

Adolescent Online Safety: The “Moral” of the Story

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ABSTRACT

Adolescence is characterized by heightened risk-taking and independence from parents; these tendencies seem to be magnified by the opportunities afforded through online interactions. Drawing on Kohlberg’s Cognitive Moral Development (CMD) theory, we conduct a qualitative study of 12 parent-adolescent dyads that examines the interplay between parenting behaviors and adolescent moral development. We show an association between adolescent moral judgment and online behavior, and we illustrate how parenting style and mediation strategies influence teens’ moral growth and decision making about online behaviors. We also note that parental mediation strategies are moderated by parents’ digital literacy: reduced digital literacy is associated with more restrictive or indulgent strategies; while more digitally competent parents are more likely to monitor and mediate their teen’s behaviors as they engage online. We also found that experience, not restriction, facilitates the teen’s moral growth.

Author Keywords

Adolescent online safety; parenting; moral development

ACM Classification Keywords

K.4.1 [Public Policy Issues]: Ethics, Human safety, Privacy

General Terms

Human Factors; Theory; Design.

INTRODUCTION

Adolescence is characterized by heightened risk-taking and independence from parents, even though many teens are not well-equipped to make these decisions on their own [12]. Teens are by nature sensation-seeking and more likely to take greater risks than children and adults [12]. Teens are also intensely focused on social life, and consequently have been eager and early adopters of the Internet and social networking applications that help them engage with their peers [8]. Because of this, adolescent online safety has become a mounting contemporary concern. For example,

teens have committed suicide due to cyberbullying [19], received (and accepted) sexual solicitations online [24], viewed inappropriate pornographic or violent websites [14], and served jail time for digital piracy [6].

Many studies have examined the role of parenting as a means for positively influencing adolescent online safety [5, 7, 14-15, 20, 22, 25]. However, parents cannot shield their teens from all negative online experiences without also limiting the potential for positive online experiences that promote developmental growth. As adults, assuring that adolescents are “safe” means not only giving them tools to cope with risks that they encounter, but also teaching them not to make unethical decisions that may have severe consequences. In this sense, online parenting is a balancing act between protecting teens from excessive harm and teaching them how to cope with the sometimes ugly realities of engaging online with others. Our end goal is to protect adolescents from themselves and others while still allowing them to engage in beneficial online activities.

We frame adolescent online safety as a *developmental process* of adolescent growth. Through this lens, adolescent online safety should be viewed as not only a function of parents but also as independent action by adolescents enabled by their growing autonomy and pseudo-maturity [12]. Teens mature at different rates, are exposed to vastly different experiences, and respond differently to parenting strategies. Yet, few if any, studies consider the combination of parenting strategies and teen characteristics when studying or promoting positive adolescent online safety outcomes. To fill in this gap, we investigate both parenting and adolescent moral development as factors in adolescent online behavior. Ethical decision making cannot protect adolescents from all online threats, but we propose that sound moral judgment is an important contributor to appropriate online behaviors and decisions that promote adolescent online safety. Through an in-depth qualitative study of 12 parent-adolescent dyads, we illustrate how moral judgment, parenting style, and mediation techniques vary across participants and by age.

THEORETICAL BACKGROUND

Our work draws from the developmental psychology literature, with a dual focus on parents and adolescents.

Adolescent Moral Development

Psychologist Lawrence Kohlberg’s Cognitive Moral Development (CMD) theory was that moral reasoning is the

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foundation of ethical decision-making and that children progress through six distinct stages of moral development as they mature [9]. We apply these six stages in our qualitative analysis:

Stage 1. Punishment and obedience orientation: Characterized by compliance in order to avoid punishment and conformity to authority.

Stage 2. Naïve instrumental hedonism: Characterized by “individualistic morality” where “it’s the person’s life, not the law’s life” [9]. Moral judgments are based on perceptions of relative value and cost, pleasure or pain.

