

Running Head: PARENTING ONLINE ADOLESCENTS

Parenting Adolescents Who Go Online: Differences by Parent, Child, and Family Characteristics

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Abstract

Parent, child, and family characteristics were examined in relation to monitoring and control strategies parents use with adolescents who use the internet. American parents (n = 1100) and their 12 to 17 year old children completed telephone surveys in late 2004 regarding parenting strategies and beliefs about teen internet use. Younger parents, parents of younger adolescents, and parents with negative attitudes more often endorsed parenting strategies. Use of some strategies was less common among parents of girls, and parents of fewer children. Parents deploy multiple strategies in coordination, and variation is sensitive to child developmental level, parental attitudes about online risks, and perhaps parental cohort effects.

**KEY WORDS:** parenting, adolescents, internet, parental monitoring, gender differences

## Parenting Adolescents Who Go Online: Differences by Parent, Child, and Family Characteristics

Recent national survey data indicate that 74% of 8- to 18-year-olds live in a home with internet access and 96% have been online (Roberts, Foehr, & Rideout, 2005). Since adolescents most often use the internet from home (74%; Lenhart et al., 2005), parents may be able to influence children's online behavior and protect them from online risks. The present study considered parents' monitoring and control strategies related to adolescents' internet use, and how these efforts differ by parent, child, and family characteristics.

*Adolescent Internet Use: Risks and Benefits*

Internet access presents youth with potentially positive opportunities. For example, internet use recently was found to increase educational attainment in an experimental study of youth from low-income families (Jackson, von Eye, Biocca, Barbatsis, Zhao, & Fitzgerald, 2006). Anonymity online also appears to enable adolescents to seek out information and support regarding sensitive topics, such as sexual and general health (Gray, Klein, Noyce, Sesselberg, & Cantrill, 2005; Suzuki & Calzo, 2004). Furthermore, young people who report obtaining such information indicate that it has played a role in their health behavior change (Kaiser Family Foundation, 2001). Parents of online teens apparently recognize potential benefits of internet use as the majority believe it "has been a good thing" for their child overall (Macgill, 2007).

Relative to research on benefits, the potential hazards of child internet use have received more attention. Many parents believe that dangers or negative influences exist online, and approximately two thirds of parents believe that teens do things online that they wouldn't want their parents to know about (Lenhart, 2005). Concerns include sexual victimization (Finkelhor, Mitchell, & Wolak, 2000), exposure to sexual material (e.g. Peter & Valkenburg, 2006), impacts

on social relationships and well-being (e.g. Wolak, Mitchell, & Finkelhor, 2003), disclosure of personal and identifiable information (e.g. Ybarra, Alexander, & Mitchell, 2005), online harassment and bullying (e.g. Ybarra & Mitchell, 2004), and participation in online communities that may normalize and encourage harmful behavior (e.g. Whitlock, Powers, & Eckenrode, 2006). While none of these threats are unique to the internet (Greenfield, 2004), online environments may involve a unique combination of experiences that disinhibit risk-taking or deviance. Critical developmental tasks and features of adolescence (e.g. autonomy and identity; sexual maturation; peer culture orientation; c.f. Steinberg & Silk, 2002) also may impact how youth select, shape, and experience online environments, and increase their vulnerability to negative influences. Thus, parents may have a role in monitoring and protecting youth who go online.

*Parental Monitoring and Behavioral Control*

The present study is guided by theory and research indicating that parental monitoring and behavioral control are powerful predictors of positive (e.g. Petit, Bates, Dodge, & Meece, 1999) and negative (e.g. Ary, Duncan, Duncan, & Hops, 1999) outcomes for youth. Monitoring includes parents' active efforts to gain awareness of children's behavior, whereabouts, and associates. Such information may guide parents' use of behavioral control, such as limiting youth access to environments that positively reinforce problem behavior (e.g. Patterson, Reid, & Dishion, 1992). Online parental monitoring and behavioral control parallels offline parenting, and includes active efforts to observe and influence child internet use (e.g. what content youth view and present to others online, with whom they interact, when, and for how long). Goals of online parenting may include limiting exposure to age-inappropriate content, preventing internet

use from impinging on social and academic development, and protecting the child and family from exploitation and liability.

Surprisingly little is known about how parents attempt to monitor and influence adolescents' online behavior. Even basic questions remain relatively unexplored. For example, though surely relevant to parenting, it is unknown to what extent parents of online youth go online themselves or know that their children go online. Research on specific parenting strategies is primarily descriptive. Findings from nationally representative samples of parents and their 10-17-year-old children in 1999-2000 and 2004 suggest that parents commonly report having filtering/blocking software on their home computer, having rules about the time of day and amount of time children can be online. Additionally, parental checking of the web sites their children visit, and talking to children about safety issues online are commonly endorsed, as is placing the home computer from which adolescents access the internet in an open (versus private) family location (Finkelhor et al., 2000; Lenhart, 2005; Macgill, 2007). Notably, it is taken for granted that these behaviors and conditions are part of a concerted parenting effort. For example, having blocking/filtering software on the home computer may be a relatively passive condition rather than a deliberate parental behavior. Furthermore, parents may have rules about internet use because multiple family members need access to the computer, and may place the home computer in an open area for pragmatic reasons (e.g. location of outlets and jacks), rather than as a strategy of influencing youth online behavior. Thus, establishing whether specific parental behaviors are associated with one another and with parental attitudes about teen internet use would further the field. Similarly, consideration of parent-child agreement regarding whether parents monitor adolescents' online behavior may yield important information about how this active form of parenting occurs in families. For example, parents may check the web sites their

child visits without their knowledge in the hopes of “catching” inappropriate behavior.

Alternatively, parents may tell their children they will be doing so periodically in order to encourage self-restraint. Understanding the extent to which children know that their online behavior is not being monitored may inform growing research and guidance on this domain of contemporary parenting.

### *Correlates of Parenting Behaviors*

Assuming that past research has tapped important behaviors, national survey data support that parent, child, and family characteristics may relate to the strategies parents use with internet-using adolescents (hereafter referred to as “online parenting”). For example, parents’ internet use, income, education, age, and gender, and adolescents’ age and gender have each been found to relate to proposed online parenting behaviors (e.g. Lenhart, 2005). However, these and other key characteristics are known to be non-independent. For example, older parents and parents of older children less often endorse online parenting techniques (Lenhart, 2005). Yet, parent and child age are confounded (i.e. younger parents are more likely to have younger children), thus rendering interpretation impossible. For this reason, examining these trends simultaneously would advance the field. This approach has been used by only a few researchers (e.g. Mitchell et al., 2005; Wang, Bianchi, & Raley, 2005), and, for reasons that are discussed, replication and extension of such work is needed. A number of parent, child, and family characteristics that are expected to be associated with online parenting are discussed next.

