MUNI FSS

JOURNAL OF PSYCHOSOCIAL RESEARCH ON CYBERSPACE
CYBERPSYCHOLOGY

Young, R., & Tully, M. (2022). Autonomy vs. control: Associations among parental mediation, perceived parenting styles, and U. S. adolescents' risky online experiences. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 16*(2), Article 5. https://doi.org/10.5817/CP2022-2-5

# Autonomy vs. Control: Associations Among Parental Mediation, Perceived Parenting Styles, and U. S. Adolescents' Risky Online Experiences

*Rachel Young & Melissa Tully*

School of Journalism and Mass Communication, University of Iowa, Iowa City, USA

**Abstract**

*Parenting that supports autonomy and promotes open communication leads to better outcomes for adolescents. In an era of digital media, however, adolescent desire for autonomy may conflict with parental mediation practices that exert control over media use. A survey of 356 U.S. parent-child dyads was conducted. Regression analyses showed that withdrawing access to digital media as punishment is negatively associated with adolescent perception of autonomy-supportive parenting, while monitoring and punishment are positively associated with perception of controlling parenting. Results of a mediation analysis suggest that adolescent perceptions of controlling parenting are associated with the expectation of adverse outcomes from communication. The results of our study suggest parents can best protect children from risky online experiences by supporting adolescent autonomy through active mediation.*

**Keywords:** autonomy-supportive parenting; controlling parenting; parental mediation; risky online experiences

**Editorial Record**

First submission received:
*December 18, 2020*

Revisions received:
*April 30, 2021*
*September 8, 2021*
*January 19, 2022*
*March 15, 2022*

Accepted for publication:
*March 15, 2022*

Editor in charge:
*Lenka Dedkova*

## Introduction

Parenting that supports autonomy and relaxes control, while maintaining values and limits, is associated with better outcomes for adolescents (McElhaney et al., 2009). Autonomy-supportive parenting that respects adolescents' feelings and preferences is related to increased well-being and less depression (Mageau et al., 2015). Conversely, controlling parenting that seeks to manage adolescent behavior through punishment, guilt, and shaming is associated with negative outcomes (Silk et al., 2003). Due to the benefits associated with perceptions of autonomy support, it is important to understand how parental mediation practices are related to adolescent perceptions of parenting styles. To contribute to this conversation, our parent-child dyad survey investigates whether parent attempts to mediate adolescent digital media use through monitoring, active mediation, punishment, and restrictive mediation are associated with adolescent perceptions of their parents as supportive of their autonomy or controlling. In a conceptual model linking parental mediation practices, perceived parenting styles, and adolescent risky online experiences, we propose that parents' mediation practices are associated with adolescents' perceptions of parents as autonomy-supportive (Figure 1) or controlling (Figure 2). We also expect that perceived parenting styles will be associated with risky online experiences by influencing adolescents' expectations of parent-child conversations about digital media.

Our study makes several contributions to understanding parent-child relationships and digital media use. First, we contribute to the body of work connecting parental mediation practices with the concept of psychological needs satisfaction from self-determination theory (Legate et al., 2019; Valkenburg et al., 2013), namely adolescent perception of how the need for autonomy is supported or threated by parenting styles. We also show how perception of parenting styles relates to adolescents' reports of the difficulties they expect from talking about online experiences with their parents, what we call communication expectancies. Finally, we map the relationship among parenting practices, adolescent perception of parenting styles, communication expectancies, and the risks adolescents report encountering online. At a time when parents are looking for answers on how to manage increasing digital media use, our research has potential practical implications. Because parents' awareness of adolescent experiences depends, in large part, on adolescent willingness to share, understanding what practices support autonomy and open communication can help parents make effective decisions about how to approach adolescent media use.

**Figure 1.** *Predicted Associations With Autonomy-Supportive Parenting.*

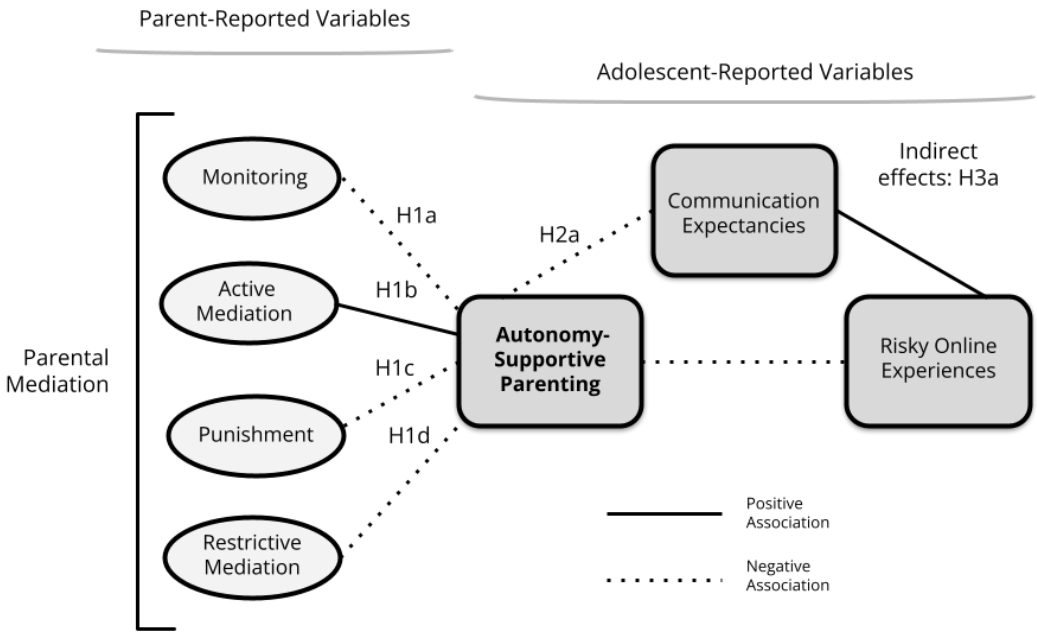
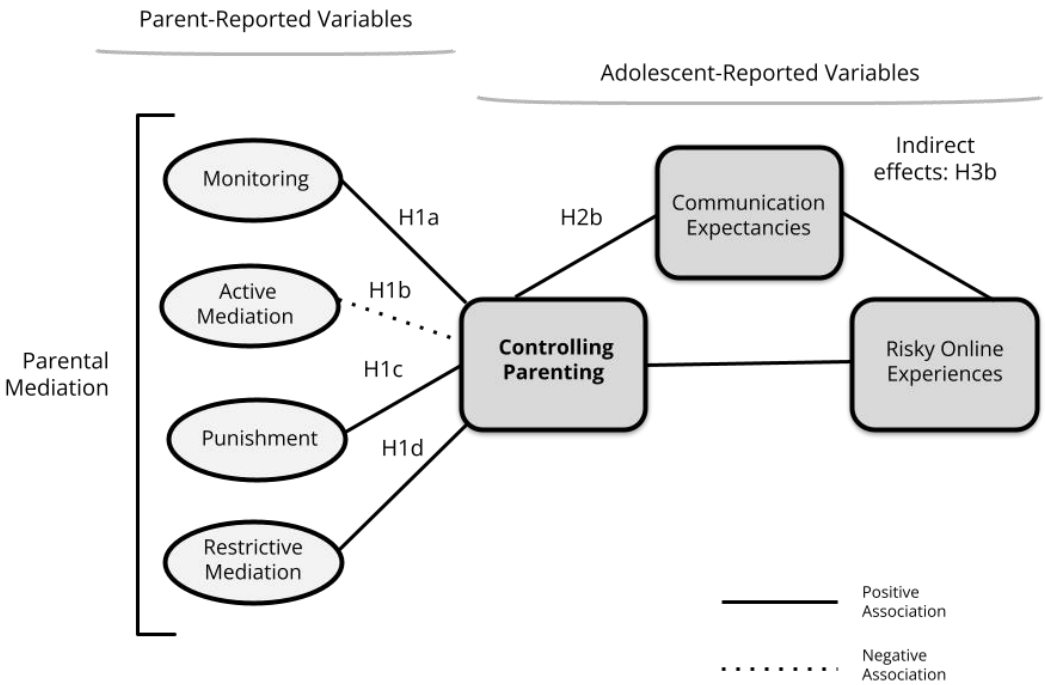



**Figure 2.** *Predicted Associations With Controlling Parenting.*



## Autonomy-Supportive and Controlling Parenting

Parenting styles, like autonomy and control, are more enduring, values-based approaches to parenting overall, with consequences for media use but also for other aspects of parent-child interaction (Darling & Steinberg, 1993). Autonomy is a fundamental human need and a key developmental goal of adolescence (Deci & Ryan, 1985). Scholars define autonomy as volitional functioning, or the ability to enact behaviors willingly (Deci & Ryan, 1985). Autonomy-supportive parenting is characterized by empathy for children and respect for their perspectives (Joussemet et al., 2014). Mageau et al. (2015) define autonomy support as showing "consideration for young adults' distinctive frame of reference, showing respect for their unique needs and feelings" in a way that gives them more of a sense of "ownership over their behaviors" (p. 253).