Stage 3. “Good-boy” morality of maintaining good relations, approving of others: Decisions motivated by anticipated praise or disapproval of others, sympathy for others, and identification with authority and its goals.

Stage 4. Authority maintaining morality: Internalizes respect for authority and exhibits a sense of justice, moral indignation, and duty.

Stage 5. Authority of contract and of democratically accepted law: Identifies right and wrong based on laws or institutional rules that are assumed to have a rational basis. Recognizes conflict between the individual and society but ultimately conforms to a “moral society.”

Stage 6. Morality of individual principles of conscience: Reliance on the individual’s moral principles over rules, incorporating a sense of the “greater good.”

Our work applies these six stages of moral development as a lens on adolescents’ comments about their own online behavior. We are interested in the interplay between parenting and adolescent moral development as factors influencing teens’ online behaviors; our guiding perspective is that a key element in teens’ online safety is learning not to make unethical decisions, such as committing digital piracy, cyberbullying, and other online crimes.

Parenting

Two streams of research on parenting are relevant to adolescent online safety and moral development – parenting styles and parental mediation. Baumrind’s seminal work on parenting styles [1-2] identified two dimensions along which parents vary: *Demandingness* and *Responsiveness*. Parents are demanding to the extent that they regulate and supervise their child’s activities [1-2]. Responsiveness refers to the extent in which a parent is warm, communicative, and supportive toward the child’s needs of individuality and autonomy [1-2]. As parents vary along these two dimensions, they can be classified into four main parenting styles: *Authoritative* (high demanding, high responsive), *Authoritarian* (high demanding, low responsive), *Indulgent* (low demanding, high responsive), and *Neglectful* (low demanding, low responsive) [3, 11, 21]. Research suggests that authoritative parents tend to have adolescents who are more competent and well adjusted [3, 11].

Valkenburg et al. [23] created a scale to capture parental television mediation strategies; this construct was later adapted and merged with Baumrind’s parenting styles for use in the Internet context [7, 13-14, 22]. Parental mediation strategies include instructive (active) mediation, restrictive mediation, and social co-viewing (monitoring). With respect to online behavior, *active mediation* involves interaction and discussion between parent and teen regarding online activities. *Restrictive mediation* occurs through rules and limits placed on a teen’s online activities. *Monitoring* is non-interactive surveillance of a teen’s online activities, such as checking text messages or web browser history [14]. Some studies have also included *technical mediation*, such as the use of software applications [7, 14]. Active mediation has more characteristics of responsiveness while restrictive mediation is more reminiscent of demandingness. However, a study comparing parenting styles and parent mediation strategies on the Internet found that authoritative parents tend to use more active mediation, restrictive mediation, monitoring, and technical mediation strategies than authoritarian, indulgent, and neglectful parents [7]. Therefore, the relationship between parenting style and mediation strategies is not one-to-one.

Our work is unique in that it draws on Kohlberg’s CMD theory to examine adolescent moral development as it relates to online behavior, and it takes into account how parenting style and mediation techniques impact adolescent moral judgment and online behavior. Few studies have explored adolescent online behavior using a dyadic parent-child level of analysis. Furthermore, research that has examined the role of parenting in adolescent online safety has focused on shielding teens from negative online experiences. Thus, our research is one of the first to frame adolescent online safety as a developmental process of adolescent growth where teens are taught through parental guidance and personal experience how to behave appropriately online and handle negative online experiences.

RESEARCH METHODOLOGY

Participants and Procedure

We conducted audio-recorded, semi-structured interviews of 12 parent-adolescent dyads. The 12 adolescents included seven females (aged 13, 13, 13, 15, 16, and 16) and five males (aged 14, 15, 15, 15, and 17). Although we only specified “parent” in our advertisement, mothers were more likely to self-select as the parent to accompany their adolescents than fathers. Thus, the parents included eleven mothers and one father. Eleven dyads were Caucasian and one (a mother-daughter pair) was Asian. All adolescents except for one came from a two-parent home. Ten dyads reported having broadband Internet access and two dyads (all from the same family) reported having dial-up access. On average, families reported having three computers (either laptop or desktop) and all adolescents had access to

cell phones with texting capabilities. All participants lived in Central Pennsylvania.