*Parent age.* Notably, with respect to internet use, age marks not only individuals’ location in development, but also in history, as a member of a cohort of individuals interacting with a rapidly evolving sociocultural phenomenon. Given that adolescents use the internet for different purposes than adults (Fox & Madden, 2005), and are perceived to know more about it

than their parents (Lenhart, Rainie, & Lewis, 2001), some have suggested that a generation gap may exist within some families with respect to parents' and children's online experiences and computer/internet savvy (e.g. Gallo, 1998). A second "generation<sup>1</sup> gap" may exist between older and younger parents that could affect parenting. Based on the sample considered in the present study, Lenhart's (2005) findings were suggestive of this. That is, parents over age 40 years were less likely than younger parents to report using blocking/filtering software. Whether these age effects are explained by confounded factors (e.g. child age) has not been answered. Prior work based on a similar sample (Wang et al., 2005) supported that older parents were less likely to report having checked the web sites their adolescents had visited than were younger parents, after controlling for numerous potential confounds; parental age was not independently associated with using monitoring software, or with having family rules about internet use. However, identifying and understanding parental age effects was not a goal of Wang et al. (2005), and thus from this standpoint, these models were not conclusive. The present study clarifies the magnitude of parental age effects unique from covarying demographic factors, and attempts to account for them.

*Mediators of parent age effects.* Cohort effects may underlie this second generation gap between younger and older parents with respect to online parenting efforts. Older adults may not have used the internet during their education, or for entertainment and social purposes in their youth, and may be less likely to do so as adults. Thus, it is possible that such parents with less frequent, broad, and deep exposure to internet use may be less aware of risks to children (e.g. Greenfield, 2004). In support of this view, a recent study indicated that older parents less often endorse the belief that teens do things online that they wouldn't want their parents to know about

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<sup>1</sup> The term "generation" is used loosely here. Defining generations based on online experience may assign too much weight to the role of the internet in culture and history (e.g. Buckingham, 2006).

(Lenhart, 2005). Additionally, older parents who, due to cohort effects relating to less experience and immersion in online environments, also may lack the confidence or ability to regulate or monitor their children's online behavior. Thus, it is possible that parental internet use and experience and beliefs about online risks to adolescents may account for parent age effects on online parenting.

Unfortunately, two recent studies that considered parents' use, knowledge, and beliefs about youth internet use in relation to online parenting efforts report did not yield consistent results. Wang et al. (2005) found that parents who used the internet were no more likely to have rules about internet use than non-using parents. However, these parents more often reported checking the web sites their children visited and using monitoring software. In contrast, Mitchell et al. (2005) did not find parental use or knowledge about the internet to predict use of filtering/blocking software. With regard to parental beliefs about teen internet use, Wang et al. (2005) found that parents' belief that the internet had been "good" for their child or not was not associated with use of online parenting strategies. However, parents' beliefs about potential negative influences would be expected to more strongly motivate online monitoring and control than would the absence of positive attitudes. Indeed, offline parenting research supports that the strategies parents use are related to parents' perceptions of threats from outside influences (reviewed in Bugental and Goodnow, 1998). Findings by Mitchell et al. (2005) are consistent with this view, as parents' concern about youth exposure to sexual material online was associated with their reported use of filtering/blocking software. Further research is needed that utilizes improved measurement of parental beliefs about teen internet use to predict multiple indicators of online parenting, and does so in the context of other salient predictors. Such

advances would permit an examination of whether parental internet use and beliefs independently predict online parenting and whether they explain parental age effects.

*Adolescent age.* Adolescent age is hypothesized to be negatively associated with parental limit-setting and monitoring of online behavior. Exposure to computer media increases with age (Roberts et al., 2005), and online parenting is expected to follow the same normative trends observed for general (i.e. “offline”) parenting. That is, beginning in mid-adolescence, youth are typically permitted to spend more time outside of direct parental supervision (Steinberg & Silk, 2002). Older adolescents also may object to internet rules and monitoring, and may demand greater privacy and autonomy (Mitchell et al., 2005). In turn, parents of older adolescents may avoid provoking conflict and become more permissive. Consistent with these expectations, Mitchell et al. (2005) found that adolescent age was negatively associated with parents’ use of monitoring/filtering software. Similarly, Wang et al. (2005) found this effect for software use and for parental reports of having family rules about internet use. Surprisingly, they did not find support for the more expected pattern that parents would less often check the web sites that older adolescents had visited. Again, however, their model was based on 2000 data, and their controlling of other parent behavior may have obscured these findings.

*Adolescent gender.* There also are reasons to study differences in online parenting behavior by child gender. General parenting behavior and its effects on youth adjustment sometimes differ by child gender (Steinberg & Silk, 2002). Furthermore, boys and girls use the internet for different purposes and may encounter different risks (e.g. Lenhart et al., 2005). For example, Peter and Valkenburg (2006) found that adolescent boys (71%) more often reported exposure to sexually explicit material online than did girls (40%), and boys’ frequency of exposure was positively associated with pubertal status. Lenhart, Lewis, & Rainie (2001) also

found that adolescent boys (19%) more often than girls (11%) reported having lied about their age in order to gain access to a web site. Parents may be aware of the differences in sons' and daughters' online activities, and therefore may deploy different strategies.. Importantly, while two prior studies did not find child gender to predict online parenting behaviors (e.g. Mitchell et al., 2005; Wang et al., 2005), the expected pattern was supported by the 2004 survey on which the present study is based (Lenhart, 2005). Since this latter study did not conduct multivariate analyses, and the former studies require clarification as well as replication in a more recent sample, child gender was included in the present models as a potential predictor of online parental monitoring and behavioral control.

*Parent gender.* General interest exists in child development on how mothers and fathers differ in their efforts and effects on children (e.g. Phares et al., 1992). A review of (offline) parental monitoring by Crouter and Head (2002) indicated that mothers tend to be more knowledgeable than fathers about their children's daily activities, and that mothers and fathers acquire such information through different means. With respect to online parenting efforts, mothers and fathers also might be expected to differ due to the differences between men's and women's online experiences and interest in technology (Fallows, 2005). Yet, studies of online parenting have not yielded consistent results. Neither Mitchell et al. (2005) nor Wang et al. (2005) found parent gender to relate to use of filtering software use. The latter group found that fathers more often checked the web sites their adolescent children had visited, but were no more likely to report having family rules about internet use. Yet, a more recent study described by Lenhart (2005) indicated that mothers more often reported having filtering software and rules about the timing and duration of internet use, but that mothers and fathers did not differ on

checking the web sites their children visited. However, since fathers came from households with higher incomes, confidence in these findings is limited in the absence of multivariate analysis.

