"Our son never listens to us. So, it's no wonder that even though he knows we are monitoring his Internet use, he goes to all sorts of sites and stays up late at night using the computer."* (Monitoring)

Relationship between Children's Internet Addiction and Parents' Family-to-Work Conflict

Our interviews suggested that parents generally viewed children's Internet addiction as a serious problem in their families. Compared to other children's issues (e.g., academic performance), children's Internet addiction was considered to be a greater source of distress.

> *"Every waking minute, I am thinking about my daughter's Internet use. I want my daughter back. I don't care if she fails classes if she would stop this 24/7 Internet use."*

> *"The Internet is worse than the devil."*

Further, the interviews suggested that children's Internet addiction led to an increased burden on parents in the family domain. Due to children's Internet addiction, parents experienced more stress, spent more time with their children, and got more involved in the family to deal with problems related to their children. Parents felt these extra stress and activities kept them from fully committing to their work.

> *"I cannot focus on my work. I always think about what my son is doing online."*

> *"I don't take on overtime work because if I am not home, my son will be on the computer."*

> *"It is no wonder I haven't been promoted in 4 years, I constantly think about my son's Internet addiction and my husband and I take turns getting home early to monitor our son."*

> *"We have started to seek counseling now. That takes 4 hours a week. The counselor suggested we do things as a family every evening, that takes more time. It is distracting to my sales-oriented job because I cannot go to dinner with clients."*

Discussion

In this research, we examined the antecedents and outcomes of an important social consequence of the Internet, namely Internet addiction. Specifically, we examined Internet addiction among children, which is a relatively new phenomenon that has seldom been examined in mainstream IS research. We sought to understand the roles of parenting behaviors and parent–child attachment in affecting children's Internet addiction, and the effect of children's Internet addiction on their parents' job outcomes. First, we drew on attachment theory to develop the logic for why parenting behaviors and parent–child attachment would interact in determining children's Internet addiction. We identified five parenting behaviors from prior research on child development and technology addiction (e.g., Baumrind 1966, 1967, 2005; Hill 2005; Xu et al. 2012; Young 2004). Second, we drew on research on the work–family interface to develop the logic for why children's Internet addiction may affect parents' job outcomes. The results showed that parenting behaviors interacted with parent–child attachment in affecting children's Internet addiction, whereas the effects of children's Internet addiction on parents' job outcomes were mediated by family-to-work conflict. The results from our qualitative study confirmed the results from quantitative model testing and provided additional insights into the proposed relationships.

Theoretical Contributions

Our work extends research on technology addiction and work–family interface in several ways. First, our work extends prior research on the antecedents of addiction to online technologies (e.g., online games, social networking sites). Among the previously examined antecedents, the majority of them pertain to individual differences, technology perceptions, and use, such as demographics, psychological needs, perceived enjoyment, and habit (e.g., Turel and Serenko 2012; Xu et al. 2012). Only some research has acknowledged the influence of external forces from important others (e.g., parents, teachers, friends) on technology addiction (e.g., Xu et al. 2012). Given the significant role of parents in shaping children's behaviors, we focused on how parenting behaviors, in particular, can influence children's Internet addiction. This provides a complementary understanding of the factors that influence Internet addiction.

Second, we drew on attachment theory to examine the effects of different parenting behaviors on children's Internet addiction and, more importantly, how the effects will be moderated by parent–child attachment. Unlike previous studies that examined only the direct effects of antecedents on addiction (e.g., Turel and Serenko 2012; Xu et al. 2012), our contingency view helped to enhance our understanding of the potential dual effects of some parenting-related factors in increasing or reducing children's Internet addiction. For example, although Xu et al. (2012) found that monitoring reduced online game addiction, our results showed that monitoring could increase children's Internet addiction when parent–child attachment is poor. Thus, our findings on the significant moderating role of parent–child attachment provide insights into how parenting behaviors may differ in their effectiveness in affecting children's Internet addiction. Although our work focused primarily on the parents' role, this focus does not imply that one should exclusively blame the parents for their children's behaviors. Future research could examine a broader range of antecedents of Internet addiction and adopt a contingency view to gain a more complete understanding of their effects. Another future research direction is to explore the potential curvilinear relationship between parenting behaviors and Internet addiction as some parenting behaviors (e.g., parental control, monitoring) at higher levels may not be well received by children despite good parent–child attachment (see Brown et al. 2012; Venkatesh and Goyal 2010).

Third, our work extends prior research on the consequences of technology addiction. Prior research has primarily focused on personal consequences such as changes in technology perceptions and use of the technology (e.g., Turel, Serenko, and Giles 2011) and negative effect on one's family life and work (e.g., Turel, Serenko, and Bontis 2011). We extend such work by leveraging the context of children's Internet addiction to study the potential consequences experienced by the parents of addicted children. We adopted the concept of family-to-work conflict, drawn from research on work–family interface, to examine the effect of children's Internet addiction on parents' job outcomes. Our findings on the mediation by family-to-work conflict of the relationship between Internet addiction and job outcomes suggest that when children are addicted to the Internet, parents may suffer from the associated negative consequences. These findings contribute to our understanding of the broader social impact of Internet addiction.

Fourth, our work contributes to understanding a relatively understudied aspect of work–family interface: family-to-work conflict. Prior research has primarily examined the possible influence of the use of technology (e.g., telecommuting) in the work environment on the family (e.g., Ahuja et al. 2007; Duxbury et al. 1992). Also, although the literature on work–family interface recognized that children's problems, or misbehaviors in general, were a key family stressor for parents (e.g., Frone et al. 1992), there was a lack of research investigating the effect of specific children's problems or misbehaviors on parents' family-to-work conflict. Our

research extends prior work by examining how children's Internet addiction affects parents' family-to-work conflict that in turn affects employees' job outcomes. Our results showed that children's Internet addiction was a strong predictor of family-to-work conflict, with other factors (including parental stressors that capture children's general misbehaviors) being controlled (see Table 4). Hence, children's Internet addiction is a critical issue in the family domain for working parents. Our findings provide evidence that technology use in the family domain may result in negative consequences that are severe enough to exhibit a spillover effect to the work domain. As Brown (2008) noted, technology can potentially be seen as an important component in understanding work–family conflict. Future research should further investigate the roles of emerging technologies in the domain of work–family interface and the potential negative consequences of using such technologies. For example, the growing popularity of social media may promote risk behaviors among youth, such as sexting, which refers to the act of sending and receiving sexually explicit messages and photographs via mobile phones or the Internet (Mattey and Diliberto 2013).