Adolescents and parents arrived together but were interviewed separately; interviews lasted approximately one hour. We asked parents about their techniques for regulating their teen’s online behavior as well as any associated challenges. We asked teens about their online experiences, and more specifically about how they interpreted the moral implications of online activities like illegal downloading of music, cyberbullying, identity theft, and so on.

Coding and Data Analysis

Using the parent-adolescent dyad as our level of analysis, we qualitatively coded the transcribed interview responses, using Atlas.ti and Excel®. We applied Kohlberg’s six stages of moral development to the adolescents’ comments and the classifications of both parenting styles and mediation strategies to the parent data. The coding was blind to each teen’s age or parent; we simply coded the moral statements in the context of the interview. Two coders worked collaboratively to obtain agreement on the final codes.

We coded 270 moral statements across the 12 adolescent participants, averaging 23 statements per teen with a standard deviation of 6 statements. We also coded a total of 555 parental statements that were indicative of parenting styles and/or mediation strategies, averaging 46 statements per parent with a standard deviation of 12 statements. Parental interviews were coded independently of the adolescent interviews. We assign pseudonyms for each teen to protect their identities.

Profiles of Parent-Adolescent Dyads

Consistent with Kohlberg’s CMD theory [10], we found that moral development progresses with adolescent age. As shown in **Figure 1**, 13- to 14-year-olds in our study tend to have a “Punishment and obedience orientation” (Stage 1) more often than older teens. “Authority maintaining morality” (Stage 4) and other more advanced stages of

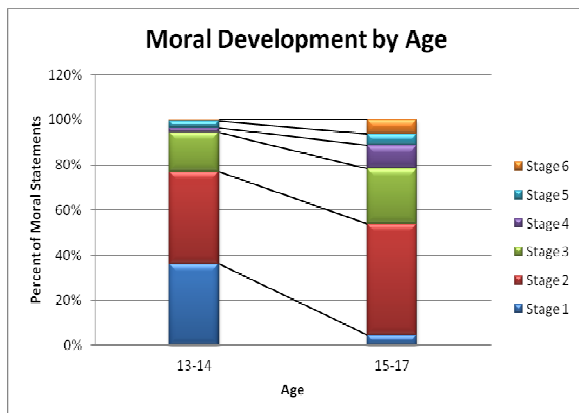


Figure 1: Moral Development by Age

moral development increase in 15- to 17-year-olds. Since age plays such a pivotal role in moral development, we chose to present our results through adolescent profiles grouped by age in the following section.

RESULTS

To explore the relationships of moral development to age, we created a “moral compass” for each adolescent and grouped them by age. Each compass visualizes the six stages of moral development as a web graph, starting with Stage 1 at the top of the compass and progressing clockwise through Stage 6. Each line represents the unique moral profile of a teen participant. The lines fluctuate based on the percent of the teen’s total moral statements that were classified within each Kohlberg stage.

13- & 14-Year-Olds: Monica, Emily, Paige, and Joshua

Figure 2 summarizes the moral profiles of participants aged 13 to 14. Monica, Emily, and Paige are 13-year-old females, while Joshua is a 14-year-old male.