Autonomy-supportive parenting shows respect for adolescent perspectives by offering rationales or acknowledging feelings even while setting limits or enforcing rules (Mageau et al., 2015). While independence becomes increasingly important as children get older, autonomy support is important at all developmental stages (Ryan et al., 2006). In contrast, controlling parenting thwarts children's autonomy because it "force(s) adolescents to think, feel, or be in specified ways, regardless of their own needs and feelings" (Mageau et al., 2015, p. 252). Control can be exerted psychologically; behaviors such as verbal shaming and conditional love and affection are associated with psychological control. Control can also be exerted behaviorally by punishing or pressuring children to perform. In adolescents and young adults, controlling parenting has been associated with both internalizing problems, like anxiety and depression, and externalizing problems, like acting out in school and substance use (Ryan et al., 2006; Silk et al., 2003). In contrast, autonomy support is associated with positive outcomes, like higher well-being, less depression, and fewer externalizing problems (Niemiec et al. 2006).

Valkenburg et al. (2013) demonstrated how adolescent perception of parental mediation practices depended on whether mediation was delivered with autonomy support or control. Our goal is to probe this relationship from a different vantage: since digital media use can be a domain of conflict and concern in parent-child relationships (Nelissen & Van den Bulck, 2018), how do parent reports of their mediation practices relate to adolescents' perception of parents' general approach to autonomy and control? Because parental mediation of digital media use is a dynamic process influenced by both parents and children, it is important to understand the interplay between parents' actions and adolescents' perceptions, and how both relate to parent-child relationships and communication. Next, we review the literature on parental mediation practices to identify the expected associations between adolescent perceptions of autonomy and control and how parents seek to prevent risky media use.

## Parental Mediation Practices and Digital Media Use

There is already an extensive body of research on parental mediation of digital technology. However, some scholars argue that more work is needed on the relationship between parental mediation practices and parenting styles (Coyne et al., 2017; Padilla-Walker et al., 2012). Parental mediation practices, such as setting limits, conversations about risks, monitoring an adolescent's phone activity, or punishing by restricting media time, are context-specific actions or interactions about media use (Coyne et al., 2017). The goal of mediation is to maximize positive benefits and minimize negative outcomes from media use (Livingstone et al., 2017; Symons et al., 2020). Parental mediation typically refers to a set of specific practices or behaviors that can be grouped together as indicative of different approaches. Different mediation practices may reflect different orientations to and philosophies about children's media use.

*Monitoring*, defined as "checking up on the child's activity covertly or overtly after use" (Livingstone & Helsper, 2008), is seen as a way to manage risk from online behavior by assessing children's exposure to unsafe interactions (Mathiesen, 2013). Advice from experts (e.g., government agencies, researchers) may suggest monitoring – reading text messages, viewing web histories, or using tracking software – as a strategy that helps parents learn what their children are doing online (Damour, 2019). In fact, monitoring has become so popular, and perhaps expected, that Shmueli and Blecher-Prigat (2011) suggest that it "has become associated with good parenting" (p. 760). Others, however, argue that monitoring is not only ineffective but also premised on beliefs that exaggerate risks (Mathiesen, 2013). Monitoring may also be less effective, or appropriate, in later stages of adolescent development (Padilla-Walker et al., 2012).

Talking to children about their digital media use, discussing possible risks, and negotiating rules and limits is often called *active mediation* (Clark, 2011; Law et al., 2010). Parent-child talk about online behaviors can be open and pre-emptive, but it can also be directed and reactive. Parents in one study viewed their children's risky online experiences as "teachable moments," or opportunities to reinforce values through directed discussion (Young & Tully, 2019). Parents also consider active mediation to be aligned with current parenting norms around collaborative, rather than top-down, parenting (Livingstone & Blum-Ross, 2020).

A common mediation practice that has been studied less frequently is taking away media as *punishment,* or what's sometimes called digital grounding. Adolescent attachment to technologies can be leveraged by parents; since adolescents care so much about digital devices, restricting use can be a potent way to control behavior or punish (Livingstone & Blum-Ross, 2020). One Pew survey of U.S. parents found that the practice is common: 57% said they "take away [their] teen's cellphone/internet privileges as punishment" (Anderson, 2019). In general, punishment is associated with controlling and authoritarian parenting (Mageau et al., 2015). Adolescents report hiding issues such as cyberbullying from parents because they fear having devices taken away (Perren et al., 2012). Still, few studies have explored the use of punishment as a form of parental mediation or asked how that practice may be perceived by adolescents.

Finally, we also consider the practice of limiting or restricting access to media, known as *restrictive mediation*. Restrictive mediation is defined as when parents use practices that restrict or limit time spent with media or specific media content (Nathanson, 2002). With digital media, parenting experts often refer to limits to the total amount of time spent with digital devices, called screen time, and to limiting device use at certain times of day (Livingstone & Helsper, 2008; Livingstone et al., 2017). Restrictive mediation seems to be fairly common, with 57% of U.S. parents reporting limiting how long adolescents can go online or use their cell phones either often or sometimes (Anderson, 2019). However, some scholars have criticized screen time limits in particular because broad prohibitions on screen time do not account for the many ways adolescents now use digital devices, to communicate with peers or do schoolwork, for instance (Blum-Ross & Livingstone, 2018). In addition, as with monitoring, it is reasonable to assume that older adolescents may view these restrictions as inappropriately controlling.

In the current age, digital media are an important domain for development of parent-adolescent dynamics (Livingstone & Blum-Ross, 2020). We suggest that parent's mediation practices will be related to adolescent perceptions of parent autonomy and control. Practices like monitoring, punishment, and restrictive mediation attempt to exert some oversight or control over how or when adolescents use digital media, while active mediation seeks to engage adolescents in discussions about appropriate ways to behave. Therefore, these different practices should have different associations with adolescent perceptions of parenting styles. Based on previous literature on parental mediation, we suggest the following hypotheses:

**H1a:** Parental monitoring of media use will be negatively associated with perceptions of autonomy-supportive parenting and positively associated with controlling parenting.

**H1b:** Active mediation about appropriate behavior online will be positively associated with perceptions of autonomy-supportive parenting and negatively associated with controlling parenting.

**H1c:** Punishment will be negatively associated with perceptions of autonomy-supportive parenting and positively associated with controlling parenting.

**H1d:** Restrictive mediation will be negatively associated with perceptions of autonomy-supportive parenting and positively associated with controlling parenting.

## Parent-Child Communication Expectancies

Parenting style captures the way parents deliver rules, punishments, questions, and other mediation practices, as well as the general tone of parent-child interactions. We argue that adolescent perceptions of parenting styles are also likely to be strongly associated with the outcomes adolescents expect from talking to parents about their online experiences, what we call communication expectancies. Expectancies are defined as "an individual's beliefs about the likelihood of positive and negative personal consequences of engaging in a specific behavior" (Ragsdale et al., 2014, p. 552). Expectancies consistently predict adolescent likelihood of engaging in sexual behavior and substance use (e.g., Martino et al., 2006; Ragsdale et al., 2014), but they have not been explored extensively in relation to parent-child communication. We propose that adolescent parenting styles influence adolescents'

expectations of outcomes from parent-child communication. Controlling parenting may limit communication because adolescents expect that sharing online experiences will lead to negative outcomes. If adolescents feel guilt or lack of affection after sharing risky experiences, for instance (Mageau, 2015), or if adolescents fear devices being taken away (Young & Tully, 2019), they may be less likely to share their experiences with parents. While there is less work positively connecting autonomy-supportive parenting to parent-child communication, the lack of judgment and unconditional affection that characterize this style of parenting should lead children to expect fewer negative outcomes from speaking to parents about their online experiences. Therefore, we propose the following hypotheses, based on child report of communication expectancies:

**H2:** Child-reported communication expectancies about discussing online experiences will be (a) negatively associated with perceptions of autonomy-supportive parenting and (b) positively associated with controlling parenting.