Fifth, our work used a matched-pair research design and an integrated research approach to collect both quantitative and qualitative data. The matched-pair research design helps overcome a common limitation of work–family research: the use of self-reported data from a single source (Ford et al. 2007). We used data from two sources (i.e., parents and children) to assess the relationship between family stressors and family-to-work conflict. This design helps to rule out the threat of single source bias. In particular, prior research has advocated obtaining responses from multiple sources to better assess children's behavioral and emotional problems (e.g., van der Ende et al. 2012). Thus, our data on children's Internet addiction from both parents' and children's perspectives allowed us to cross-validate our results. Further, the inclusion of a comprehensive set of control variables enhanced the validity of our findings. However, the cross-sectional nature of our data prevents us from drawing definitive causal inferences for the proposed relationships. For example, some parents may alter their parenting behaviors to exert tighter control (e.g., do more monitoring) on their children as a result of the children's Internet addiction; and some parents may reduce their effort spent on parenting behaviors (e.g., do less monitoring) in order to allocate more time and resources for their work. The results of the analysis correcting for endogeneity and the subgroup analysis did not suggest that these potential reciprocal relationships altered the core results. Also, this concern is alleviated by our qualitative data that generally confirm the sequence of the relationships (see Venkatesh et al. 2013; Venkatesh, Brown, and Sullivan 2016). Future work could adopt a longitudinal research design to examine the potential reciprocal relationships among constructs in our model. Future work could also examine factors (e.g., genetics, social environment, parents' Internet use behaviors, and addiction) that may drive both parents' and children's behaviors and cause spurious relationships among the constructs.

Finally, a limitation of our study is that we examined addiction to the use of the Internet in general (i.e., any Internet application), unlike previous studies that examined addiction to one specific type of Internet application (e.g., online auction, social networking sites, online games). Future research can examine addiction to specific Internet applications to confirm the findings from our study and/or understand variables unique to specific applications and the concomitant addictions.

Practical Implications

Our findings suggest that the parent–child attachment that underlies communication and mutual understanding is vital in controlling children's Internet addiction, which has significant implications for their parents' job outcomes. These findings have several important practical implications for parents and organizations to prevent the problem of children's Internet addiction and achieving a balance between work and family.

First, our work offers insights into how working parents can effectively manage children's Internet addiction. Although the extant literature generally suggests that parenting behaviors (e.g., parental control, monitoring) can reduce children's Internet addiction, our findings reveal the potential dual effects of parenting behaviors in increasing or reducing Internet addiction. We found that parenting behaviors are only effective in reducing Internet addiction in the case of good parent–child attachment. In the case of poor parent–child attachment, some parenting behaviors (i.e., parental control, monitoring, and unstructured time) will instead increase Internet addiction. We also found partial support for rationalization being effective only in the case of good parent–child attachment. Thus, parents should understand the role of the quality of the parent–child attachment when deciding to employ these parenting behaviors.

Second, among all parenting behaviors that we examined, dissuasion is the only one that does not influence children's Internet addiction in any case. This finding is consistent with the conclusion of Xu et al. (2012) that dissuasion does not serve to prevent addiction. In fact, dissuasion may no longer be a sensible strategy for preventing Internet addiction because Internet use is now a necessity in children's educational pursuits. Parents should seek alternative means, such as rationalization, to communicate with their children about the

potential dangers of excessive Internet use and Internet addiction.

Third, online service providers can implement procedures or technological features that help parents to direct their parental efforts. For example, organizations can facilitate parental control by requesting parents' consent when children sign up for a service. Also, organizations can facilitate monitoring of children's activities by providing online tracking features on their sites (Xu et al. 2012). For example, education-related web sites can keep track of children's progress in different learning activities (e.g., reading, history). Likewise, general monitoring and reporting can be valuable—this is, in fact, available with some Internet service providers and parents should be encouraged to take advantage of such features as part of their parenting approach.

Fourth, parents should acknowledge that children's Internet addiction is a serious issue that warrants their attention. As our findings suggest, children's Internet addiction can be a great source of family distress, compared to other factors such as family time commitment and family involvement. Although parents should employ measures, such as setting parental control and monitoring, to prevent children's Internet addiction, they should also be aware of the various behavioral addiction symptoms so as to discover and rectify the problem as soon as possible.

Finally, organizations play an important role in designing policies to help employees manage their work and family lives (e.g., Duxbury et al. 1992; Milliken et al. 1998; Perry-Smith and Blum 2000) and deal with the stress associated with technology use (e.g., Ayyagari et al. 2011; Ragu-Nathan et al. 2008). Although organizational policies do not directly influence Internet use of employees' children, a family-supportive work environment will allow employees to devote more time and energy to family activities, resulting in better communication and understanding between parents and their children. Communication and mutual understanding is crucial to establishing and maintaining a good parent–child relationship, which is the key to effective prevention of children's Internet addiction. Organizations should aid in this process as it will promote employees' well-being and, potentially, their job performance.

Conclusions

This research furthers our understanding of the social consequences of the Internet—specifically, children's Internet addiction and its implications for parents' job outcomes. First, we examined factors that influence Internet addiction among children. We drew on attachment theory to develop a better understanding of why children become dependent on the Internet. We found significant interactions between parenting behaviors (namely,parental control, monitoring, unstructured time, and rationalization) and the children's views of parent–child attachment in predicting children's Internet addiction. Specifically, when the child has good parent–child attachment, parenting behaviors were more effective and, consequently, the child was less likely to become addicted to the Internet. Second, we theorized and found support for a negative effect of children's Internet addiction on their parents' job outcomes. Specifically, children's Internet addiction gave rise to family-to-work conflict, resulting in lower job satisfaction and organizational commitment, and higher work exhaustion among parents. This work thus provides a nomological network related to children's Internet addiction that has implications for effective understanding and management of this serious issue.

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RESEARCH ARTICLE

CHILDREN'S INTERNET ADDICTION, FAMILY-TO-WORK CONFLICT, AND JOB OUTCOMES: A STUDY OF PARENT–CHILD DYADS

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Appendix A

Measurement Items

Internet addiction (reported by children) (1 strongly disagree; 7 strongly agree; adapted from Turel, Serenko, and Giles 2011)

1. I sometimes neglect important things because of my interest in the Internet.
2. My social life has sometimes suffered because of my use of the Internet.
3. Using the Internet sometimes interfered with other activities.
4. When I am not using the Internet I often feel agitated.
5. I have made unsuccessful attempts to reduce the time I use the Internet.
6. I am sometimes late for engagements because of my use of the Internet.
7. Arguments have sometimes arisen because of the time I spend online.
8. I think that I am addicted to the Internet.
9. I often fail to get enough rest because of my use of the Internet.

Parent's perception of child's Internet addiction (1 strongly disagree; 7 strongly agree; adapted from Turel, Serenko, and Giles 2011)

1. My child sometimes neglects important things because of his/her interest in the Internet.
2. My child's social life has sometimes suffered because of his/her use of the Internet.
3. Using the Internet sometimes interfered with my child's other activities.
4. When my child is not using the Internet he/she often feels agitated.
5. My child has made unsuccessful attempts to reduce the time he/she uses the Internet.
6. My child is sometimes late for engagements because of his/her use of the Internet.

7. Arguments have sometimes arisen because of the time my child spends online.
8. I think that my child is addicted to the Internet.
9. My child often fails to get enough rest because of his/her use of the Internet.