*Family characteristics.* In addition to child and parent factors, several family characteristics have been studied as predictors of online parenting; these are described only briefly here because of their general failure to yield significant effects in past work. Family income and parental education have been hypothesized to predict online parental monitoring, based on findings on offline monitoring (see Crouter & Head, 2002) and parenting related to television watching (e.g. Lugaila, 2003). However, Wang et al. (2005) found that higher levels of parental education predicted only use of monitoring software, and not other online parenting. Furthermore, neither they nor Mitchell et al. (2005) found income to relate to online parenting. Similarly, while a case can be made for why online parenting may differ by race (e.g. Vandewater, Park, Huang, & Wartella, 2005) or parental marital status (see Crouter & Head, 2002), neither Mitchell et al. (2005) nor Wang et al. (2005) found support for such effects on online parenting. Still, these potential effects are considered in the present study, in order to replicate previous work, and because many of these factors (income, education, race) could be confounded.

A final important feature of families that has been neglected in prior research on online parenting is the number of children in the household. As reviewed by Furman and Lanthier (2002), parents with multiple children may have less time and energy for parenting each individual child, may instead focus on the family as a whole, and may be less encouraging of children's autonomy. It is hypothesized presently that online parenting will be more restrictive in families with multiple children in order to shield younger children from age inappropriate material accessed by older children. Additionally, including the number of children in the home

in multivariate models may help clarify the effects of associated circumstances (e.g. parental education; Furman & Lanthier, 2002) on parenting youth who go online.

*The Present Study.*

The present study draws upon a large, nationally representative sample of American adolescents and their parents. It contributes to the literature by first answering basic but critical questions about online parenting: namely, to what extent parents are aware that their adolescent children go online, and adolescents are aware that their parents do or do not check the web sites they visit. Also considered is whether specific parental behaviors reflect a coordinated parenting effort. This would be supported if parenting behaviors showed a consistent pattern of associations with 1) one another, 2) parental attitudes about internet use, and 3) parent, child, and family factors.

Beyond these basic questions, the present study elaborates on this emerging field in a number of ways. First, multivariate analyses will confer greater confidence in effects of parent, child, and family demographic predictors of online parenting initially identified in Lenhart (2005). Second, given how rapidly the internet has changed, it is possible that data on online parenting in 2000 (e.g. Mitchell et al., 2005; Wang et al., 2005) need to be updated. Thus, since the present study is based on data collected in 2004, it serves as a needed replication of prior work. This aim is strengthened by the fact that the present study and that conducted by Wang et al. (2005) were based on Pew Internet & American Life (PIAL) data using a nearly identical sampling strategy and measurement approach, making findings more directly comparable. Third, the present study builds upon work by Wang et al. (2005) in important ways. Notably, these authors considered parents' use of the internet with their child as a predictor in all models, and found it to be strongly associated with three online parenting strategies. However, this behavior

itself could be considered a form of parenting, and thus may have obscured important findings regarding the effects of parent, child, and family characteristics on other aspects of online parenting<sup>2</sup>. Fourth, the present study utilizes improved measurement of parental attitudes about child internet use as a potentially important predictor of online parenting. Finally, parental attitudes and internet use and experience are considered as potential mediators of parental age effects on online parenting.

## METHOD

Study methodology is summarized below. Further detail can be found at [www.pewinternet.org](http://www.pewinternet.org).

### *Participants*

Parents ( $n = 1,100$ ) and their adolescent children participated in the Pew Internet & American Life (PIAL) Project “Parents and Teens 2004” telephone survey. The sample was designed to be nationally representative of children ages 12 to 17, and of parents living with adolescent children with respect to age, sex, education, race, Hispanic origin, marital status, and geographic region, based on 2003 U.S. Census data. Parents were age 44.19 years old on average ( $SD = 7.50$ ), and ranged from less than 35 years old (8.7%) to 55 or older (7.9%). Adolescents were age 12 to 17 years (mean age = 14.52 years,  $SD = 1.70$ ); groups defined by age expressed as a whole number were approximately equally represented. Median annual family income in the full sample was \$50,000-74,999, and ranged from less than \$20,000 (7.8%) to \$100,000 or more (19.9%). Primary analyses concerned the 907 parents who indicated that their adolescent child used the internet. Further demographic information on this subsample is reported in Table 1.

### *Measures*

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<sup>2</sup> Indeed, these publicly available data ([http://www.pewinternet.org/PPF/r/11/dataset\\_display.asp](http://www.pewinternet.org/PPF/r/11/dataset_display.asp)) support that this behavior is uniquely predicted by many of the factors hypothesized to predict other online parenting behaviors: parent gender, age, education, internet use, and attitude about child internet use, and child age.

In order to facilitate comparison with Wang et al. (2005), recoding of demographic variables and handling of missing data were approached in the same manner. Percentages of respondents within each category of demographic, internet use, attitude, and online parenting variable are reported in Table 1.

*Demographic predictors.* Parent and adolescent gender were coded 1 for male and 0 for female. Parent and adolescent ages in years were treated as continuous measures. Missing values for the two parents who did not report their age were replaced with the mean. Parent race/ethnicity was recoded 1 for non-Hispanic White, or 0 for other race/ethnicity. Five parents did not report their race; these were recoded 1 for the modal category. Marital status was coded 0 for divorced, separated, widowed, or never married or 1 for married or living as married. Four categories of parent education were created: high school or below, some college, college graduate, or postgraduate education; the first category was used as the referent in regressions. The one parent who did not report his/her education was assigned to the modal category (some college). Three categories of annual family income were created: under \$50,000 (referent), \$50,000-74,999, or \$75,000 or more. The 79 parents who did not report income were assigned to the modal category (\$50,000-74,999); this group of missing values was sizeable enough to necessitate inclusion of a flag in regressions (1 for income missing, 0 for non-missing). Family size was categorized into parents with one (referent), two, or three or more children.

*Adolescent and parent internet use.* All adolescents and parents were asked whether the adolescent ever uses the internet (coded 1 for yes, 0 for no). Parents also answered whether they ever use the internet (1 for yes, 0 for no), and if so, how many years they have had access, and the frequency with which they go online from home (using seven-point Likert scales, ranging from never to several times a day). Parental years of internet access was recoded into four

comparably sized categories: non-user, 5 years access or less (referent), 6-9 years of access, or 10 or more years of internet access. Frequency of parental internet use from home was recoded into four rational groupings, since there was no obvious distinction between parents in the largest category who use the internet from home daily versus multiple times daily; the categories were non-user, daily user (referent), weekly user, less than weekly user.