Surveying both adolescents and parents allows us to also investigate the contribution of parent-reported mediation practices to parent-child communication expectancies. Some parenting practices, like active mediation, are designed to encourage open communication about media use, while others assert parental authority and potentially shut down open communication by associating negative outcomes, like punishment, with sharing confusing or negative experiences. However, there is not prior research on the association between these parenting practices and communication expectancies to make directional hypotheses. Therefore, we ask:

**RQ1:** Is parental mediation of online activity associated with communication expectancies?

## Online Risk Prevention

Risk can be defined as preventable harm (Beck, 1992). In this study, we describe risky online experiences as practices that could put adolescents at increased risk of negative outcomes from digital media use, the types of outcomes parents may seek to address through mediation. Research on online risks may focus on a single risk and associated risk factors, like sexting (Dolev-Cohen & Ricon, 2020) or cyberbullying (Caivano et al., 2020). Following other work that's shown how risky online encounters and behaviors often co-occur (Byrne et al., 2014; Livingstone et al., 2011; Young et al., 2017), we define risky behavior collectively as online aggression victimization and perpetration, sending and receiving explicit sexual images or sexts (Dolev-Cohen & Ricon, 2020), and seeking or encountering sexual content. Some have argued that a focus on online risks engenders moral panic about adolescents and technology use (Jenkins et al., 2015). However, research does suggest that risky online behavior is associated with increased risk of online and offline harm. While many adolescents may send explicit messages as a part of healthy romantic relationships, for instance, sending sexts is associated in some survey research with negative outcomes such as increased relational aggression and substance use (Van Ouytsel et al., 2017). Sending sexts that are passed around beyond the intended recipient is a consent violation and has also been reported as a trigger for cyberbullying (Young et al., 2017). To better understand the relationship between parenting styles, parenting practices, and adolescent online experiences, we focus on adolescents' online risk profile to explore how perception of parental support or control may be associated with the risks adolescents take online.

A primary goal of parental mediation practices is to prevent harms associated with media use. Some research suggests potentially positive outcomes from restrictive mediation, like monitoring media use or prohibiting certain content. For instance, studies have shown that restrictive mediation yields more accurate knowledge of adolescent experience of cyber aggression (Caivano et al., 2020), while lower social control was associated with increased risky behavior, specifically sexting (Dolev-Cohen & Ricon, 2020). However, we argue that even if restriction and control are effective for decreasing some risky behaviors, the values underlying restrictive or controlling practices may have backfire effects that could discourage adolescents from sharing risky online experiences. In addition, autonomy-supporting or controlling parental styles could directly influence risky online experiences by affecting internalizing and externalizing behaviors that make adolescents more likely to encounter risk online. Due to increases in negative internalizing and externalizing behaviors, adolescents whose parents have a controlling style may be more vulnerable to cyberbullying victimization, contact with online strangers, or exposure to sexual content.

Autonomy-supportive parenting, in contrast, has been associated with better outcomes because, in younger kids at least, if limits are set within a relationship that supports autonomy, those limits are more likely to be internalized (Koestner et al., 1984). Open communication, as reported by parents, was associated with greater adolescent acceptance of parental authority and decreased contact with strangers online (Symons et al., 2020). In another

study, Legate et al. (2019) found that autonomy-supportive parenting was associated with lower reported cyberbullying behaviors in adolescents. Though the effects of controlling parenting were more mixed, psychologically controlling behaviors, such as inducing guilt and shame, correlated to increased cyberbullying behavior among adolescents.

Parent-child communication and parenting styles have both been associated with adolescent risk behavior online. We propose that adolescent communication expectancies mediate the relationship between parenting styles and online risks.

**H3a:** Communication expectancies mediate the relationship between perception of autonomy-supportive parenting and risky online experiences, such that autonomy-supportive parenting is associated with decreased report of risky online experiences through decreased negative communication expectancies.

**H3b:** Communication expectancies mediate the relationship between perception of controlling parenting and risky online experiences, such that controlling parenting is associated with increased report of risky online experiences through increased negative communication expectancies.

Child age is an important moderator of parental mediation. The efficacy of parental mediation may change as children grow older and seek more autonomy. The restrictive practices and policies that seem appropriate for an early adolescent might seem too controlling for older adolescents. In addition, longitudinal research has shown that parents adapt their proactive parenting styles as children get older, becoming more deferential and showing less content and social restriction as children enter late adolescence (Padilla-Walker et al., 2012). As children get older, controlling parenting may be less acceptable to adolescents, and efforts to punish or control could create even more challenging relational contexts for parent-child communication. In contrast, autonomy-supporting parenting might be more appreciated by older adolescents, who recognize how parent acceptance of autonomy feels more developmentally appropriate. To test the moderating influence of child age on the relationship between adolescent-reported parenting styles and communication expectancies, we ask:

**RQ2a:** In a moderated mediation model, does child age moderate the relationship between perception of autonomy-supportive parenting and communication expectancies on risky online experiences, such that child age interacts with perception of autonomy-supportive parenting to alter the level of perceived negative communication expectancies?

**RQ2a:** In a moderated mediation model, does child age moderate the relationship between perception of controlling parenting and communication expectancies on risky online experiences, such that child age interacts with perception of controlling parenting to alter the level of perceived negative communication expectancies?

# Methods

## Sample and Procedure

Data were collected from September 12 to October 3, 2017, via a Qualtrics research panel. The Institutional Review Board at the University of Iowa approved the study. Adult participants were eligible if they lived with at least one child ages 11 to 17 who could complete the survey. The survey software company Qualtrics recruits and maintains a panel of participants who've agreed to be contacted for online academic and market research. The Qualtrics panel is an aggregate of people who've volunteered for more than 20 other online research panels and sites (Ibarra et al., 2018). Adult participants were contacted by a Qualtrics manager if they indicated on their registration packet that they had at least one adolescent child. Additionally, a screening questionnaire was used to verify that participants met the inclusion criteria of (a) having a child ages 11 to 17 who was available to complete the survey and (b) living in the United States. Additional screening questions for race/ethnicity, educational level, income, and region of the country were used to ensure that the sample recruited was more representative of the U.S. population. Quotas for different demographic groups were set by Qualtrics and based on U.S. Census data.

Adults who were eligible to participate were given an opportunity to preview a PDF of the entire survey. They also read a consent form that indicated consent for themselves and their children. The parents filled out their portion of the survey and were directed to always keep in mind the child who would also be taking the survey (if they had more than one child). After completing their portion, parents were asked to bring the child who they'd been

thinking of into the survey. The adolescent was asked to read about the study and give assent. Adolescents were repeatedly reminded to keep in mind the parent who'd completed the survey when answering questions about parenting styles and practices.

We excluded one dyad because the child age given was younger than our eligibility criteria. After attention screening from Qualtrics, the total number of parent-child dyads included in the sample was 356. Participants were allowed to skip questions they preferred not to answer, but no responses were missing for the variables included in this analysis.

Mean age for parents was 42.17 (*SD* = 8.31). The parent sample was predominantly female (79.12%). Parents selected the racial or ethnic category or categories that best fit through a combination of open- and closed-ended options (Ross et al., 2020). Most parents self-identified as White (64.74%), while Black or African American race was selected by 12.6%. A total of 14.3% gave their ethnicity as Hispanic/Latinx, 3.0% as Asian, 2.5% as Native American or Alaska Native, 0.3% as Native Hawaiian or Pacific Islander, and 3.6% marked race/ethnicity as another category, including mixed race. Most of the sample had either some college (29.40%) or were college graduates (45.88%). Less than half the sample reported an annual household income of less than $49,999 (40.38%). Most participants (61.54%) reported their residence as urban or suburban, and the rest (38.46%) lived in a rural area. Children provided their own age and gender. Mean age for children was 13.84 (*SD* = 2.00). Gender reported was 52.47% female, and nearly all children (95.60%) reported having access to a cell phone or computer at home. Because children were taking the survey online and with a parent, we assumed that all had at least some access to a smartphone or computer, even if it was a parent's phone or a computer at another location, like a public library. Therefore, all dyads were included in the analysis.

## Measures

The variables reported here are part of a 20-minute survey on parent and child response to online risks that also included additional questions on parents' attitudes toward technology and perceived barriers to mediation practices, adolescent use of specific digital apps and platforms, and responses to three hypothetical cyberbullying scenarios. The analyses presented here have not been included in any other published research. Correlations are presented in Appendix A. A complete list of variables and scale items can be found in Appendix B.

### *Adult Variables*

**Parental Mediation.** To assess parental mediation practices, we used items adapted from Livingstone et al. (2017) and the Pew Research Center (Anderson, 2019). We included four subscales: monitoring, active mediation, punishment, and restrictive mediation all on a four-point scale, from 1 = *Never* to 4 = *Frequently*. Monitoring was assessed with three items, including "Do you check which websites your child visits?" (*M* = 2.57, *SD* = 0.89, Cronbach's α = .77). Two additional items related to parent monitoring of social media were excluded from this analysis, because 103 parents reported that their child did not have a social media account. Active mediation was assessed with three items, including "How often do you talk with your child about what is appropriate or inappropriate online behavior toward others?" (*M* = 3.27, *SD* = 0.74, Cronbach's α = .92). Punishment was assessed with two items, including "Do you take away your child's phone or internet privileges as punishment?" (*M* = 2.58, *SD* = 0.89, *r* = .61, *p* < .001). Restrictive mediation was assessed with two items, including "Do you limit the amount of time or times of day when your child can go online?" (*M* = 2.92, *SD* = 1.00, *r* = .57, *p* < .001). Two additional items related to parental limits on personal cell phones were excluded from this analysis, because 66 parents reported that their child did not have a personal cell phone.