Parent–child attachment (1 almost never or never true; 7 almost always or always true; adapted from Armsden and Greenberg 1987)

1. My parents respect my feelings.
2. I feel my parents are successful as parents.
3. I wish I had different parents. (Reverse coded)
4. My parents accept me as I am.
5. I have to rely on myself when I have a problem to solve. (Reverse coded)
6. I like to get my parents' point of view on things I'm concerned about.
7. I feel it's no use letting my feelings show. (Reverse coded)
8. My parents sense when I'm upset about something.
9. Talking over my problems with my parents makes me feel ashamed or foolish. (Reverse coded)
10. My parents expect too much from me. (Reverse coded)
11. I get upset easily at home. (Reverse coded)
12. I get upset a lot more than my parents know about. (Reverse coded)
13. When we discuss things, my parents consider my point of view.
14. My parents trust my judgment.
15. My parents have their own problems, so I don't bother them with mine. (Reverse coded)
16. My parents help me to understand myself better.
17. I tell my parents about my problems and troubles.
18. I feel angry with my parents. (Reverse coded)
19. I don't get much attention at home. (Reverse coded)
20. My parents encourage me to talk about my difficulties.
21. My parents understand me.
22. I don't know whom I can depend on these days. (Reverse coded)
23. When I am angry about something, my parents try to be understanding.
24. I trust my parents.
25. My parents don't understand what I'm going through these days. (Reverse coded)
26. I can count on my parents when I need to get something off my chest.
27. I feel that no one understands me. (Reverse coded)
28. If my parents know something is bothering me, they ask me about it.

Parental control (1 strongly disagree; 7 strongly agree; adapted from Bumpus and Werner 2009)

1. I limit the amount of time my child spends online.
2. I use filtering software to restrict the types of web sites my child is allowed to view.
3. My child has to ask for my permission before using the Internet.
4. I set up restrictions on the child's use of Internet tools (e.g., no use of chat rooms).
5. I permit my child to use the Internet for specific purposes only (e.g., educational purposes or school projects).
6. I require my child to complete his/her homework before going online.
7. I restrict my child's ability to download programs or content from the Internet.
8. I set up rules pertaining to the protection of my child's privacy on-line.

Monitoring (1 strongly disagree; 7 strongly agree; adapted from Bumpus and Werner 2009; Xu et al. 2012)

1. I check whether my child is using the Internet when I am out.
2. I check computer history to monitor web sites my child visited.
3. I always accompany my child when he/she uses the Internet.
4. I monitor what my child does online.
5. I know well as to what my child does online.

Unstructured time (1 strongly disagree; 7 strongly agree; self-developed[1])

1. Outside school hours, my child has plenty of free time.
2. Outside school hours, my child does not have any scheduled activities (e.g., homework, interest class) most of the time.
3. Outside school hours, my child always has plenty of time when he/she can do whatever he/she wants.

Dissuasion (1 strongly disagree; 7 strongly agree; adapted from Xu et al. 2012)

1. I constantly remind my child not to use the Internet.
2. I dissuade my child from using the Internet.
3. I warn my child not to keep using the Internet.
4. I intervened my child's Internet use at an early stage.

Rationalization (1 strongly disagree; 7 strongly agree; adapted from Xu et al. 2012)

1. I educate my child about the consequence of excessive Internet use.
2. I show educational videos to my child to help him/her to realize the consequence of excessive Internet use.
3. I use examples from the media and news report to help my child realize the consequence of excessive Internet use.
4. I educate my child about the symptoms of excessive Internet use.

Work-to-family conflict (1 strongly disagree; 7 strongly agree; adapted from Carlson et al. 2000)

Time-based work interference with family

1. My work keeps me from my family activities more than I would like.
2. The time I must devote to my job keeps me from participating equally in household responsibilities and activities.
3. I have to miss family activities due to the amount of time I must spend on work responsibilities.

Strain-based work interference with family

1. When I get home from work I am often too frazzled to participate in family activities/responsibilities.
2. I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.
3. Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.

Behavior-based work interference with family

1. The problem-solving behaviors I use in my job are not effective in resolving problems at home.
2. Behavior that is effective and necessary for me at work would be counterproductive at home.
3. The behaviors I perform that make me effective at work do not help me to be a better parent and spouse.

Family-to-work conflict (1 strongly disagree; 7 strongly agree; adapted from Carlson et al. 2000)

Time-based family interference with work

1. The time I spend on family responsibilities often interfere with my work responsibilities.
2. The time I spend with my family often causes me not to spend time in activities at work that could be helpful to my career.
3. I have to miss work activities due to the amount of time I must spend on family responsibilities.

Strain-based family interference with work

1. Due to stress at home, I am often preoccupied with family matters at work.
2. Because I am often stressed from family responsibilities, I have a hard time concentrating on my work.
3. Tension and anxiety from my family life often weakens my ability to do my job.

Behavior-based family interference with work

1. The behaviors that work for me at home do not seem to be effective at work.
2. Behavior that is effective and necessary for me at home would be counterproductive at work.
3. The problem-solving behavior that works for me at home does not seem to be as useful at work.

Job satisfaction (1 strongly disagree; 7 strongly agree; adapted from Heller and Watson 2005)

1. Right now, I feel fairly satisfied with my job.
2. At this very moment, I am enthusiastic about my work.
3. At this moment, I am finding real enjoyment in my work.
3. At present, each minute at work seems like it will never end. (Reverse coded)
5. Right now, I consider my job rather unpleasant. (Reverse coded)

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[1]The items were developed by following the procedures for scale development recommended in DeVellis (2003). First, an item pool was created based on Young's (2004) description of risk factors of Internet abuse. Second, after the item pool was created, the items were evaluated by doctoral students and senior scholars. Their feedback for addition, deletion, or modification helped to enhance the face and content validity. Finally, a pilot test was conducted with 30 parents in our sample. The pilot test showed that the scales had adequate convergent and discriminant validity.

Organizational commitment (1 strongly disagree; 7 strongly agree; adapted from Ahuja et al. 2007)

1. For me, this is the best of all possible organizations for which to work.
2. I am extremely glad to have chosen this organization to work for over other organizations.
3. This organization inspires the very best in the way of job performance.
4. I show by my actions that I really care about the fate of this organization.

Work Exhaustion (1 never; 7 daily; adapted from Ahuja et al. 2007)

1. I feel emotionally drained from my work.
2. I feel used up at the end of the work day.
3. I feel fatigued when I get up in the morning and have to face another day on the job.
4. I feel burned out from my work.

Anxiety (1 not at all; 7 very much; adapted from Marteau and Bekker 1992)

1. I am tense.
2. I feel upset.
3. I am worried.
4. I feel calm. (Reverse coded)
5. I am relaxed. (Reverse coded)
6. I feel content. (Reverse coded)

Depression (1 not true; 7 very true; adapted from Barber 2001)

1. I feel lonely.
2. I cry a lot.
3. I like to be alone.
4. I refuse to talk.
5. I think of killing myself.
6. I am secretive or keep things to myself.

Loneliness (1 strongly disagree; 7 strongly agree; adapted from Waaktaar and Torgersen 2012)

1. I feel in tune with people around me. (Reverse coded)
2. I can find companionship when I want it. (Reverse coded)
3. No one really knows me well.
4. People are around me but not with me.
5. I feel alone.