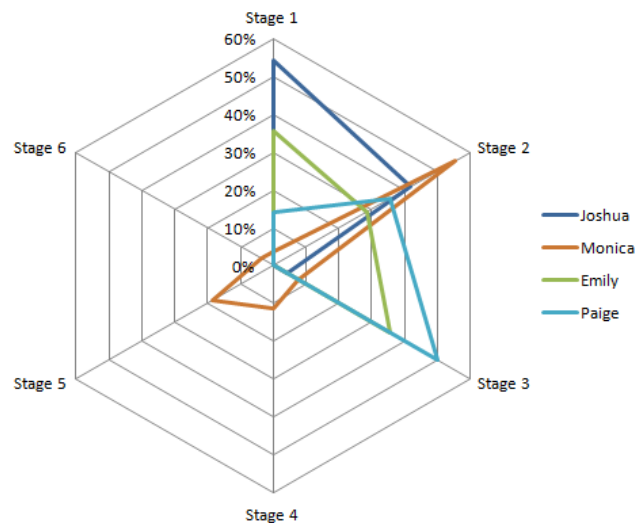


Figure 2: Moral Compass, 13- & 14-year olds

Emily and **Paige** have similar moral profiles, spreading across Stages 1 (obedience) and 3 (approval). However, Emily expressed more compliance with her parents (Stage 1), and Paige was more individualistic (Stage 2). Both girls admitted that they did not know the meaning of the word “ethical” during their interviews and often said, “I don’t know” when asked about the moral implications of specific online behaviors. Both girls said that they pirated music online, though Emily’s mother made her stop when she learned this was happening. When Emily and Paige were asked if they would mind their parents using a program like Net Nanny to monitor their computer usage, they said:

“I would be fine with it.” –Emily, 13-year-old female

“Well... I think that they should trust their kids unless their kids give them a reason not to.” –Paige, 13-year-old female

Emily and Paige also share similarities in parent profiles; both have mothers who were predominantly *authoritative* and described *active mediation* strategies for regulating the teens' online behavior. However, Paige's mom was slightly more *authoritarian*. At home, both girls use shared computers in a common area. They are both on Facebook, but their moms have friended them to keep an eye on their activities. Both girls have cell phones and text messaging, but only Paige has Internet access on her phone .

A key difference was the level of digital literacy displayed by their mothers: Emily's mom is a programmer analyst who uses software to implement technical monitoring of her daughter's computer use. Her grasp of the technology allows her to "probe" her daughter's online behaviors and intervene when necessary. For example, she made Emily stop downloading music illegally and now only permits her to buy music from iTunes. In contrast, Paige's mom said that her husband is more "computer savvy" than she is, and that he would be the one to prevent Paige from illegal music downloads. However, according to Paige, this was not the case; she admitted to downloading pirated music. It is possible that Emily was slightly more compliant than Paige because Emily's mother was both actively engaged in her daughter's online behavior and technically competent in enforcing reasonable guidelines. However, we can only speculate because we did not interview Paige's dad.

Monica was another 13-year-old female in our sample, but she tended to be more hedonistic (Stage 2) than Emily and Paige. Monica often disregarded her mother's advice and disobeyed her orders. When asked about monitoring programs such as Net Nanny, she said:

"Oh geeze, I hope that lady over there didn't tell my mom about that ha ha." –Monica 13-year-old female

She then added that she would be okay with it because she would circumvent her parents if they tried to use it. Unlike the other girls, Monica's mom was predominantly *authoritarian* and *restrictive*. She was very strict and protective with Monica and Craig (who are siblings), perhaps in part because her oldest daughter had once been abducted. Monica's mom primarily restricts her online usage through the use of parental controls on the computer that disallow downloads, some websites, and many games:

I don't even know what they are, just everything that was like 13 and up, I locked. ha ha. – Monica's Mom

Monica does not have Internet access on her phone; the family only has dial-up Internet access at home, which their mother chooses intentionally to limit usage. A condition of Monica being allowed to have a Facebook account was that she shared her password with her mom. However, Monica does have her own laptop, which she is allowed to bring into her room. It is possibly due to this limited freedom and her mom's strictness that Monica takes advantage of opportunities to exert independence from her parents.

One apparent contradiction to Monica's parents' restrictive parenting is that both mother and father condone digital piracy. When we asked Monica's mom if she had a problem with Monica downloading music illegally, Monica's mom expressed her own hedonistic (Stage 2) viewpoint:

"Downloading illegal music, oh heck no, as long as it's free." –Monica's Mom

It seems likely this type of parenting contributed to Monica's highly hedonistic moral profile.