### *Child Variables*

**Autonomy-Supportive and Controlling Parenting.** To assess perceived autonomy support and controlling parenting, we used scales from Mageau et al. (2015). Both subscales had 6 items and were measured with a 7-point scale, 1 = *Strongly Disagree* to 7 = *Strongly Agree*; autonomy-support scale (*M* = 5.67, *SD* = 0.95, Cronbach's α = .83); controlling parenting scale (*M* = 4.17, *SD* = 1.10, Cronbach's α = .73). The two subscales were not correlated (*r* = .003). Autonomy scale items included "When my parents ask me to do something they explain why they want me to do it," and controlling scale items included "When my parents want me to do something differently, they make me feel guilty."

**Communication Expectancies.** To assess difficulties children expect in discussing risky online experiences with parents, we developed a scale based on interviews with adolescents who described their concerns about communication with parents (Young & Tully, 2019). Adolescents responded to the question "It's hard to talk to my parents about bad things that happen online because" by indicating their agreement with three statements, including "I don't want to worry them" and "I don't want to have my phone or my computer taken away" (1 = *Strongly Disagree*; 7 = *Strongly Agree*) (*M* = 2.96, *SD* = 1.60, Cronbach's α = .86).

**Risky Online Experiences.** We asked about online risks by prompting adolescents to consider "How often had you had these experiences in the past year?" (1 = *Never*, 2 = *Rarely*, 3 = *Once or Twice a Month*, 4 = *Once a Week or More*). The scale was adapted from Livingstone et al. (2011) and Byrne et al. (2014) and included 8 items that asked about cyberbullying aggression and victimization, being approached by adult strangers, encountering or searching for sexual content, and sending or receiving naked pictures (sexts) (*M* = 2.57, *SD* = 2.48, Cronbach's α = .88). As found in previous research, the high reliability for these items suggests risky online experiences tend to co-occur.

### *Control Variables*

Child age, child gender, parent race/ethnicity, and child time spent online were entered into models as covariates. While research results are mixed, all three covariates could be expected to have an association with online risks or perceived parenting styles. For instance, Mageau et al. (2015) suggest parents of different racial or ethnic backgrounds may have different orientations to autonomy support and control. Adolescent perceptions of autonomy support and parent restrictive mediation could also differ by child age and child gender. We included parent gender as a control because past research has not identified clear differences in autonomy support and control based on parent gender (Mageau et al., 2015). Dummy variables were constructed for parent Black or African American, Hispanic or Latinx, Asian, and Other race or ethnicity. All variables compared the respective racial or ethnic category to White parents. Categorization of participants by race or ethnicity can have consequences for stereotyping, resource allocation, and policy, so race and ethnicity should be used thoughtfully and ethically in quantitative research (Ross et al., 2020). In addition, collapsing or combining racial and ethnic categories may be expedient for analysis but not authentic to how individuals self-categorize (Ross et al., 2020). The selection of White as a reference category is not meant to indicate normativity of that category but rather to reflect that White, non-Hispanic or -Latino, was most frequently selected as a racial identity in our sample, and in the U.S. Census data used as a basis for our quota sampling. For time spent online, to exclude screen use for school purposes, we asked parents to report the number of hours spent on a computer, tablet or smartphone on a typical weekend day, like last Saturday (*M* = 5.77, *SD* = 4.23).

## Data Analysis

Continuous variables were mean-centered. All variables were within acceptable ranges for skewness and kurtosis. Correlation tests were conducted to show the magnitude of the relationships between all continuous variables (Appendix A). Hierarchical linear regression in *SPSS 28* was used to test H1 through H3 and RQ1. For all regression analyses, control variables were entered into the first block. Collinearity values were within the acceptable range (variance inflation factor <10). For H4, we used model 4 in the PROCESS macro to test for indirect effects (10,000 bootstrapped samples) (Hayes, 2013). For RQ2, we used the moderated mediation model (7) from the PROCESS macro (Hayes, 2013).

# Results

The first hypothesis related to associations between perceptions of autonomy-supportive and controlling parenting and parent-reported mediation practices. Overall, the regression models accounted for 7% of the variance in child-reported autonomy supportive parenting (Table 1) and 18% of the variance in child-reported controlling parenting (Table 2).

Figure 1 and Figure 2 are models of the conceptual relationships tested in our regression analyses for autonomy-supportive and controlling parenting, respectively.

**Table 1.** *Linear Regression Predicting Adolescent Perception of Autonomy-Supportive Parenting*.

| | Block 1 | | | | | Block 2 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Variable | *B* | *SE* | β | *t* | *p* | *B* | *SE* | β | *t* | *p* |
| Parent race, Black or American African | 0.23 | 0.16 | .08 | 1.41 | .155 | 0.25 | 0.16 | .09 | 1.62 | .106 |
| Parent ethnicity, Latino or Hispanic | 0.19 | 0.15 | .04 | 0.65 | .519 | 0.08 | 0.14 | .03 | 0.54 | .584 |
| Parent race, Asian | -0.13 | 0.30 | -.02 | -0.44 | .664 | -0.13 | 0.29 | -.02 | -0.47 | .641 |
| Parent race/ethnicity, Other | 0.12 | 0.21 | .03 | 0.57 | .572 | 0.08 | 0.21 | .02 | 0.41 | .681 |
| Parent female gender | -0.03 | 0.06 | -.02 | -0.42 | .674 | -0.06 | 0.06 | -.05 | -0.94 | .349 |
| Child female gender | -0.10 | 0.05 | -.11 | -2.02 | .044 | -0.11 | 0.05 | -.11 | -2.20 | .028 |
| Child age | 0.01 | 0.03 | .01 | 0.22 | .827 | 0.01 | 0.03 | .02 | 0.38 | .707 |
| Child time online, weekend | -0.01 | 0.01 | -.02 | -0.34 | .736 | 0.01 | 0.01 | .02 | 0.38 | .705 |
| Monitoring | | | | | | 0.10 | 0.07 | .10 | 1.63 | .105 |
| Active mediation | | | | | | 0.27 | 0.08 | .21 | 3.47 | <.001 |
| Punishment | | | | | | -0.21 | 0.07 | -.20 | -3.22 | .001 |
| Restrictive mediation | | | | | | 0.06 | 0.07 | .06 | 0.84 | .403 |
| Adjusted $R^2$ | .004 | | | | | .07 | | | | |

*Note.* $F(12, 350) = 3.12$, $p < .001$; Reference category for race/ethnicity: White.

**Table 2.** *Linear Regression Predicting Adolescent Perception of Controlling Parenting.*

| | Block 1 | | | | | Block 2 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Variable | *B* | *SE* | β | *t* | *p* | *B* | *SE* | β | *t* | *p* |
| Parent race, Black or African American | 0.62 | 0.18 | .19 | 3.52 | <.001 | 0.58 | 0.17 | .17 | 3.32 | .001 |
| Parent ethnicity, Latino or Hispanic | 0.08 | 0.16 | .03 | 0.50 | .619 | 0.04 | 0.16 | .01 | 0.22 | .827 |
| Parent race, Asian | 0.67 | 0.33 | .10 | 2.05 | .041 | 0.69 | 0.32 | .11 | 2.16 | .032 |
| Parent race/ethnicity, Other | 0.45 | 0.24 | .10 | 1.89 | .060 | 0.50 | 0.23 | .11 | 2.15 | .032 |
| Parent female gender | -0.09 | 0.07 | -.07 | -1.30 | .196 | -0.08 | 0.07 | -.06 | -1.19 | .237 |
| Child female gender | -0.15 | 0.06 | -.13 | -2.57 | .011 | -0.12 | 0.06 | -.11 | -2.11 | .035 |
| Child age | -0.03 | 0.03 | -.05 | -1.08 | .285 | -0.01 | 0.03 | -.01 | -0.16 | .870 |
| Child time online, weekend | 0.04 | 0.01 | .16 | 3.06 | .002 | 0.03 | 0.01 | .11 | 1.98 | .049 |
| Monitoring | | | | | | 0.23 | 0.07 | .19 | 3.20 | .001 |
| Active mediation | | | | | | -0.10 | 0.09 | -.07 | -1.16 | .247 |
| Punishment | | | | | | 0.22 | 0.07 | .17 | 2.94 | .004 |
| Restrictive mediation | | | | | | -0.06 | 0.08 | -.05 | -0.82 | .411 |
| Adjusted $R^2$ | .08 | | | | | .18 | | | | |

*Note.* $F(12, 350) = 6.19$, $p < .001$; Reference category for race/ethnicity: White.