Peer relationships (1 strongly disagree; 7 strongly agree; adapted from Uruk and Demir 2003)

1. I am happy with the way things are between my friends and me.
2. It is important for me to have my friends' approval.
3. I share many of my secrets and private feelings with my friends.

Habit (1 strongly disagree; 7 strongly agree; adapted from Turel and Serenko 2012)

1. Using the Internet has become automatic to me.
2. Using the Internet is natural to me.
3. The use of the Internet has become a habit for me.

Social desirability bias (true/false; adapted from Turel, Serenko, and Bontis 2011)

Please indicate whether the statements below are true or false with respect to yourself:

1. It is sometimes hard for me to go on with my work if I am not encouraged. (F)
2. I sometimes feel resentful when I don't get my way. (F)
3. On a few occasions, I have given up doing something because I thought too little of my ability. (F)
4. There have been times when I felt like rebelling against people in authority even though I knew they were right. (F)
5. No matter who I'm talking to, I'm always a good listener. (T)
6. There have been occasions when I took advantage of someone. (F)
7. I'm always willing to admit it when I make a mistake. (T)
8. I sometimes try to get even, rather than forgive and forget. (F)
9. I am always courteous, even to people who are disagreeable. (T)

10 I have never been irked when people expressed ideas very different from my own. (T)
11. There have been times when I was quite jealous of the good fortune of others. (F)
12. I am sometimes irritated by people who ask favors of me. (F)
13. I have never deliberately said something that hurt someone's feelings. (T)

Family hours (adapted from Ford et al. 2007)
The number of hours spent per week on family- and home-related duties such as housework and child care: _____.

Family time commitment (adapted from Frone et al. 1997)
The percentage of child-related tasks that they performed (0-100%)

Family involvement (1 strongly disagree; 7 strongly agree; adapted from Frone et al. 1992)
1. I am very much personally involved in my family.
2. Most of my interests center around my family.
3. The most important things that happen to me involve my family.
4. Most of my personal life goals are family-oriented.
5. I consider my family to be very central to my existence.

Family (marital) stressors (1 never; 7 almost always; adapted from Frone et al. 1992)
In your relationship, how often:
1. Can you depend on your husband/partner to be there when you really need him?
2. How much concern does he show for your feelings and problems?
3. How much tension is there between you and your husband/partner?
4. How often would you say you and your husband/partner have an unpleasant argument?

Family (parental) stressors (1 never; 7 almost always; adapted from Frone et al. 1992)
In your family life, how often:
1. Do you feel that you have too little time to spend by yourself because of your child(ren)?
2. Do you feel that your child(ren) is/are making too many demands on you?
3. Do/does your child(ren) disobey or do things you don't approve of?
4. Do/does your child(ren) do things that cause you problems or hassles?

Job involvement (1 strongly disagree; 7 strongly agree; adapted from Frone et al. 1992)
1. I am very much personally involved in my job.
2. Most of my interests center around my job.
3. The most important things that happen to me involve my present job.
4. Most of my personal life goals are job-oriented.
5. I consider my job to be very central to my existence.

Job insecurity (1 strongly disagree; 7 strongly agree; adapted from Frone 2008; Lim and Loo 2003)
1. I am not really sure how long my present job will last.
2. I can be sure of having my present job as long as I do good work. (Reverse coded)
3. I am afraid of losing my present job.
4. I can keep my current job for as long as I want it. (Reverse coded)
5. If I wanted to, I could easily find a comparable job elsewhere. (Reverse coded)

Work overload (1 strongly disagree; 7 strongly agree; adapted from Frone 2008; Frone et al. 1997)
1. I have too much work to do everything well.
2. My job requires that I work very fast.
3. My job requires that I work very hard.
4. I never seem to have enough time to get everything done on my job.

Work stress (1 never; 7 always; adapted from Frone et al. 1997)
How frequently do you feel each of the following emotional reactions when you think of your day-to-day experiences at work:
1. Fortunate (Reverse coded)
2. Relaxed (Reverse coded)

3. Pleased (Reverse coded)
3. Unhappy
5. Bothered
6. Frustrated

Fashion consciousness (marker variable) (1 strongly disagree; 7 strongly agree; adapted from Malhotra et al. 2006)

1. When I must choose between the two, I usually dress for fashion, not for comfort.
1. An important part of my life and activities is dressing smartly.
3. A person should try to dress in style.

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Appendix B

Results of Confirmatory Factor Analysis (CFA)

Table B1. CFA on All Variables Measured in the Child Survey

	ADD	ATT	ANX	DEP	LON	REL	HAB
ADD1	0.79	0.51	0.51	0.33	0.44	0.43	0.37
ADD2	0.81	0.39	0.53	0.28	0.48	0.55	0.51
ADD3	0.83	0.50	0.50	0.38	0.26	0.54	0.38
ADD4	0.77	0.42	0.38	0.40	0.45	0.32	0.30
ADD5	0.75	0.50	0.49	0.57	0.31	0.45	0.33
ADD6	0.84	0.47	0.51	0.29	0.31	0.54	0.39
ADD7	0.83	0.57	0.42	0.53	0.42	0.43	0.31
ADD8	0.77	0.52	0.42	0.51	0.40	0.31	0.33
ADD9	0.75	0.52	0.44	0.56	0.31	0.45	0.44
ATT1	0.45	0.84	0.46	0.55	0.27	0.26	0.26
ATT2	0.30	0.74	0.36	0.44	0.56	0.33	0.38
ATT3	0.38	0.77	0.43	0.30	0.49	0.31	0.34
ATT4	0.46	0.84	0.30	0.35	0.38	0.45	0.53
ATT5	0.46	0.83	0.35	0.51	0.34	0.47	0.33
ATT6	0.43	0.81	0.27	0.47	0.54	0.48	0.54
ATT7	0.30	0.80	0.51	0.53	0.54	0.34	0.53
ATT8	0.45	0.83	0.52	0.47	0.31	0.31	0.54
ATT9	0.34	0.82	0.43	0.46	0.30	0.29	0.49
ATT10	0.26	0.77	0.35	0.30	0.49	0.31	0.56
ATT11	0.39	0.74	0.30	0.30	0.56	0.45	0.42
ATT12	0.49	0.81	0.36	0.56	0.50	0.28	0.30
ATT13	0.50	0.84	0.50	0.42	0.36	0.53	0.57
ATT14	0.34	0.80	0.40	0.35	0.38	0.29	0.40
ATT15	0.49	0.76	0.28	0.51	0.48	0.28	0.53
ATT16	0.37	0.79	0.57	0.26	0.51	0.36	0.34
ATT17	0.47	0.82	0.35	0.53	0.37	0.45	0.43
ATT18	0.48	0.79	0.54	0.38	0.47	0.37	0.26
ATT19	0.40	0.83	0.47	0.46	0.28	0.50	0.43
ATT20	0.26	0.81	0.41	0.43	0.51	0.39	0.41
ATT21	0.26	0.76	0.31	0.36	0.26	0.38	0.34
ATT22	0.46	0.81	0.27	0.36	0.37	0.32	0.54
ATT23	0.53	0.80	0.26	0.39	0.57	0.49	0.45
ATT24	0.28	0.77	0.40	0.27	0.47	0.54	0.34
ATT25	0.42	0.80	0.46	0.52	0.52	0.36	0.52
ATT26	0.51	0.80	0.38	0.55	0.27	0.54	0.54
ATT27	0.42	0.75	0.53	0.39	0.55	0.35	0.32
ATT28	0.28	0.80	0.52	0.33	0.30	0.35	0.32
ANX1	0.28	0.39	0.78	0.49	0.44	0.36	0.55
ANX2	0.34	0.32	0.77	0.47	0.48	0.37	0.32
ANX3	0.51	0.48	0.79	0.46	0.52	0.51	0.51