*Parental online rules and monitoring.* Parents who indicated that their child uses the internet ( $n = 907$ ) were asked (coded 1 for yes, 0 for no): “In your home, are there rules about when or for how long this child can go online?”, “After your child has been on the internet, do you ever check to see what web sites he/she went to?”, and regarding their home computer or internet account, “do you have monitoring software or a filter that keeps people from going to some types of internet web sites?” [“have America Online” ( $n = 10$ ) was recoded as “yes” since the service offered filtering]. For brevity, these behaviors are referred to as *internet rules*, *checking web sites*, and *monitoring software*. Most adolescents ( $n = 971$ ) reported using the internet. Those who reported using the internet from home ( $n = 868$ ) were asked, “After you go online, do your parents ever check to see what web sites you went to?” (coded 1 for yes, 0 for no) and whether the computer they used at home to go online was “in a private area like your own bedroom, or in an open family area, like a living room, den, or study?” (coded 1 for open, 0 for private location). These outcomes are referred to as *checking web sites* and *open computer location*.

Since responses regarding potential online parenting behaviors were dependent variables, missing values (“don’t know” or “refused”) were not imputed. Few parents responded this way regarding child internet use (0.4%), rules (0.6%), monitoring software (4.7%), or checking web sites (1.2%). Although few adolescents answered don’t know/refused regarding open computer

location (0.3%), a larger number did so with respect to checking web sites (8.3%). Thus, this was considered as a potentially meaningful response in some analyses.

*Parents' beliefs regarding teen internet use.* Parents were asked "Overall, do you think email and the internet have been a good thing for your child, a bad thing, or haven't they had much effect one way or the other?" In keeping with coding by Wang et al. (2005), responses to this item (termed *good thing*) were recoded as 1 for good and 0 for all other responses. The 28 parents who answered "don't know" or refused to answer were recoded with the modal category (1 for good). Parents also were asked whether or not they agreed with each of the following seven statements about teen internet use (all were coded 1 for agree, 0 for disagree, don't know, or refuse): 1) *keeping up with peers*—"If a child isn't using the internet by the time they start school, they will fall behind their peers;" 2) *carelessness*—"Most teens are not careful enough about the information they give out about themselves online;" 3) *social benefits*—"Teens who use the internet to stay in touch with their friends have better social lives than teens who don't use the internet to do this;" 4) *wasting time*—"Teens waste a lot of time online, when they could be doing more important things;" 5) *school benefits*—"The internet helps teens do better in school;" 6) *cheating*—"Too many teens today use the internet to cheat on their schoolwork;" and 7) *private/deviant behavior*—"Most teens do things online that they wouldn't want their parents to know about."

For data reduction purposes, parents' beliefs about teen internet use were subjected to an exploratory factor analysis. A principal components analysis supported a two factor solution (eigenvalues = 1.89 and 1.35). Results of a factor analysis with promax rotation were consistent with "negative" and "positive beliefs" factors that were modestly correlated ( $r = -.19$ ). Items that loaded on the negative attitudes factor were: carelessness (.61), wasting time (.59), cheating

(.58), and private/deviant behavior (.69). Items that loaded on the positive attitudes factor were keeping up with peers (.58), social benefits (.61), school benefits (.69), and good thing (.62). This latter item showed the strongest factor cross-loading (-.32 on negative attitudes), but not to an extent considered problematic. Internal consistencies for negative and positive attitude factors, based on Kuder-Richardson-20 (KR-20) coefficient were modest (.50 and .48, respectively), but judged adequate given the preliminary nature of the study, the limited number of dichotomous items considered <sup>3</sup>, and the acceptable item-total correlations (all  $\phi > .20$ ). Thus, corresponding scales based on means were created for use in analyses.

### *Procedure*

Telephone samples were drawn from a PIAL Project conducted in 2003 and 2004; a random sample of families who had had a child younger than age 18 were recontacted in late 2004 for the present study. Up to 10 attempts were made to contact sampled telephone numbers at different times of day and days of the week. When more than one eligible child (i.e. age 12 to 17) resided in a household, a target child was chosen randomly. A parent or guardian was interviewed, followed by the target child. Attempts to interview fathers or male guardians were made first in order to ensure better representation of fathers. The response rate was 49.1%.

### *Data Analyses*

All analyses used unweighted data. Interrelations among dichotomous measures were examined using phi or kappa (for identical parent-child items). Logistic regressions were used to predict dichotomously coded parenting behaviors. A first set was run in order to predict parental reports of internet rules, checking web sites, and monitoring software from the same variables used in Wang et al. (2005), except for parent-child use of the internet together, which was not

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<sup>3</sup> For example, based on the Spearman-Brown formula, the addition of three items with similar item-total correlations would bring internal consistency estimates to .64 and .62, respectively.

measured in the 2004 survey. Second, logistic regressions were used to test questions unique to the present study. Specifically, parental rules, web site checking, use of monitoring software, and open computer location were regressed on parent, child, and family demographics (parent and child age and gender; race, parental marital status, education, family income, missing income flag, and family size, which has not been examined previously); in subsequent blocks, parental internet use and experience (block 2) and parental positive and negative attitudes about teen internet use (block 3) were entered as potential predictors. With respect to hypothesized mediational processes, ANOVAs and correlations were used first to test whether associations between parental age and proposed mediators existed, a necessary condition before mediation could be further considered.

## RESULTS

### *Parent and Child Internet Use and Agreement on Adolescents' Internet Use*

Most parents (86.0%) of online youth went online themselves [ $\chi^2 (df = 2, n = 1099) = 47.6, p < .001$ ]. Parents and youth modestly agreed regarding whether adolescents went online [ $\kappa (n = 1100) = .41, p < .001$ ]. Of the 971 parents whose children reported going online, 88.5% knew so. However, 58.0% of the 193 parents who believed their child did not go online had a child who reported doing so.

### *Correlations Among Parenting Behaviors*

Parent-reported rules were significantly associated with checking web sites and monitoring software ( $\phi = .29$  and  $.23, p < .001$ ); these latter behaviors were modestly correlated ( $\phi = .14, p < .001$ ). Parent-reported parenting behaviors were not correlated with adolescents' reports of open computer location ( $\phi = .02$  to  $.04$ ). Agreement between parents and adolescents on parental checking was significant ( $\kappa = .20, p < .001$ ), but weak. A

minority (40.9%) of the 450 adolescents who were being monitored knew so; 82.2% of the 281 adolescents *not* being monitored knew so<sup>4</sup>.