## Parental Mediation

H1a was partially supported. Increased parental monitoring, including checking the messages their children sent or the websites they visited, was associated with child-reported controlling parenting (β = .23, $p$ = .001). However, there was no association between parental monitoring and autonomy-supportive parenting (β = .10, $p$ = .105). H2b was also partially supported. Autonomy-supported parenting was associated with more parent-reported active mediation about appropriate behavior online (β = .21, $p$ < .001). Controlling parenting was not associated with parent-reported active mediation (β = -.07, $p$ = .247). H2c was supported. Controlling parenting was associated

with increased parental report of punishment, such as taking away screen time or devices (β = .17, *p* = .004). Punishment was negatively associated with child-reported autonomy-supportive parenting (β = -.20, *p* = .001). H2d was not supported. Restrictive mediation was not associated with perceptions of either autonomy-supportive (β = .06, *p* = .403) or controlling parenting (β = -.05, *p* = .411). In sum, adolescent report of controlling parenting was associated with parent report of more monitoring and less active mediation. Less punishment, like digital grounding, and more active mediation were related to adolescent perceptions of autonomy support. Restrictive mediation was not related to either parenting style.

## Communication Expectancies and Risky Online Experiences

The next research question and hypothesis related to associations between perceptions of autonomy-supportive and controlling parenting, parent-reported mediation practices, and child-reported communication expectancies. A regression model accounted for 19% of the variance in child-reported communication expectancies (Table 3).

**Table 3.** *Linear Regression Predicting Adolescent Perception of Communication Expectancies.*

| | Block 1 | | | | | Block 2 | | | | | Block 3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable | *B* | *SE* | β | *t* | *p* | *B* | *SE* | β | *t* | *p* | *B* | *SE* | β | *t* | *p* |
| Parent race, Black or African American | 0.27 | 0.62 | .06 | 1.01 | .314 | 0.21 | 0.26 | .04 | 0.80 | .437 | 0.08 | 0.25 | .02 | 0.32 | .752 |
| Parent ethnicity, Latino or Hispanic | 0.15 | 0.24 | .03 | 0.60 | .552 | 0.12 | 0.24 | .03 | 0.50 | .604 | 0.13 | 0.22 | .03 | 0.63 | .527 |
| Parent race, Asian | 0.60 | 0.49 | .06 | 1.22 | .225 | 0.62 | 0.48 | .07 | 1.28 | .200 | 0.29 | 0.45 | .03 | 0.63 | .526 |
| Parent race, Other | -0.05 | 0.36 | -.01 | -0.15 | .881 | 0.04 | 0.35 | .01 | 0.11 | .912 | -0.13 | 0.33 | -.02 | -0.39 | .694 |
| Parent female gender | -0.20 | 0.10 | -.10 | -1.88 | .061 | -0.15 | 0.10 | -.08 | -1.49 | .138 | -0.14 | 0.10 | -.07 | -1.49 | .137 |
| Child female gender | -0.09 | 0.09 | -.06 | -1.04 | .299 | -0.06 | 0.08 | -.04 | -0.68 | .497 | -0.05 | 0.08 | -.03 | -0.68 | .497 |
| Child age | 0.05 | 0.04 | .06 | 1.07 | .288 | 0.06 | 0.04 | .07 | 1.45 | .149 | 0.07 | 0.04 | .09 | 1.69 | .091 |
| Child time online, weekend | 0.05 | 0.02 | .13 | 2.29 | .022 | 0.02 | 0.02 | .04 | 1.13 | .260 | 0.02 | 0.02 | .04 | 0.74 | .462 |
| Monitoring | | | | | | 0.15 | 0.10 | .08 | 1.45 | .180 | 0.10 | 0.10 | .05 | 0.93 | .355 |
| Active mediation | | | | | | -0.40 | 0.13 | -.19 | -301 | .003 | -0.25 | 0.13 | -.12 | -1.97 | .050 |
| Punishment | | | | | | 0.41 | 0.11 | .23 | 3.67 | <.001 | 0.23 | 0.11 | .13 | 2.21 | .028 |
| Restrictive mediation | | | | | | -0.15 | 0.12 | -.09 | -1.30 | .196 | -0.10 | 0.11 | -.06 | -0.93 | .351 |
| Autonomy-supportive parenting | | | | | | | | | | | -0.40 | 0.08 | -.24 | -4.81 | <.001 |
| Controlling parenting | | | | | | | | | | | 0.40 | 0.07 | -.28 | 5.33 | <.001 |
| Adjusted $R^2$ | .02 | | | | | .07 | | | | | | | .19 | | |

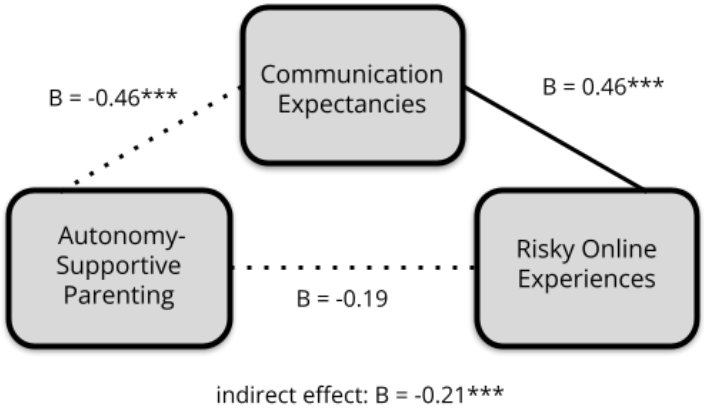
*Note.* $F(14, 347) = 7.14$, $p < .001$; Reference category for race/ethnicity: White.

The effects of parental mediation on child-reported communication expectancies were mixed (RQ1). More parent-reported active mediation was associated with decreased expectations that communicating with parents about online experiences would lead to negative outcomes (β = -.12, *p* = .050). Punishment had the opposite effect. More parent report of punishment was associated with increased expectations that communicating with parents about online experiences would lead to negative outcomes (β = .13, *p* = .028). However, monitoring (β = .05, *p* = .355), and restrictive mediation (β = -.06, *p* = .351) had no significant association with communication expectancies. Child perception of autonomy-supportive and controlling parenting had strong associations with communication

expectancies in the expected directions, supporting H2. Communication expectancies were positively associated with controlling parenting (β = .40, $p$ < .001) and negatively associated with autonomy-supportive parenting (β = -.40, $p$ < .001).

H3 proposed mediation models to explain the influence of autonomy-supportive and controlling parenting on risky online experiences. In the model specified, anticipated negative outcomes from communicating about online experiences should at least partially explain the relationship between autonomy-supportive or controlling parenting and risky online experiences. H3a predicted that the relationship between perceptions of autonomy-supportive parenting and risky online experiences would be mediated through decreased child-reported communication expectancies (model summary: $R^2$ = .19, ($F$ (7, 355) = 14.15, $p$ < .001). The hypothesis was supported. Specifically, increased report of autonomy-supportive parenting was associated with fewer risky online experiences through decreased expectation that sharing with parents would lead to negative outcomes (indirect effect: $B$ = -0.21, bootstrap $SE$ = 0.05, 95% CI = -0.33 to -0.12) (Figure 3). When communication expectancies were considered, the relationship between autonomy-supportive parenting and risky online experiences was no longer significant, suggesting complete mediation.

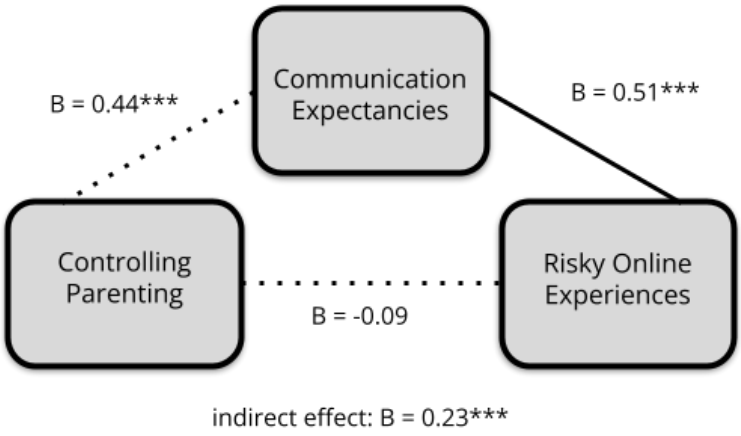
**Figure 3.** *Mediation Model for Autonomy Supportive Parenting.*




*Note.* ***$p$ <.001.

H3b predicted that the relationship between perceptions of controlling parenting and risky online experiences would be mediated through increased child-reported communication expectancies (model summary: $R^2$ = .19, ($F$ (7, 355) = 13.72, $p$ < .001). The hypothesis was supported. Specifically, increased report of controlling parenting was associated with more risky online experiences through increased expectation that sharing with parents would lead to negative outcomes (indirect effect: $B$ = 0.23, bootstrap $SE$ = 0.06, bootstrap 95% CI = 0.12 to 0.35) (Figure 4). As with autonomy-supporting parenting, when communication expectancies were considered, the relationship between controlling parenting and risky online experiences was no longer significant, suggesting complete mediation.

**Figure 4.** *Mediation Model for Controlling Parenting.*




*Note.* ***$p$ <.001.