Table B1. CFA on All Variables Measured in the Child Survey (Continued)							
	ADD	**ATT**	**ANX**	**DEP**	**LON**	**REL**	**HAB**
ANX4	0.31	0.31	0.78	0.42	0.56	0.46	0.32
ANX5	0.55	0.54	0.81	0.56	0.52	0.41	0.34
ANX6	0.52	0.32	0.77	0.55	0.57	0.38	0.47
DEP1	0.37	0.38	0.39	0.77	0.49	0.31	0.48
DEP2	0.55	0.35	0.49	0.80	0.57	0.45	0.34
DEP3	0.43	0.50	0.34	0.84	0.50	0.44	0.49
DEP4	0.51	0.47	0.27	0.78	0.35	0.27	0.49
DEP5	0.41	0.41	0.56	0.75	0.38	0.50	0.49
DEP6	0.33	0.47	0.38	0.84	0.37	0.33	0.57
LON1	0.41	0.55	0.46	0.37	0.80	0.44	0.31
LON2	0.36	0.26	0.54	0.51	0.74	0.36	0.54
LON3	0.29	0.51	0.39	0.36	0.78	0.27	0.30
LON4	0.32	0.32	0.42	0.41	0.82	0.37	0.26
LON5	0.35	0.53	0.36	0.37	0.75	0.40	0.34
REL1	0.57	0.41	0.36	0.40	0.36	0.75	0.50
REL2	0.42	0.36	0.51	0.27	0.31	0.84	0.45
REL3	0.34	0.44	0.43	0.55	0.33	0.76	0.41
HAB1	0.37	0.43	0.43	0.38	0.44	0.47	0.79
HAB2	0.48	0.36	0.31	0.55	0.46	0.53	0.74
HAB3	0.31	0.28	0.55	0.34	0.50	0.40	0.75

ADD: Internet Addiction; ATT: Parent–child attachment; ANX: Anxiety; DEP: Depression; LON: Loneliness; REL: Peer Relationships; HAB: Habit

Table B2. CFA on Variables Predicting Internet Addiction Measured in the Parent Survey						
	ADD	**CON**	**MON**	**TIM**	**DIS**	**RAT**
ADD1	0.78	0.49	0.36	0.27	0.32	0.36
ADD2	0.80	0.28	0.49	0.43	0.48	0.45
ADD3	0.74	0.42	0.34	0.55	0.31	0.31
ADD4	0.76	0.31	0.45	0.46	0.47	0.35
ADD5	0.77	0.52	0.42	0.27	0.42	0.42
ADD6	0.74	0.40	0.32	0.39	0.35	0.29
ADD7	0.74	0.54	0.40	0.50	0.52	0.43
ADD8	0.73	0.31	0.57	0.47	0.47	0.57
ADD9	0.84	0.53	0.47	0.57	0.44	0.50
CON1	0.50	0.80	0.35	0.45	0.31	0.33
CON2	0.26	0.77	0.31	0.40	0.43	0.33
CON3	0.37	0.74	0.36	0.43	0.43	0.31
CON4	0.45	0.82	0.46	0.46	0.38	0.30
CON5	0.32	0.84	0.53	0.46	0.42	0.50
CON6	0.48	0.82	0.47	0.47	0.30	0.33
CON7	0.33	0.81	0.45	0.51	0.45	0.53
CON8	0.55	0.84	0.37	0.35	0.53	0.44
MON1	0.30	0.34	0.79	0.51	0.40	0.30
MON2	0.49	0.33	0.82	0.55	0.35	0.45
MON3	0.26	0.51	0.81	0.50	0.33	0.26
MON4	0.51	0.32	0.75	0.55	0.45	0.26
MON5	0.32	0.31	0.78	0.35	0.49	0.42
TIM1	0.45	0.29	0.51	0.81	0.41	0.57
TIM2	0.45	0.29	0.34	0.73	0.31	0.40
TIM3	0.47	0.30	0.56	0.75	0.41	0.57
DIS1	0.29	0.39	0.50	0.49	0.78	0.52
DIS2	0.30	0.41	0.40	0.41	0.81	0.38
DIS3	0.33	0.44	0.46	0.33	0.82	0.43
DIS4	0.31	0.54	0.35	0.43	0.78	0.53
RAT1	0.30	0.35	0.49	0.30	0.44	0.80
RAT2	0.51	0.49	0.31	0.50	0.54	0.84
RAT3	0.43	0.34	0.55	0.44	0.37	0.73
RAT4	0.50	0.29	0.49	0.41	0.30	0.75

ADD: Child's Internet Addiction Perceived by Parents; CON: Parental Control; MON: Monitoring; TIM: Unstructured Time; DIS: Dissuasion; RAT: Rationalization

Table B3. CFA on Variables Predicting Family-to-Work Conflict Measured in the Parent Survey						
	FWC	**WFC**	**FINV**	**MST**	**PST**	**ADD**
FWC1	0.81	0.28	0.32	0.30	0.47	0.51
FWC2	0.84	0.42	0.37	0.49	0.52	0.53
FWC3	0.73	0.36	0.40	0.51	0.26	0.44
FWC4	0.77	0.57	0.29	0.45	0.29	0.37
FWC5	0.80	0.53	0.33	0.49	0.39	0.38
FWC6	0.81	0.30	0.56	0.56	0.53	0.40
FWC7	0.74	0.52	0.40	0.44	0.33	0.56
FWC8	0.82	0.38	0.33	0.55	0.51	0.26
FWC9	0.84	0.50	0.34	0.52	0.46	0.48
WFC1	0.31	0.76	0.38	0.49	0.43	0.52
WFC2	0.36	0.84	0.31	0.54	0.37	0.43
WFC3	0.49	0.76	0.34	0.27	0.39	0.38
WFC4	0.51	0.82	0.57	0.51	0.37	0.46
WFC5	0.31	0.76	0.36	0.39	0.43	0.38
WFC6	0.46	0.76	0.26	0.44	0.49	0.40
WFC7	0.53	0.77	0.46	0.44	0.50	0.41
WFC8	0.45	0.76	0.55	0.48	0.35	0.42
WFC9	0.27	0.74	0.41	0.55	0.56	0.48
FINV1	0.46	0.40	0.80	0.27	0.46	0.51
FINV2	0.51	0.50	0.81	0.49	0.49	0.38
FINV3	0.27	0.45	0.83	0.46	0.56	0.46
FINV4	0.42	0.31	0.77	0.36	0.53	0.28
FINV5	0.57	0.51	0.75	0.33	0.35	0.52
MST1	0.31	0.43	0.55	0.81	0.41	0.33
MST2	0.55	0.57	0.32	0.76	0.27	0.50
MST3	0.48	0.35	0.56	0.73	0.28	0.36
MST4	0.53	0.38	0.49	0.80	0.54	0.47
PST1	0.50	0.47	0.28	0.55	0.80	0.43
PST2	0.56	0.45	0.30	0.45	0.78	0.53
PST3	0.31	0.43	0.47	0.49	0.82	0.34
PST4	0.34	0.29	0.57	0.50	0.78	0.27
ADD1	0.44	0.28	0.35	0.30	0.33	0.80
ADD2	0.37	0.49	0.32	0.44	0.53	0.83
ADD3	0.53	0.41	0.41	0.51	0.48	0.83
ADD4	0.50	0.38	0.45	0.33	0.53	0.78
ADD5	0.45	0.27	0.44	0.52	0.45	0.83
ADD6	0.28	0.37	0.57	0.52	0.43	0.77
ADD7	0.30	0.46	0.36	0.47	0.27	0.79
ADD8	0.39	0.43	0.27	0.53	0.38	0.74
ADD9	0.57	0.37	0.26	0.43	0.33	0.84