*Associations Between Parent, Child, and Family Characteristics and Online Parenting*

*Partial replication of Wang et al. (2005).* Despite parallel sampling and measurement, and a nearly identical statistical model (except for the present exclusion of the variable “parent and child use internet together”), results of logistic regressions differed from those reported by Wang and colleagues (2005). First, Wang et al. found that parents of a younger adolescent and parent-child use of the internet together predicted parental reported internet rules. The present results also supported that parents of a younger adolescent  $B = -.28$ ,  $SE(B) = .05$ , Exponentiated  $B = .76$ ,  $p < .001$ , more often reported internet rules. Additionally, mothers,  $B = -.31$ ,  $SE(B) = .15$ ,  $Exp(B) = .74$ ,  $p < .05$ , and parents who believed the internet had been a good thing for their child,  $B = -.34$ ,  $SE(B) = .17$ ,  $Exp(B) = .71$ ,  $p < .05$ , were more likely to report rules.

Second, Wang et al. (2005) reported that younger parents, fathers, parents who used the internet, and parents who used the internet with their child more often reported checking the web sites their adolescent visited. The present analyses yielded similar results with respect to younger parents,  $B = -.03$ ,  $SE(B) = .01$ ,  $Exp(B) = .97$ ,  $p < .01$ , and parents who use the internet,  $B = 1.13$ ,  $SE(B) = .26$ ,  $Exp(B) = 3.08$ ,  $p < .001$ , but also found that parents who reported checking web sites had younger adolescents,  $B = -.12$ ,  $SE(B) = .05$ ,  $Exp(B) = .89$ ,  $p < .05$ , had boys,  $B = .53$ ,  $SE(B) = .15$ ,  $Exp(B) = 1.70$ ,  $p < .001$ , and self-identified as non-White and/or Hispanic,  $B = -.47$ ,  $SE(B) = .22$ ,  $Exp(B) = .62$ ,  $p < .05$ . The race/ethnicity difference seemed to owe to the tendency for Hispanic parents (80%) to report web site checking significantly more often than non-Hispanic parents (61%),  $\chi^2 = 6.70$ ,  $p < .05$ ; parents who were Black, Native

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<sup>4</sup> If all missing adolescent data were assumed to be “don’t know” responses, then 36.9% of adolescents being monitored knew so, and 75.7% of those not being monitored knew so.

American, or who identified their race as “other” showed similarly (though non-significant) increased tendencies to check web sites, relative to White parents.

Finally, according to Wang and colleagues (2005), parents of a younger teen, and parents who were more educated, used the internet, and used it with their child were more likely to report having monitoring software. Present findings, too, supported such an effect for parents of younger adolescents,  $B = -.09$ ,  $SE(B) = .05$ ,  $Exp(B) = .91$ ,  $p < .05$ , but not for parental education or internet use. Additionally, younger parents,  $B = -.05$ ,  $SE(B) = .01$ ,  $Exp(B) = .95$ ,  $p < .001$ , and mothers,  $B = -.33$ ,  $SE(B) = .15$ ,  $Exp(B) = .72$ ,  $p < .05$ , more often reported use of monitoring software.

*Evaluation of present hypotheses.* One study hypothesis concerned potential mediators of parent age effects. Therefore, an initial step was to consider a precondition: whether parental age was associated with the proposed mediators. First, ANOVAs indicated that parental age was significantly associated with frequency of parents' home internet use and with years of internet access, but not in the hypothesized directions [ $F(3, 903) = 3.96$  and  $6.89$ , respectively,  $p < .005$ ]. That is, parents who used the internet were younger, but not significantly so, compared to non-users. Furthermore, among internet users, both frequency of internet use and years of access were significantly and positively associated with parental age. Thus, these characteristics of parental internet use could not have mediated the observed associations between parental age and online parenting in the expected manner. Second, there was a positive but weak correlation,  $r(907) = .07$ ,  $p < .05$ , between parent age and positive attitudes about teen internet use; this effect proved too small to be a credible or meaningful mediator. Parental age and negative attitudes were not significantly correlated. Thus, measures of parental internet use, experience, and attitudes were not examined further as potential mediators of parental age effects on online

parenting. Still, in keeping with study goals, these measures were considered as potential unique predictors of online parenting in subsequent models.

Consideration of hierarchical logistic regressions that blocked in demographics (block 1) followed by parental years of internet access (block 2) and positive and negative attitudes (block 3) suggested that significant contributions of blocks 2 and 3 to prediction of parenting outcomes were independent of (i.e. did not diminish) effects of block 1 predictors). The effect of parent gender on parent reported rules about internet use diminished from  $\text{Exp}(B) = .76$  in the models used to replicate those of Wang et al. (2005) to .74 in these final models. Such a reduction was not hypothesized, and was considered too small to be theoretically significant. Thus, the results presented from logistic regressions are based on simultaneous entry of study predictors.

Logistic regressions of the four potential online parenting strategies on child, parent, and family demographics, years of parental internet access<sup>5</sup>, and parental positive and negative attitudes about teen internet use are reported in Table 2.

Adolescent age was associated with multiple purported online parenting strategies. Specifically, parents of younger teens more often reported having rules about internet use, checking the web sites their child had visited, and having software on the computer that monitors or blocks access to certain kinds of web sites. Parents of boys more often reported checking web sites. Independent of adolescent age effects, parental age was negatively associated with checking websites and monitoring software. Fathers more often reported monitoring software. Parents who identified as White and non-Hispanic less often reported checking web sites than did parents of other races/ethnicities. Again, this effect seemed to be comprised of differences

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<sup>5</sup> As described previously, the two parental internet use variables could not be entered simultaneously. In preliminary analyses, frequency of parental home internet use was a significant predictor of parental web site checking and open computer location. However, in both cases the effects owed to the distinction between internet users and non-users. Since this effect also was captured by the parental years of internet access variable, frequency of parental internet use was not considered further.

between White/non-Hispanic parents and multiple other racial/ethnic groups that were in the same direction, though individually statistically underpowered. There were no effects for parental education.

With respect to family characteristics, there were no effects for parent marital status or family income. Parents living in households with multiple children more often reported monitoring software and more often had an adolescent who reported using the internet on a computer in an open versus a private location of the home. Parental years of internet access showed an interesting pattern of predictions. Parents who had used the internet for 5 years or less more often reported checking the websites their child had visited and more often had a child who reported an open computer location compared to parents who did not use the internet. However, compared with parents who had had access for 5 years or less, parents who had had access for 10 years or more were even more likely to report checking web sites, but their children were less likely to report an open computer location. Finally, parents with negative beliefs about teen internet use more often reported internet rules and checking web sites; parents' positive beliefs were associated with a decreased tendency to report having internet rules.