Finally, RQ2 asked whether age moderated the relationship between perception of parenting styles and communication expectancies in the mediation model tested in H4. Although both models remained significant

($p < .001$), we did not find evidence of moderated mediation, and the index of moderated mediation was not significant for perceived autonomy-supportive ($B = -0.01$, $SE = 0.02$, bootstrap 95% CI = -0.05 to 0.04) or controlling ($B = -0.02$, $SE = 0.02$, bootstrap 95% CI = -0.06 to 0.02) parenting. The effect of perceived parenting styles on risky online experiences through communication expectancies did not vary based on adolescent age.

## Discussion

Immersion with digital technologies has created new challenges for parents, but also new opportunities for monitoring and limiting adolescents' behavior, for talking to children about online experiences, and for leveraging apps or devices as punishment. In a parent-child dyad survey, we explored the complex relationship between parenting styles, the values parents reflect, and parenting practices, the actions parents take. Mediation practices that prioritize communication are associated with increased perception that parents support autonomy. However, some of the practices parents consider protective may backfire if adolescents feel parents are psychologically and emotionally controlling. Adolescents who did not feel their parents supported their autonomy reported more negative expectations from parent-child communication about online experiences. These results suggest how practices – as the concrete evidence of parenting styles – both reflect and contribute to adolescent perceptions that parents support their autonomy. While our cross-sectional survey cannot determine the direction of relationships among variables, our results suggest that advice to parents suggesting monitoring or punishment as protective digital technology strategies does not account for how these tactics may damage parent-child relationships or for their contributions to perceptions of parenting styles. Adolescent perceptions of autonomy support may be more protective against online risk than monitoring and punishment.

Autonomy support and control are complex parenting styles that should be considered as discrete orientations to parenting rather than ends of a continuum. Considering both autonomy support and control gives a more nuanced picture of the interplay between parenting styles and practices. As expected, perceptions of controlling parenting were associated with parental monitoring. Understandably, adolescents may feel that parents who check up on them by reading texts or monitoring web sites exert more control. However, while the association between monitoring and autonomy-supportive parenting was not significant, the direction of the association was positive, not negative as we hypothesized. We offer several explanations for this null finding. Parents may overreport monitoring of digital media use to conform to notions of good parenting. It's also possible that these findings reflect that the way parents communicate about monitoring matters more than the monitoring behavior (Symons et al., 2020; Valkenburg et al., 2013). The latter may also explain why restrictive mediation was not associated, either positively or negatively, with perceptions of autonomy-supportive or controlling parenting. Advice to parents on monitoring and restrictive mediation should explain that monitoring or limits as punishment or to control is not the same as monitoring or limits that respect adolescent volition and autonomy. For example, monitoring social media use or tracking locations through smartphones covertly or as punishment may damage open communication, but monitoring when parents explain clearly why these practices are important to protecting adolescent safety could still be seen as supportive of autonomy. Our findings suggest that research on parental mediation will be most instructive for parents when it accounts for not just parenting practices but the values those practices reinforce, the manner in which practices are delivered, and whether practices are reactive and punishing or negotiated together with children as part of a proactive approach to mediation.

Of interest, controlling parenting, including both behavioral and psychological control, was positively associated with communication expectancies, specifically expectations of negative outcomes from communicating about online experiences. Adolescents expected more negative outcomes from communicating with parents who they felt exerted psychological and behavioral control. When adolescents fear punishment or shaming as reactions to risky experiences, for instance, they may be less likely to go to parents with questions. This means that controlling parents who also monitor digital media use may lack the context that can only be provided through conversations with children. While controlling and autonomy-supportive parents may both engage in some form of monitoring, controlling parents may end up knowing less about what adolescents are doing online. Future research should distinguish between behavioral and psychological control to determine how both constructs are related to autonomy support and mediation practices.

Autonomy-supportive parenting was strongly associated with both parent report of active mediation and adolescent report that they had fewer negative communication expectancies related to talking to parents about what they did online. However, we found no significant relationship between active mediation and perceptions of controlling parenting, suggesting that the amount of digital media conversation initiated by parents does not

necessarily lead parents to be seen as more or less controlling. Some past research suggests that adult-initiated conversations about what to do or say online may be seen as lecturing rather than conversation (Law et al., 2010). Our findings again suggest that the manner in which conversations are initiated matters more than the fact that parents are talking to children about behavior online. While parents should learn about the risks adolescents may encounter online, fostering respect and autonomy may lead to more trust and more disclosure from adolescents than lecturing adolescents about what to do or what not to do. In other words, listening to confusing or even concerning adolescent online experiences without a rush to judgment or blame could lead to more trust and disclosure. Autonomy support also means respecting adolescents' knowledge, perceptions, and experiences as valid and valuable.

Restrictive mediation was relatively common in our sample, with more than 60% of parents reporting they set limits on when digital media could be used either occasionally or frequently. It is interesting to note that setting limits was not associated with perceptions of either autonomy-supportive *or* controlling parenting, even though restrictive mediation was highly correlated with other parental mediation practices. Scholars argued that screen time limits paint digital media use with too broad a brush by limiting time overall rather than considering *how* adolescents are using digital devices (Livingstone & Blum-Ross, 2020). One limitation of our survey is that our questions, which focused on general screen time limits, did not capture content restrictions, like limiting access to specific apps or games while allowing digital media use for other purposes. Content restrictions may be seen as more controlling to children than general screen time limits, which grant children more choice over what to do with screens even when time with screens is limited.

A mediation analysis further investigated the relationship between perceived parenting styles and risky online experiences. Perceptions of autonomy support and control had opposite effects on risky online experiences, with complete mediation through communication expectancies. Our findings extend the connection between controlling parenting and externalizing behaviors to the online realm. In relation to online aggression specifically, parents perceived as controlling may also model more verbal aggression for adolescents. Adolescents with less experience of healthy family dialogue may also have fewer coping skills for defusing online arguments. In contrast, our findings also demonstrate the protective value of autonomy support. Parents seen as supportive of adolescent autonomy were also easier to talk to about online experiences, which means adolescents may feel more comfortable going to parents with questions about what to do before situations intensify.

There were also some interesting associations, and null findings, among our covariates. Female adolescents perceived parents as less controlling but also less autonomy supportive, suggesting potential gender differences in parent practices with males and females or a difference in adolescent perceptions. This finding also suggests that autonomy and control are distinct parenting styles that can potentially co-occur, with parents using both open communication and guilt and shame. The relationship among gender, parenting styles, and digital media should be investigated in future research. While our results are limited by small numbers of parents in several racial and ethnic identity categories, we found few significant differences based on race and ethnicity, other than a positive association between Black and Asian race and controlling parenting. Research on parental mediation across identity categories and cultures is needed if research on parental mediation is to accurately reflect the range of experiences of U.S. families, and researchers should be wary of assuming the experiences of White parents are the norm, tacitly or otherwise. Controlling parenting was also associated with more time spent online. This would be an interesting association to explore through qualitative research: Do challenging family dynamics, like behavioral control, lead adolescents to spend more time online as an escape? Finally, although autonomy support has been shown to increase as adolescents age, there was no significant association between perceived parenting style and age in our sample, and no interaction found in our moderated mediation model. This may be because we were interested in adolescent perceptions, rather than parent report, and notions about what constitute higher levels of autonomy and control may shift as adolescents age.

This study has several important limitations. First, because the survey is cross-sectional, we can only identify associations among variables. Parenting practices could be reactions against negative experiences adolescents may already have had online. For instance, having a child involved in cyberbullying could prompt parents to begin taking away devices or monitoring online activities, which could alter adolescents' perceptions of control. Also, adolescents who've had more risky online experiences may also find it more difficult to talk to parents, for fear of parent overreaction or punishment. The research on parental mediation has been criticized for being too focused on how parents influence children and less focused on how children influence parents and parenting practices. Rudi and Dworkin (2018) suggest three explanations for the link between high parental monitoring and parent-reported risky adolescent behavior, specifically substance use, monitoring triggers risky behavior, monitoring is

how parents accurately assess risky behavior, and parents monitor more if adolescents engage in risky behavior. More longitudinal surveys and in-depth qualitative research are needed on what is likely a reinforcing spiral of parent practices and adolescent actions to tease apart the relationships among these factors. In addition, several other factors, such as adolescent personality, were not measured in this study but could be theorized to have significant associations with adolescent online behaviors. Also, we did not ask adolescents and parents the same survey questions, so we were not able to directly compare their answers. That is, we could not compare parents' reports of mediation practices with adolescents perceptions of the same practices. Therefore, we can only make claims about how parenting behaviors, as reported by parents, influence adolescent's perceptions of parenting styles. Finally, the data for this study were collected in 2017. Digital media change rapidly, and our data cannot account for how adolescent digital media use or parenting practices may have changed since the data were collected.