FWC: Family-to-Work Conflict; WFC: Work-to-Family Conflict; FINV: Family Involvement; MST: Family (Marital) Stress; PST: Family (Parental) Stress; ADD: Child's Internet Addiction Perceived by Parents

Table B4. CFA on Variables Predicting Job Outcomes Measured in the Parent Survey									
	SAT	**OCOM**	**EXH**	**JINV**	**INS**	**OVER**	**WST**	**FWC**	**ADD**
SAT1	0.84	0.53	0.28	0.46	0.46	0.50	0.40	0.55	0.44
SAT2	0.78	0.52	0.41	0.47	0.34	0.56	0.29	0.49	0.34
SAT3	0.79	0.39	0.40	0.45	0.29	0.27	0.27	0.26	0.29
SAT4	0.73	0.55	0.53	0.32	0.42	0.37	0.37	0.53	0.53
SAT5	0.80	0.57	0.47	0.28	0.55	0.44	0.54	0.31	0.57
OCOM1	0.33	0.78	0.48	0.53	0.47	0.32	0.31	0.37	0.47
OCOM2	0.33	0.73	0.31	0.35	0.50	0.26	0.48	0.50	0.50
OCOM3	0.31	0.75	0.28	0.46	0.29	0.30	0.40	0.50	0.55
OCOM4	0.37	0.78	0.38	0.48	0.46	0.57	0.40	0.41	0.31
EXH1	0.57	0.35	0.83	0.41	0.53	0.54	0.48	0.53	0.26
EXH2	0.37	0.57	0.75	0.46	0.53	0.55	0.35	0.38	0.26
EXH3	0.53	0.47	0.81	0.51	0.31	0.38	0.33	0.36	0.27
EXH4	0.27	0.40	0.76	0.41	0.57	0.35	0.33	0.54	0.57
JINV1	0.32	0.40	0.45	0.80	0.37	0.47	0.52	0.28	0.49
JINV2	0.47	0.55	0.38	0.79	0.43	0.54	0.48	0.44	0.30
JINV3	0.47	0.57	0.29	0.80	0.40	0.56	0.35	0.51	0.33
JINV4	0.32	0.30	0.41	0.83	0.41	0.51	0.27	0.47	0.49
JINV5	0.30	0.56	0.43	0.76	0.31	0.45	0.54	0.34	0.27
INS1	0.57	0.40	0.39	0.32	0.81	0.48	0.27	0.46	0.33
INS2	0.31	0.44	0.35	0.48	0.80	0.55	0.52	0.29	0.41
INS3	0.37	0.53	0.45	0.47	0.73	0.38	0.31	0.31	0.55
INS4	0.27	0.38	0.30	0.57	0.78	0.42	0.35	0.29	0.55
INS5	0.54	0.55	0.46	0.41	0.84	0.44	0.43	0.37	0.34
OVER1	0.49	0.46	0.43	0.40	0.31	0.81	0.39	0.40	0.28
OVER2	0.38	0.57	0.53	0.29	0.44	0.76	0.30	0.42	0.33
OVER3	0.38	0.54	0.45	0.50	0.48	0.83	0.43	0.53	0.32
OVER4	0.41	0.49	0.45	0.40	0.45	0.81	0.41	0.51	0.31
WST1	0.43	0.46	0.26	0.51	0.48	0.35	0.81	0.38	0.51
WST2	0.52	0.52	0.50	0.37	0.54	0.33	0.77	0.53	0.28
WST3	0.33	0.52	0.50	0.37	0.54	0.27	0.73	0.56	0.37
WST4	0.48	0.53	0.53	0.41	0.41	0.53	0.77	0.57	0.55
WST5	0.41	0.31	0.48	0.43	0.55	0.56	0.82	0.42	0.38
WST6	0.27	0.35	0.54	0.50	0.36	0.48	0.80	0.46	0.36
FWC1	0.54	0.34	0.26	0.45	0.55	0.33	0.27	0.83	0.30
FWC2	0.39	0.42	0.40	0.40	0.50	0.57	0.38	0.83	0.30
FWC3	0.52	0.46	0.56	0.54	0.39	0.27	0.46	0.83	0.44
FWC4	0.46	0.46	0.48	0.36	0.42	0.42	0.34	0.73	0.27
FWC5	0.37	0.30	0.47	0.51	0.26	0.26	0.50	0.73	0.32
FWC6	0.52	0.32	0.30	0.52	0.50	0.28	0.50	0.74	0.50
FWC7	0.43	0.28	0.57	0.56	0.53	0.56	0.29	0.74	0.44
FWC8	0.38	0.31	0.40	0.51	0.51	0.55	0.50	0.82	0.54
FWC9	0.36	0.36	0.37	0.29	0.28	0.46	0.26	0.74	0.36
ADD1	0.41	0.38	0.26	0.35	0.38	0.40	0.48	0.45	0.79
ADD2	0.26	0.47	0.27	0.44	0.28	0.41	0.27	0.35	0.79

Table B4. CFA on Variables Predicting Job Outcomes Measured in the Parent Survey (Continued)									
	SAT	**OCOM**	**EXH**	**JINV**	**INS**	**OVER**	**WST**	**FWC**	**ADD**
ADD3	0.57	0.31	0.44	0.51	0.41	0.55	0.27	0.27	0.78
ADD4	0.52	0.41	0.53	0.39	0.53	0.28	0.52	0.42	0.78
ADD5	0.29	0.26	0.47	0.44	0.53	0.49	0.54	0.33	0.78
ADD6	0.33	0.27	0.27	0.35	0.30	0.54	0.39	0.38	0.82
ADD7	0.30	0.55	0.45	0.34	0.31	0.41	0.55	0.54	0.83
ADD8	0.44	0.36	0.48	0.29	0.39	0.39	0.56	0.46	0.75
ADD9	0.47	0.45	0.27	0.27	0.44	0.37	0.42	0.26	0.78