## **DISCUSSION**

The present study takes important steps toward bridging the literature on parenting with what parents and scientists are just beginning to learn about online parenting in the developmental and family context. A major strength of the current study is the large and nationally representative sample of parents of adolescent internet users on which results were based. The sample offered sufficient statistical power to examine multiple and simultaneous associations, and to permit added confidence in null findings; the composition of the sample enhances generalizability. The present study also replicates prior research based on data

collected in 2000 (Mitchell et al., 2005; Wang et al., 2005), but builds upon this work by examining more recently collected data, considering multiple online parenting strategies, clarifying the magnitude of effects of potentially confounded demographic variables (e.g. parent and child age), and improving measurement of parents' internet use and salient positive and negative attitudes.

One aim of the present study was to take a step backward, in a sense, from the information that has been released by large survey groups in order to answer some basic questions about online parenting. First, most parents (89%) were aware that their child went online. Notably, however, 58% of parents who believed their child did not go online had a child who reported doing so. Second, most parents (86%) of online youth went online themselves. Other parents may be in a difficult position, since parents with less internet experience also have been found to register more concern about teens' online behavior (Lenhart, 2005). These findings are important, as parents who do not know that their child goes online and those who do not go online themselves may have limited ability to effectively influence their child's online behavior.

Another basic finding sheds light on parental checking of the web sites adolescents visit, a specific online parenting strategy that is endorsed by the majority of parents (Lenhart, 2005). Agreement between parents and adolescents on this parent behavior was significant, but relatively modest. Indeed, a minority (41%) of youth who were being monitored by their parent knew so. Some parents may wish to monitor youth surreptitiously, perhaps to "catch" misbehavior or to avoid conflict over violating adolescents' privacy. Although this "one-sided" monitoring may inform socialization efforts, it may less effectively capitalize on two important mechanisms of protective effect: (1) that youth adolescents who know they are being monitored

may be more likely to exercise self-restraint, and (2) that by making monitoring explicit, parents demonstrate their involvement in their children's lives, and communicate that responsible internet use demands caution and judgment. Notably, 82% of the 281 adolescents *not* being monitored knew so, a state of "free reign" that may not foster responsible online behavior. Unfortunately, the present study lacked data permitting consideration of this question.

Findings generally supported that previously examined parent behaviors are part of a coordinated strategy of online parental monitoring and behavioral control. Specifically, parents' rules regarding the timing and duration of internet use, use of blocking/filtering software, and checking which websites their adolescent child had visited were significantly interrelated. Additionally, each behavior was associated with adolescent age or gender in hypothesized directions, and two were associated with negative attitudes one would expect to motivate parenting. Parental web site checking was the only active behavior that was examined, and contrasted with simply having rules about internet use (which does not indicate that rules are enforced) or having software installed (which may be a default setting on certain internet applications and may not be actively used, checked, or adjusted by parents). Thus, while not entirely surprising, these findings help identify behaviors that likely constitute online parenting. To be sure, this point was brought into relief by the results suggesting that another behavior presumed to reflect online parenting (e.g. Lenhart, 2005) was not associated with other parenting efforts. That is, whether the computer that youth used to go online was located in a private or open area of the home did not relate to other parenting strategies, parent or adolescent demographic predictors, or negative attitudes about teen internet use. Rather, a less private computer location was more likely among parents who used the internet, those who had used it for fewer years, and those who had more children living in the home. Although data do not

directly address the point, this pattern may indicate that the home computer location is often a pragmatic decision. Perhaps for families in which many individuals want to use the computer it is not practical to place the computer in private and less accessible area of the home. For parents who have used the internet for many years, the computer may be such an integral family tool that there are several machines in the home, including some in more private areas. Notably, prior work has indicated that the location of the family computer is associated with different on- and offline youth behaviors (e.g. Lenhart, 2005). For example, children age 8 to 18 who had a computer in their bedroom were found to spend twice as much time using computers and to spend significantly less time reading compared to children without a computer in their room (Roberts et al., 2005). Moreover, the ecology of media in the home may be an implicit communication of parental values (Dorr et al., 2002), and thus may have implications for adolescent online behavior regardless of how deliberately “parental” it may be.

Following resolution of these more basic research questions, attention turned to the parent, adolescent, and family predictors of online parental monitoring and behavioral control. An important goal of the study was to examine the extent to which older versus younger parents report online parenting efforts. Older parents less often reported checking the websites their child had visited and having blocking or filtering software. These effects persisted after controlling for multiple potent demographic covariates, such as child age, education, and income. The possibility of a second “generation gap” (i.e. in addition to the gap between parents and children) has been suggested but not explicitly tested in prior work based on this sample (e.g. Lenhart, 2005). One prior study found an effect of parent age on web site checking (Wang et al., 2005), but this and another study reported that parents’ age and software use were unassociated

(Mitchell et al., 2005). Parent age effects are not typically reported for general parenting but, because of the historical and sociocultural context of internet use, are thought to be meaningful.

In general, findings were consistent with a parent cohort effect on online parenting behaviors, though specific differences between younger and older parents that account for these effects were not identified. That is, the present results did not support that older parents' decreased tendencies to report online parenting strategies are explained by less frequent use of or more recent access to the internet; less negative or more positive beliefs about teen internet use did not account for the association either. Irrespective of these broad measures of current and past internet use, however, younger parents may be more immersed in internet environments, as reflected in having spent not just time, *per se*, on the internet, but time for social, entertainment, and learning purposes. These behaviors were not assessed in the present study. However, such activity may be linked with greater awareness of online risks to adolescents, practical knowledge of how to mitigate such risks, or confidence in the ability to do so effectively.