Parenting resources frequently center around reacting to problems and offer contradictory advice (Joussemet et al., 2014). Controlling parenting may be challenging to let go of, since many parents may themselves have been parented that way. Parents need support for learning positive parenting practices to replace controlling behaviors (Mageau et al., 2015). In addition, fears about adolescent online risks may cause parents to crack down with an impulse to protect, and controlling parenting may also be seen as necessary when racial, gender or class identities put adolescents at great risk of harm. While the rhetoric about online risks in news media may foster anxiety, there is a need for parenting advice in how to talk to adolescents about risky online experiences. In-depth, nuanced, mixed-methods research is needed on how parents balance autonomy and risk prevention in their parent-child relationships, and how adolescents negotiate for autonomy in media use. Parents who have not grown up with digital media may feel insecure about how to best equip their children as they age. Helping parents support autonomy for adolescents, online and elsewhere, may lead to improved communication and, hopefully, better online choices that allow adolescents to protect themselves.

## Acknowledgement

The authors thank the following members of the research team for their assistance with recruitment and data collection: Mallory Bolenbaugh and Brianna Ward, University of Iowa; Catherine Babcanec, Ashley Hernandez, and Marizen Ramirez, University of Minnesota; Jessica Foley, Illinois State University; and Leandra Parris, College of William and Mary.

Funding Information: This research was funded by the University of Iowa Injury Prevention Research Center from grant #R49 CE002108-05 of the National Center for Injury Prevention and Control/Centers for Disease Control and Prevention.

## Conflict of Interest

The Authors declare that there is no conflict of interest.

## References

Anderson, M. (2019, March 22). *How parents feel about – and manage – their teens' online behavior and screen time.* Pew Research Center. https://www.pewresearch.org/fact-tank/2019/03/22/how-parents-feel-about-and-manage-their-teens-online-behavior-and-screen-time/

Beck, U. (1992). *Risk society: Towards a new modernity.* Sage.

Blum-Ross, A., & Livingstone, S. (2018). The trouble with "screen time" rules. In G., Mascheroni, C. Ponte & A. Jorge (Eds.), *Digital parenting: The challenges for families in the digital age* (pp. 179–187). Nordicom.

Byrne, S., Katz, S. J., Lee, T., Linz, D., & McIlrath, M. (2014). Peers, predators, and porn: Predicting parental underestimation of children's risky online experiences. *Journal of Computer-Mediated Communication, 19*(2), 215–231. https://doi.org/10.1111/jcc4.12040

Caivano, O., Leduc, K., & Talwar, V. (2020). When you think you know: The effectiveness of restrictive mediation on parental awareness of cyberbullying experiences among children and adolescents. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 14*(1), Article 2. https://doi.org/10.5817/CP2020-1-2

Clark, L. S. (2011). Parental mediation theory for the digital age. *Communication Theory, 21*(4), 323–343. https://doi.org/10.1111/j.1468-2885.2011.01391.x

Coyne, S. M., Radesky, J., Collier, K. M., Gentile, D. A., Linder, J. R., Nathanson, A. I., Rasmussen, E. E., Reich, S. M., & Rogers, J. (2017). Parenting and digital media. *Pediatrics*, *140*(Suppl. 2), S112–S116. https://doi.org/10.1542/peds.2016-1758N

Damour, L. (February 8, 2019). *You can track almost everything your children do online. Here's why that might not be such a good idea.* Time. https://time.com/5523239/parenting-behavior-technology-social-media/

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin*, *113*(3), 487–496. https://doi.org/10.1037/0033-2909.113.3.487

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19*(2), 109–134. https://doi.org/10.1016/0092-6566(85)90023-6

Dolev-Cohen, M., & Ricon, T. (2020). Demystifying sexting: Adolescent sexting and its associations with parenting styles and sense of parental social control in Israel. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *14*(1), Article 6. https://doi.org/10.5817/CP2020-1-6

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis*. Guilford Press.

Ibarra, J. L., Agas, J. M., Lee, M., Pan, J. L., & Buttenheim, A. M. (2018). Comparison of online survey recruitment platforms for hard-to-reach pregnant smoking populations: Feasibility study. *JMIR Research Protocols*, *7*(4), Article e8071. https://doi.org/10.2196/resprot.8071

Jenkins, H., Ito, M., & boyd, d. (2015). *Participatory culture in a networked era.* Polity Press.

Joussemet, M., Mageau, G. A., & Koestner, R. (2014). Promoting optimal parenting and children's mental health: A preliminary evaluation of the how-to parenting program. *Journal of Child and Family Studies, 23*(6), 949–964. https://doi.org/10.1007/s10826-013-9751-0

Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's behavior: The differential effects of controlling versus informational styles on children's intrinsic motivation and creativity. *Journal of Personality, 52*(3)*,* 233–248. https://doi.org/10.1111/j.1467-6494.1984.tb00879.x

Law, D. M., Shapka, J. D., & Olsen, B. F. (2010). To control or not to control? Parenting behaviours and adolescent online aggression. *Computers in Human Behavior, 26*(6), 1651–1656. https://doi.org/10.1016/j.chb.2010.06.013

Legate, N., Weinstein, N., & Przybylski, A. K. (2019). Parenting strategies and adolescents' cyberbullying behavior: Evidence from a preregistered study of parent-child dyads. *Journal of Youth and Adolescences, 48*(2), 339–409. https://doi.org/10.1007/s10964-018-0962-y

Livingstone, S., & Blum-Ross, A. (2020). *Parenting for a digital future: How hopes and fears about technology shape children's lives*. Oxford University Press.

Livingstone, S., Haddon, L., Görzig, A., & Ólafsson, K. (2011) *Risks and safety on the internet: The perspective of European children: Full findings and policy implications from the EU Kids Online survey of 9- to 16-year-olds and their parents in 25 countries*. EU Kids Online, Deliverable D4. http://eprints.lse.ac.uk/33731/

Livingstone, S., & Helsper, E. J. (2008). Parental mediation of children's internet use. *Journal of Broadcasting & Electronic Media*, *52*(4), 581–599. https://doi.org/10.1080/08838150802437396

Livingstone, S., Ólafsson, K., Helsper, E. J., Lupiáñez-Villanueva, F., Veltri, G. A., & Folkvord, F. (2017). Maximizing opportunities and minimizing risks for children online. *Journal of Communication, 67*(1)*,* 82–105. https://doi.org/10.1111/jcom.12277

Mageau, G. A., Ranger, F., Joussemet, M., Koestner, R., Moreau, E., & Forest, J. (2015). Validation of the Perceived Parental Autonomy Support Scale (P-PASS). *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, *47*(3), 251–262. https://doi.org/10.1037/a0039325

Martino, S. C., Collins, R. L., Ellickson, P. L., Schell, T. L., & McCaffrey, D. (2006). Socio-environmental influences on adolescents' alcohol outcome expectancies: A prospective analysis. *Addiction*, *101*(7), 971–983. https://doi:10.1111/j.1360-0443.2006.01445.x

Mathiesen, K. (2013). The internet, children, and privacy: The case against parental monitoring. *Ethics and Information Technology, 15*(4), 263–274. https://doi.org/10.1007/s10676-013-9323-4

McElhaney, K. B., Allen, J. P., Stephenson, J. C., & Hare, A. L. (2009). Attachment and autonomy during adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology development* (Vol. 1, pp. 358–403). Wiley. https://doi.org/10.1002/9780470479193.adlpsy001012

Nathanson, A. I. (2002). The unintended effects of parental mediation of television on adolescents. *Media Psychology, 4*(3), 207–230. https://doi.org/10.1207/S1532785XMEP0403_01

Nelissen, S., & Van den Bulck, J. (2018). When digital natives instruct digital immigrants: active guidance of parental media use by children and conflict in the family. *Information, Communication & Society*, *21*(3), 375–387. https://doi.org/10.1080/1369118X.2017.1281993

Niemiec, C. P., Lynch, M. F., Vansteenkiste, M., Bernstein, J., Deci, E. L., & Ryan, R. M. (2006). The antecedents and consequences of autonomous self-regulation for college: A self-determination theory perspective on socialization. *Journal of Adolescence, 29*(5), 761-775. https://doi.org/10.1016/j.adolescence.2005.11.009

Padilla-Walker, L. M., Coyne, S. M., Fraser, A. M., Dyer, W. J., & Yorgason, J. B. (2012). Parents and adolescents growing up in the digital age: Latent growth curve analysis of proactive media monitoring. *Journal of Adolescence, 35*(5), 1153–1165. https://doi.org/10.1016/j.adolescence.2012.03.005

Perren, S., Corcoran, L., Cowie, H., Dehue, F., Garcia, D., Mc Guckin, C., Sevcikova, A., Tsatsou, P., & Völlink, T. (2012). Tackling cyberbullying: Review of empirical evidence regarding successful responses by students, parents, and schools. *International Journal of Conflict and Violence, 6*(2), 283–293. https://doi.org/10.4119/ijcv-2919

Ragsdale, K., Bersamin, M. M., Schwartz, S. J., Zamboanga, B. L., Kerrick, M. R., & Grube, J. W. (2014). Development of sexual expectancies among adolescents: Contributions by parents, peers and the media. *The Journal of Sex Research*, *51*(5), 551–560. https://doi.org/10.1080/00224499.2012.753025

Ross, P. T., Hart-Johnson, T., Santen, S. A., & Bibler Zaidi, N. (2020). Considerations for using race and ethnicity as quantitative variables in medical education research. *Perspectives on Media Education, 9*(5)*,* 318–323. https://doi.org/10.1007/s40037-020-00602-3

Rudi, J., & Dworkin, J. (2018). Is technology-mediated parental monitoring related to adolescent substance use? *Substance Use & Misuse*, *53*(8), 1331–1341. https://doi.org/10.1080/10826084.2017.1408653

Ryan, R. M., Deci, E. L., Grolnick, W. S., & La Guardia, J. G. (2006). The significance of autonomy and autonomy support in psychological development and psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental Psychopathology, Vol. 1: Theory and Method* (2nd ed., pp. 795–849). Wiley.