SAT: Job Satisfaction; OCOM: Organizational Commitment; EXH: Work Exhaustion; JINV: Job Involvement; INS: Job Insecurity; OVER: Work Overload; WST: Work Stress; FWC: Family-to-Work Conflict; ADD: Child's Internet Addiction Perceived by Parents

Appendix C

Results of Model Testing Based on Children's Self-Reported Internet Addiction

Table C1. Predicting Internet Addiction

	Internet Addiction (c)		
	Model 1	**Model 2**	**Model 3**
Block 1: Control Variables			
Gender of child (c) (1: female; 0: male)	-.12*	-.10	-.08
Gender of parent (p) (1: female; 0: male)	-.14*	-.12*	-.07
Age of child (c)	.12*	.08	.05
Age of parent (p)	.07	.05	.04
Marital status (p) (0: single)	-.16**	-.13*	-.11*
Household income (p)	.03	.02	.01
Anxiety (c)	.12*	.10	.08
Depression (c)	.14*	.12*	.11*
Loneliness (c)	.08	.05	.03
Peer relationships (c)	-.13*	-.12*	-.11*
Internet cost (p)	.05	.04	.02
Computer possession (p)	.06	.04	.01
Habit (c)	.08	.06	.04
Internet use (c)	.13*	.12*	.11*
Block 2: Parenting Behaviors and Parent–Child Attachment			
Parental control (PC) (p)		-.14*	-.03
Monitoring (M) (p)		-.13*	-.05
Unstructured time (UT) (p)		.13*	.10
Dissuasion (D) (p)		-.07	-.03
Rationalization (R) (p)		-.10	-.07
Parent–child attachment (PA) (c)		-.14*	-.12*
Block 3: Interactions			
PC × PA			-.23***
M × PA			-.25***
UT × PA			-.15**
D × PA			.08
R × PA			.10
R^2	.20	.26	.39
DR^2		.06**	.13***

Notes: (c) reported by child; (p) reported by parent. *p < .05; **p < .01; ***p < .001.

Table C2. Predicting Family-to-Work Conflict

	Family-to-Work Conflict	
	Model 1	**Model 2**
Gender of parent (p)	.23***	.22***
Age of parent (p)	.19**	.17**
Marital status (p)	.14*	.14*
Household income (p)	.13*	.12*
Family hours (p)	-.08	-.08
Family time commitment (p)	-.14*	-.12*
Family involvement (p)	.14*	.15*
Family (marital) stressors (p)	.16**	.14*
Family (parental) stressors (p)	.10	.07
Work-to-family conflict (p)	.09	.05
Child's Internet addiction (c)		.26***
R^2	.33	.40
DR^2		.07**

Notea: (c) reported by child; (p) reported by parent. Family-to-work conflict was modeled as a second-order formative, first-order reflective construct. The patterns for predicting each first-order construct are not shown because they are identical. *p < .05; **p < .01; ***p < .001.

Table C3. Mediating Effect of Family-to-Work Conflict

	Job Satisfaction		Organizational Commitment		Work Exhaustion	
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**
Control Variables						
Gender of parent (p)	.13*	.13*	.16**	.15*	-.16**	-.15*
Age of parent (p)	.13*	.12*	.12*	.12*	.15*	.14*
Marital status (p)	.07	.05	.04	.03	.13*	.13*
Household income (p)	.13*	.12*	.11*	.11*	.19**	.17**
Job involvement (p)	.23***	.20***	.19**	.16**	.08	.07
Job insecurity (p)	-.14*	-.13*	-.19**	-.16**	.21***	.20**
Work overload (p)	-.23***	-.21***	-.21***	-.20**	.22***	.21***
Work stress (p)	-.22***	-.21***	-.21***	-.19**	.37***	.34***
Child's Internet addiction (c)	-.24***	-.13*	-.13*	-.11*	.15*	.13*
Family-to-work conflict (p)		-.30***		-.15*		.25***
R^2	.39	.49	.33	.37	.35	.46
DR^2		.10**		.04*		.11***

Notes: (c) reported by child; (p) reported by parent. *p < .05; **p < .01; **p < .001.