Clear and consistent evidence was found for effects of adolescent age on parental reports of online parenting, again, controlling for other important covariates. Findings uphold earlier reports of these effects by Lenhart (2005) by demonstrating that child and parent age effects are independent. Parents of younger adolescents more often reported having internet rules, checking the web sites youth had visited, and having monitoring or filtering software on the computer that prevents access to some kinds of web sites. Similar results were reported by Mitchell et al. (2005) with respect to software use, and by Wang et al. (2005) regarding software use and internet rules. However, these latter authors found that adolescent age and parental web site checking were not associated. It seems likely that the differences between findings from this study and those from Wang et al. (2005) are explained by their inclusion of parent-child use of

the internet together as a predictor of parent web site checking. In any case, this is an important finding, as parental web site checking was perhaps the most active and unequivocally “parental” behavior considered, and adolescent age and gender and parental web site checking were the only variables that specified a particular child. Present findings are consistent with general findings in the field that parents engage in less monitoring and control as adolescents mature (Steinberg & Silk, 2002). Unfortunately, data on offline parenting and on- and offline adolescent behavior were unavailable. Therefore, it is not possible to infer whether parents grant this autonomy prematurely or out of synch with other age-related changes in parenting, or whether they do so in a developmentally appropriate and responsive manner. Older adolescents may encounter more risks online, but also may be more equipped to handle them. Child cohort effects also may help explain adolescent age effects on parenting. Allen and Rainie (2002) note that in 2000, younger teens (12 to 14) had more often learned how to use the internet from their parents (41%) than had older adolescents (22%). Thus, the gap between parents and children in skill and comfort online may be shrinking, and may translate into widespread and more effective online parenting of younger cohorts of youth.

Parents of boys more often reported checking the web sites that adolescents had visited. This may reflect parental awareness that boys often show higher levels of misbehavior than girls or may be more likely to seek out or otherwise be exposed to pornography online (Peter and Valkenburg, 2006). Findings are important, as general parenting research suggests poor monitoring is more strongly related to boys’ than girls’ problem outcomes (c.f. Leaper, 2002). Prior studies have not found adolescent gender to relate to online parenting (Mitchell et al., 2005; Wang et al., 2005), perhaps due to differences in outcomes or models. Changes from 2000 to 2004 in parents’ awareness of differences in boys’ and girls’ online behavior can not be ruled out

Next, mothers more often reported monitoring/filtering software than did fathers, but contrary to univariate parent gender effects reported in Lenhart (2005), were no more likely to report having rules about internet use. The present findings also contrasted with those of Wang et al. (2005) who reported that fathers more often checked web sites their child had visited. However, present findings and those of Wang et al. (2005) regarding parent gender differences must be interpreted with some caution. Both studies controlled for key demographic variables; yet, it remains possible that the sampling approach introduced potentially meaningful differences between households of mother and father respondents. As with offline parenting (c.f. Crouter & Head, 2002), differences in the information that mothers and fathers receive and the ways they receive it may impact parenting efforts. Future research may identify differences between men's and women's experiences online (Fallows, 2005) that may explain such differences.

Other parent and family characteristics examined with respect to online parenting yielded interesting effects. First, in contrast to prior studies, White, non-Hispanic parents were found to less often report checking the web sites their children had visited than other parents. Findings suggested a pattern wherein Hispanic, Black, and Native American parents, and those who indicated they belonged to an "other" race category more often reported this behavior than did non-Hispanic and White parents. This result is impressive, given that, compared to White non-Hispanic individuals (71% of whom use the internet), those who identify as Black or Hispanic less often report using the internet (60% and 56%, respectively; Fox & Livingstone, 2007). Findings are considered tentative, however, given that the effect was not hypothesized, was evident for only one of four outcomes, and was of modest magnitude.

Second, having more children in the household appears to be an important, and previously unexplored predictor of monitoring software and open computer location. Both

behaviors could be considered “blanket” approaches to protecting children at a range of developmental levels from inappropriate material. In contrast, rules and checking strategies may be more tailored to a specific child. Findings are consistent with theory that, in larger families, the good of the whole may be a guiding parenting goal, given the limited resources available for individual children’s needs (c.f. Furman & Lanthier, 2002).

Third, consistent with prior work, neither family income nor parental marital status were associated with parent behaviors (Mitchell et al., 2005; Wang et al., 2005). Wang et al. (2005) found that more educated parents more often reported use of monitoring software, but not other parenting behaviors. The present results did not find parent education to predict online parenting behaviors. These latter findings could be considered encouraging, as parents with greater contextual stressors often have more difficulty monitoring their children’s offline behavior (Crouter & Head, 2002).

Though not a primary focus of the present study, it was notable that parents’ attitudes about teen internet use tended to cluster into positive and negative factors that were only modestly associated. Thus, parents may possess simultaneous positive and negative attitudes reflecting their complex views on the benefits and risks associated with adolescents’ internet use. Parents may find it difficult to balance their efforts to protect children with their desires for children to reap the many benefits of internet use. This issue has been examined with respect to blocking and filtering software, and whether it effectively screens out inappropriate websites, while still allowing youth to access appropriate material (e.g. Rideout, Richardson, & Resnick, 2002). Relatedly, parents may hesitate to interfere with the development of children’s computer and internet “literacy” that may promote future academic and occupational success. Indeed, nearly half of parents in the present sample endorsed beliefs related to the importance of child

internet use for “keeping up with peers” (Lenhart, 2005). The complexity of the task of helping youth successfully navigate online experiences underscores the importance of further research in this domain to inform future parenting recommendations.

#### *Limitations and Directions for Future Research*

Future research must determine whether online parental monitoring and behavioral control predict adolescent risk behavior. Perhaps then research can address whether the parenting behaviors examined here are protective with respect to broader adolescent adjustment, as has been shown repeatedly for offline parental monitoring (e.g. Ary et al., 1999). Scale development is a necessary next step. Comprehensive measures of parenting behaviors are needed that reflect the multitude of goals parents have for their children both online and offline. Likewise, scales are needed that tap online behaviors considered appropriate and inappropriate for youth. Subsequent research also must establish the incremental utility of online parenting, since neglecting to be involved in children’s online experience may simply reflect more general, poor offline monitoring and permissive parenting, and/or of weak efforts to control and limit media exposure. For some parents, however, a lack of effort or efficacy in this contemporary parenting domain may be anomalous. Determining this is important, as these latter parents might be more likely to respond to focused education efforts that target demographic groups. Intervention based on the present findings, however, would be premature, as attempts to alter family processes that are not well understood could exacerbate family conflict and detract from benefits of internet use.