Shmueli, B., & Blecher-Prigat, A. (2011). Privacy for children. *Columbia Human Rights Law Review, 42*, 759–795.

Silk, J. S., Morris, A. S., Kanaya, T., & Steinberg, L. (2003). Psychological control and autonomy granting: Opposite ends of a continuum or distinct constructs? *Journal of Research on Adolescence, 13*(1)*,* 113–128. https://doi.org/10.1111/1532-7795.1301004

Symons, K., Ponnet, K., Vanwesenbeeck, I., Walrave, M., & Van Ouytsel, J. (2020). Parent-child communication about internet use and acceptance of parental authority. *Journal of Broadcasting & Electronic Media, 64*(1), 1–19. https://doi.org/10.1080/08838151.2019.1681870

Valkenburg, P. M., Piotrowski, J. T., Hermanns, J., & de Leeuw, R. (2013). Developing and validating the Perceived Parental Media Mediation Scale: A self-determination perspective. *Human Communication Research, 39*(4), 445–469. https://doi.org/10.1111/hcre.12010

Van Ouystel, J., Torres, E., Jeong Choi, H., Ponnet, K., Walrave, M., & Temple, J. R. (2017). The associations between substance use, sexual behaviors, bullying, deviant behaviors, health, and cyber dating abuse perpetration. *The Journal of School Nursing, 33*(2)*,* 116–122. https://doi.org/10.1177/1059840516683229

Young, R., Len-Ríos, M., & Young, H. (2017). Romantic motivations for social media use, social comparison, and online aggression among adolescents. *Computers in Human Behavior*, *75*, 385–395. https://doi.org/10.1016/j.chb.2017.04.021

Young, R., & Tully, M. (2019). 'Nobody wants the parents involved': Social norms in parent and adolescent responses to cyberbullying. *Journal of Youth Studies*, *22*(6), 856–872. https://doi.org/10.1080/13676261.2018.1546838

# Appendix

**Table A1.** *Correlations.*

| | Child Age | Child Time Online, Wknd | Monitoring | Talking | Punishment | Restrictive Mediation | Autonomy-supportive parenting | Controlling parenting | Comm. Expectancies | Risky Online Experiences |
|---|---|---|---|---|---|---|---|---|---|---|
| Child age | 1 | .12* | -.16** | -.07 | -.17** | -.28** | .008 | -.23 | .08 | .23** |
| Child time online, wknd | .12* | 1 | .11* | .01 | .15** | -.15** | -.07 | .15** | .13* | .23** |
| Monitoring | -.16** | .11* | 1 | .42** | .40** | .42** | .14** | .22** | .02 | .12* |
| Active mediation | -.07 | .01 | .42** | 1 | .34** | .46** | .21** | .05 | -.17** | .02 |
| Punishment | -.16** | .15** | .40** | .34** | 1 | .45** | -.04 | .25** | .13* | .10 |
| Restrictive mediation | -.28** | -.15** | .42** | .46** | .45** | 1 | .11* | .08 | -.08 | -.08 |
| Autonomy-supportive parenting | .008 | -.07 | .14** | .21** | -.04 | .11* | 1 | .004 | -.34** | -.14** |
| Controlling parenting | -.02 | .15** | .22** | .05 | .24** | .08 | .004 | 1 | .30** | .09 |
| Comm. expectancies | .08 | .14* | .06 | -.13** | .16* | -.06 | -.26** | .33** | 1 | .36** |
| Risky online experiences | .23** | .23** | .12* | .02 | .10 | -.08 | -.13 | .09 | .32** | 1 |

*Note.* $^{*}p < .05$, $^{**}p < .01$.

**Table A2.** *Survey Measures.*

| Variable | Description | Items | Scale | References |
|---|---|---|---|---|
| | | Parent Measures | | |
| Parental Mediation | Interactions parents have with their children about media use | | 1 = *never,*<br>4 = *frequently* | Livingstone et al., 2017;<br>Pew Research Center |
| Monitoring subscale | Covertly or overtly checking children's media use and online activity | Do you check which websites your child visits? | | |
| | | Do you track your child's location using a cell phone? | | |
| | | Do you look at your child's phone call records, texts, or other messages on a cell phone, or read their emails? | | |
| Active mediation subscale | Talking to children about their digital media use, possible risks, rules and limits | How often do you talk with your child about what is appropriate or inappropriate online behavior toward others? | | |
| | | How often do you talk with your child about what is appropriate or inappropriate to share online? | | |
| | | How often do you talk with your child about what is appropriate or inappropriate content for them to be viewing online? | | |
| Punishment subscale | Taking away access to technology and media; digital grounding | Do you take your child's phone or internet privileges as punishment? | | |
| | | Do you take away certain apps or access to certain sites as punishment if those apps or sites are used inappropriately? | | |
| Restrictive mediation subscale | Restricting the amount of time children use digital media | Do you limit the amount of time or times of day when your child can go online? | | |
| | | Do you restrict your child's use of a phone or tablet at the dinner table? | | |
| | | Child Measures | | |
| Autonomy-Supportive and Controlling Parenting | Parenting styles as perceived by children | Please indicate how much you agree that these statements describe your parent's behaviors. Some of your answers may be different for different parents. When answering questions, you should have in mind the parent who took the survey. | 1 = *strongly disagree,*<br>7 = *strongly agree* | Mageau et al., 2015 |

| | | | |
|---|---|---|---|
| Autonomy-supportive parenting subscale | Parenting that is characterized by empathy for children and respect for their perspectives | When my parents ask me to do something they explain why they want me to do it | |
| | | My point of view is very important to my parents when they make decisions that concern me | |
| | | Within certain limits, my parents allow me the freedom to choose my own activities | |
| | | My parents are able to put themselves in my shoes and understand my feelings | |
| | | When I ask why I can't do something, my parents give me good reasons | |
| | | My parents listen to my opinion and point of view when I disagree with them | |
| Controlling parenting subscale | Parenting that thwarts children's autonomy by forcing children to think, feel, or be in specified ways | When I refuse to do something, my parents threaten to take away certain privileges in order to make me do it | |
| | | When my parents want me to do something differently, they make me feel guilty | |
| | | When my parents want me to do something, I have to obey or else I'm punished | |
| | | In order for my parents to be proud of me, I have to be the best | |
| | | When my parents want me to act differently, they make me feel guilty in order to make me change | |
| | | My parents insist that I always do better than others | |
| Communication Expectancies | Expectations children have about communicating with parents about risky online experiences | It's hard to talk to my parents about bad things that happen online because… | 1 = *strongly disagree*, 7 = *strongly agree* |
| | | I don't want to worry them | |
| | | I don't want to have my phone or computer taken away | |
| | | My parents don't understand the technology I use. | |

| | | | | |
|---|---|---|---|---|
| Risky Online Experiences | Practices that could put adolescents at increased risk of negative outcomes from digital media use | How often have you had these experiences in the past year? | 1 = *never*<br>2 = *rarely*,<br>3 = *once or twice*,<br>4 = *once a month or more* | Byrne et al., 2014; Livingstone et al., 2011 |
| | | How often are people at school mean to you online? | | |
| | | How often are people you've never met mean to you online? | | |
| | | How often have you been mean to other kids online? | | |
| | | How often have you been approached by an adult stranger online? | | |
| | | How often have you accidentally encountered sexual stuff online? | | |
| | | How often have you looked for sexual stuff online? | | |
| | | How often have you received sexual text or pictures to someone you know? | | |
| | | How often have you sent sexual texts or pictures to someone you know? | | |

## About Authors

**Rachel Young** (Ph.D., University of Missouri) is an Associate Professor in the School of Journalism and Mass Communication at the University of Iowa, USA. She uses both quantitative and qualitative methods to study media and health, with a particular focus on how parents and adolescents negotiate digital media and online risks.

**Melissa Tully** (Ph.D., University of Wisconsin-Madison) is an Associate Professor in the School of Journalism and Mass Communication at the University of Iowa, USA. Her research focuses on news literacy, audiences, misinformation, African media studies, and civic participation.

✉ **Correspondence to**
School of Journalism and Mass Communication, University of Iowa, 100 Adler Journalism Building, Iowa City, IA 52242, rachel-young@uiowa.edu