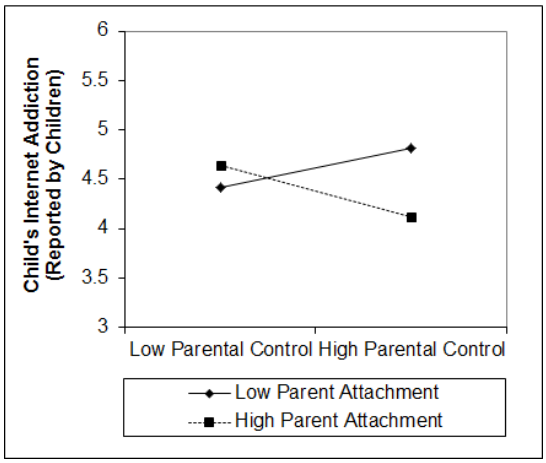

Figure C1. Parental Control × Parent–Child Attachment

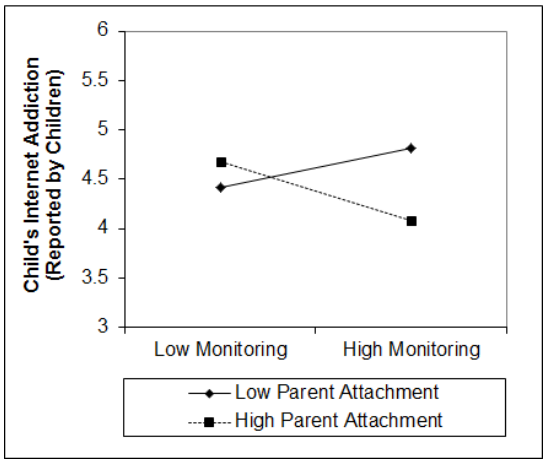

Figure C2. Monitoring × Parent–Child Attachment

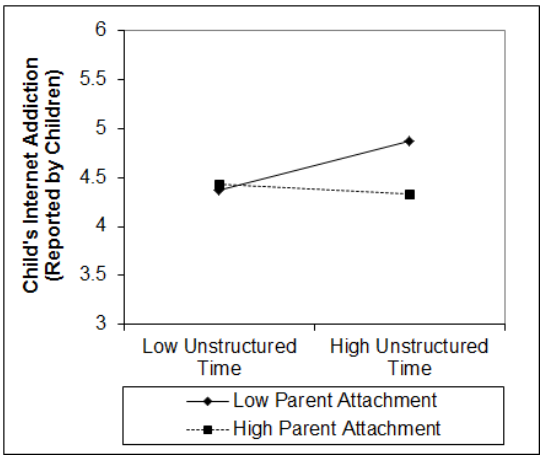

Figure C3. Unstructured Time × Parent–Child Attachment

Appendix D

Results of Heckman's Analysis

Our model posits that parenting behaviors affect children's Internet addiction that in turn affects parents' family-to-work conflict. There are potential reverse causations that children's Internet addiction may affect parenting behaviors (e.g., parents adjust their parenting behaviors in response to children's addiction) and that parents' family-to-work conflict may affect children's Internet addiction (e.g., children are negatively influenced by their parents' problems). In addressing such endogeneity, a few different approaches are available, such as instrumental variable regression (two-stage least squares) and/or Heckman's two-stage approach, which although developed originally to correct for selection bias has been used to correct for endogeneity (Heckman 1979; Venkatesh et al. 2017). Because we had used several control variables, there were no options remaining as suitable instrumental variables. Consequently, we reestimated the PLS model by dropping two variables that had served as control variables in the original estimation that could serve as instrumental variables—gender and age of parent—both of which can reasonably be expected to influence parenting behaviors and family-to-work conflict, but neither gender nor age of parent can be caused by Internet addiction or by family-to-work conflict. The results of the reestimated PLS models dropping these two possible instrumental variables are shown alongside the original PLS model results in Tables D1 and D2. With the pattern of results across these two models being similar, we decided in favor of using instrumental variables regression with Heckman's correction for the impact of this potential endogeneity.

We followed the procedures outlined in Venkatesh et al. (2017) to apply the two-stage Heckman's approach. The chosen instrumental variables were evaluated for relevance and exogeneity in stage 1. We computed the concomitant Inverse Mills Ratio (IMR) and added it to the model to account for the potential endogeneity with each regressor. In each case, each parenting behavior, the stage 1 model (not shown) was a probit estimation of the potential endogenous regressor (i.e., parenting behaviors in Table D1; work-to-family conflict in Table D2) that was used to compute the IMR. In the second stage model (shown in Tables D1 and D2). After controlling for the IMR, the coefficients of the independent variables and interactions remained largely consistent (see Tables D1 and D2). The results provide support for our proposed causal flow.

Table D1. Predicting Internet Addiction

	Original PLS Results	Reestimated PLS Results	Heckman's Analysis 2nd Stage Results (Endogenous Regressor Noted on Next Row)				
			PC	M	UT	D	R
Control Variables							
Gender of child (c) (1: female; 0: male)	.02	.02	.02	.01	.01	.01	.01
Gender of parent (p) (1: female; 0: male)	-.13*						
Age of child (c)	.02	.02	.02	.01	.00	.01	.01
Age of parent (p)	.02						
Marital status (p) (0: single)	-.13*	-.14*	-.12*	-.10	-.07	-.04	-.11*
Household income (p)	-.05	-.05	-.04	-.04	-.02	-.03	-.02
Anxiety (c)	.02	.02	.01	.02	.01	.00	.00
Depression (c)	.04	.05	.03	.02	.03	.02	.03
Loneliness (c)	.04	.05	.03	.03	.01	.03	.02
Peer relationships (c)	.02	.04	.02	.01	.01	.01	.01
Internet cost (p)	.08	.10	.07	.05	.06	.06	.07
Computer possession (p)	.04	.03	.03	.02	.02	.02	.01
Habit (c)	.03	.04	.02	.01	.03	.02	.02
Internet use (c)	.05	.06	.04	.03	.03	.04	.03
Parenting Behaviors and Parent–Child Attachment							
Parental control (PC) (p)	-.07	-.09	-.05	-.03	-.05	-.04	-.05
Monitoring (M) (p)	-.08	-.10	-.06	-.05	-.04	-.06	-.05
Unstructured time (UT) (p)	.11*	.12*	.07	.10	.10	.07	.08
Dissuasion (D) (p)	-.07	-.08	-.05	-.04	-.03	-.03	-.04
Rationalization (R) (p)	-.15**	-.16*	-.12*	-.10	-.13*	-.13*	-.12*
Parent–child attachment (PA) (c)	-.13*	-.13*	-.11*	-.10	-.07	-.06	-.11*
Interactions							
PC × PA	-.16**	-.16**	-.14*	-.15*	-.14*	-.12*	-.13*
M × PA	-.29***	-.30***	-.26***	-.25***	-.26***	-.25**	-.26***
UT × PA	-.17**	-.19**	-.16**	-.14*	-.13*	-.14*	-.13*
D × PA	.05	.06	.04	.04	.02	.03	.03
R × PA	-.20**	-.21***	-.14*	-.17**	-.15*	-.16**	-.15*
Inverse Mills Ratio			.25***	.26***	.30***	.30***	.31***
R^2	.48	.48	.49	.49	.51	.52	.52

Notes: (c) reported by child; (p) reported by parent. *p < .05; **p < .01; ***p < .001.

Table D2. Predicting Family-to-Work Conflict			
	Original PLS Results	**Reestimated PLS Results**	**Heckman's Analysis 2nd Stage Results**
Gender of parent (p)	.21***		
Age of parent (p)	.14*		
Marital status (p)	.13*	.20**	.12*
Household income (p)	.12*	.18**	.13*
Family hours (p)	-.07	-.10	-.09
Family time commitment (p)	-.12*	-.14*	-.10
Family involvement (p)	.14*	.14*	.11*
Family (marital) stressors (p)	.13*	.15*	.11*
Family (parental) stressors (p)	.08	.09	.08
Work-to-family conflict (p)	.08	.10	.04
Child's Internet addiction (p)	.35***	.37***	.30***
Inverse Mills Ratio			.30***
R^2	.43	.40	.46

Notes: (p) reported by parent. *p < .05; **p < .01; ***p < .001.

References

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Appendix E

Results of the Subgroup Analysis

Table E1. Predicting Internet Addiction

	Internet Addiction (c)	
	Full Sample (N = 776)	**Subsample (N = 139)**
Block 1: Control Variables		
Gender of child (c) (1: female; 0: male)	-.08	-.11*
Gender of parent (p) (1: female; 0: male)	-.07	-.05
Age of child (c)	.05	.08
Age of parent (p)	.04	.07
Marital status (p) (0: single)	-.11*	-.14*
Household income (p)	.01	.04
Anxiety (c)	.08	.07
Depression (c)	.11*	.13*
Loneliness (c)	.03	.03
Peer relationships (c)	-.11*	-.17**
Internet cost (p)	.02	.04
Computer possession (p)	.01	.08
Habit (c)	.04	.06
Internet use (c)	.11*	.07
Block 2: Parenting Behaviors and Parent–Child Attachment		
Parental control (PC) (p)	-.03	-.03
Monitoring (M) (p)	-.05	-.11*
Unstructured time (UT) (p)	.10	-.14*
Dissuasion (D) (p)	-.03	-.08
Rationalization (R) (p)	-.07	-.12*
Parent–child attachment (PA) (c)	-.12*	-.15*
Block 3: Interactions		
PC × PA	-.23***	-.26***
M × PA	-.25***	-.17**
UT × PA	-.15**	-.12*
D × PA	.08	.10
R × PA	.10	.04
R^2	.39	.42

Notes: (c) reported by child; (p) reported by parent. *p < .05; **p < .01; ***p < .001.