The present study helps bridge the literature on offline parenting with what we are just beginning to learn about online parenting. There were, however, a number of limitations. First, dichotomous measures did not permit inferences about the frequency or consistency of parental efforts, limited testing of proposed mediators, and may have biased models toward measures

with more variance. Parenting measures also lacked important nuance and content. For example, parental rules about the timing of internet use were assessed, whereas rules about the types of web sites that could be accessed were not. Second, parent attitude measures showed weak internal consistency. Furthermore, most attitudes that were examined pertained to teens in general rather than to parents' own children. Also, with the exception of web site checking, parenting efforts were not assessed with respect to a particular child. Thus, these issues likely limited the specificity of study models. Third, unknown differences due to family participation and survey sampling approach may have impacted external validity. Fourth, technology changes rapidly, and so too may risks, parental and adolescent online behavior and attitudes. Thus, the generalizability of findings based on data from 2004 may be limited. However, a PIAL survey based on a subset of questions suggests that parents were only slightly more likely to check the websites their adolescents had visited in 2006 (65%) than in 2004 (62%<sup>6</sup>), despite the fact that fewer parents thought the internet was "a good thing" for their child (59%, compared in 67% in 2004; Macgill, 2007). Finally, the current study has framed internet use as potentially hazardous, and conceptualized online parenting efforts as mitigates of youth maladjustment. However, positive impacts of internet use have been demonstrated (e.g. Jackson et al., 2006). Some have argued that scapegoating the internet and exaggerating its impact on youth may distract parents, scientists, and policy-makers from other powerful influences on youth maladjustment (Buckingham, 2006). Yet, assuming that the internet plays a weak role in contemporary socialization of youth also is imprudent. Indeed, prior media "scapegoats" (e.g. violent television and videogames) have been found to predict maladjustment beyond other salient influences (e.g. Huesmann, Moise-Titus, Podolski, & Eron, 2003).

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<sup>6</sup> Percentages reported in the present study differ slightly due to use of the unweighted dataset.

Table 1. Percentages of respondents in analyses endorsing each value on categorical variables.

Variables (N = 907)*	%
<b>Online parenting strategies</b>	
Parents who report	
<i>Having internet rules</i>	63.0
<i>Checking web sites</i>	61.0
<i>Having monitoring software</i>	53.3
Adolescents who report	
<i>Open computer location (N = 865)</i>	74.9
<i>Parent checks web sites (N = 868)</i>	
Yes	30.8
No	60.9
Don't know	8.3
<b>Demographic characteristics</b>	
<i>Parent of adolescent boy</i>	49.2
<i>Father</i>	42.9
<i>Parent White non-Hispanic</i>	84.6
<i>Parent married or living as married</i>	84.0
<i>Parent Education</i>	
<i>High school or below</i>	26.7
<i>Some college</i>	30.3
<i>College graduate</i>	25.6
<i>Postgraduate</i>	17.4
<i>Family Annual Income</i>	
<i>Under \$50,000</i>	28.8
<i>\$50,000 - \$74,999</i>	21.5
<i>More than \$74,999</i>	41.0
<i>Income not reported</i>	8.7
<i>Number of children in the home</i>	
<i>One</i>	63.2
<i>Two</i>	29.2
<i>More than two</i>	7.6
<b>Parent internet use characteristics</b>	
<i>Frequency of home internet use</i>	
<i>Does not use internet</i>	10.3
<i>Uses internet, but less than weekly</i>	11.0
<i>One or more times weekly but less than daily</i>	26.8
<i>One or more times daily</i>	51.9
<i>Years of internet access</i>	
<i>Does not use internet</i>	10.3
<i>5 or fewer years</i>	34.6
<i>6-9 years</i>	29.4
<i>10 or more years</i>	25.7
<b>Parent attitudes about teen internet use.</b>	
Parents who agree with statement regarding	
<i>Internet good thing for child</i>	68.9
<i>Keeping up with peers</i>	45.3
<i>Carelessness</i>	80.8
<i>Social benefits</i>	33.8
<i>Wasting time</i>	73.2
<i>School benefits</i>	84.5
<i>Cheating</i>	22.5
<i>Private/deviant behavior</i>	59.5

\* N = 907 (unweighted) for all variables, except for those reported by adolescents.

Table 2. Prediction of parent-reported online parenting strategies: Results of logistic regressions.

	Internet rules			Checking web sites			Monitoring software			Open computer location		
	B	SE B	Exp (B)	B	SE B	Exp (B)	B	SE B	Exp (B)	B	SE B	Exp (B)
Child												
Age	-.28	.05	.75***	-.12	.05	.89*	-.09	.05	.91*	-.08	.05	.92
Gender (1 = <i>boy</i> )	-.17	.15	.85	.56	.15	1.75***	.07	.14	1.07	-.00	.16	1.00
Parent												
Age	-.02	.01	.98	-.03	.01	.97**	-.05	.01	.95***	.01	.01	1.01
Gender (1 = <i>father</i> )	-.28	.15	.76	.24	.16	1.27	-.34	.15	.71*	.26	.17	1.30
Race (1 = <i>non-Hispanic White</i> )	-.16	.21	.85	-.50	.22	.61*	-.26	.21	.77	.30	.22	1.36
Married (1 = <i>married</i> )	.26	.21	1.29	-.27	.22	.77	.10	.21	1.10	.15	.24	1.16
Education (vs. high school or below)												
Some college	.00	.20	1.00	-.05	.20	.95	.09	.20	1.09	.05	.22	1.05
College grad	-.06	.22	.95	.13	.22	1.14	-.11	.22	.89	-.18	.24	.84
Postgrad	-.03	.25	.97	-.21	.25	.81	.01	.25	1.01	.16	.29	1.17
Family												
Income (vs. under \$50K)												
\$50K-\$74,999	.04	.22	1.04	.22	.22	1.25	.00	.22	1.00	.06	.24	1.06
> \$74,999	-.14	.21	.87	.24	.21	1.27	.21	.21	1.23	.04	.23	1.04
Income Flag (1 = <i>missing</i> )	.16	.30	1.18	.09	.30	1.09	.24	.29	1.28	.52	.35	1.68
Children in home (vs. 1 child)												
2 children	.01	.16	1.01	.31	.17	1.36	.54	.16	1.72***	.23	.19	1.26
>2 children	.58	.31	1.78	.35	.29	1.41	.77	.29	2.16***	.90	.40	2.45*
Parent internet use (vs. ≤ 5 years access)												
Non-user of internet	-.28	.27	.76	-1.03	.27	.36***	-.01	.30	.99	-1.16	.28	.31***
6-9 years access	-.06	.19	.95	.10	.19	1.11	-.14	.18	.87	-.33	.22	.72
10+ years access	.01	.20	1.01	.46	.20	1.59*	.12	.20	1.13	-.48	.23	.62*
Parent attitudes												
Positive attitudes	-.28	.13	.76*	-.17	.13	.84	.01	.13	1.01	-.09	.14	.92
Negative attitudes	.37	.12	1.45**	.27	.12	1.31*	.11	.11	1.12	.07	.13	1.07
Constant	5.87	.81		3.76	.79		4.16	.77		1.64	.85	
N	902			896			864			865		
Model Nagelkerke R <sup>2</sup>	.126			.134			.096			.062		

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

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