Joshua is unique. Even though he is 14, it seems that he has not reached similar levels of moral growth as the 13-year-old females in **Figure 2**. Joshua's comments are primarily in Stages 1 (obedience) and 2 (hedonism). Many of his statements suggest a strong reliance on authority (Stage 1). When we asked him about implications of different types of online behavior, such as piracy, information sharing, and his personal digital rights, he focused on what he was allowed and not allowed to do:

"I wish I understood it more though. How it works, like, so if I get in trouble, if something happens. Yeah, the legal aspect." –Joshua, 14-year-old male

"So what am I not allowed to do? What am I allowed to do? Basically." –Joshua, 14-year-old male

In general, he complied with his mom, as if her word was law, relinquishing psychological control. Our interview with Joshua's mom confirmed that her primary parenting style was *restrictive* and *authoritarian*. Joshua is not allowed to have a smart phone, Facebook account, or even a personal email address because his mom does not think he is mature enough to handle the responsibility:

"He doesn't do Facebook, yet. He wants to but, kids are dumb on Facebook." –Joshua's Mom

Joshua's only online access was from a shared computer in a common area at home or at school. His mother did not implement any parental controls on the computer, but it was due to lack of knowledge, not desire to do so. It is possible that Joshua's predominantly compliant (Stage 1) moral development may be explained by his young age and his mother's restrictive parenting style.

15-Year-Olds: Craig, Martin, Leslie, and Aaron

We interviewed four 15-year-olds, one female and three males (**Figure 3**). Two of the boys, Craig and Martin, had similar moral profiles. Aaron was unique, and Leslie's moral profile was similar to the 16-year-old girls discussed in the subsequent section.

Craig and Martin were skewed toward hedonism (Stage 2), with individualistic and autonomous views of actions and consequences. Neither showed remorse about pirating digital content; they framed right and wrong as what they could get away with without getting caught or punished. Martin and Craig expressed somewhat Machiavellian views on how parents should monitor their kids' online behavior:

“If they don’t trust their kids, they should get a nanny program or somehow, don’t tell them about history or how to check it. If they trust them, they can do what they want.”
 –Martin, 15-year-old male

Craig responded, *“Yeah, they bought the computer,”* when we asked him if his parents should be allowed to use monitoring software, such as Net Nanny.

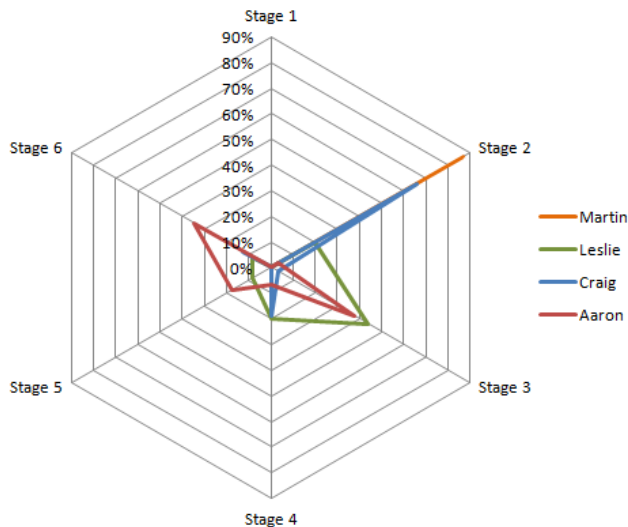


Figure 3: Moral Compass, 15-year-olds

These two teens differed in the parenting styles they experienced. Craig (Monica’s brother) has **authoritarian** and **restrictive** parents. Craig’s dad confirmed that his wife is highly restrictive of their teens’ Internet usage and keeps a strict watch on what they do:

“My wife monitors everything. She checks their Facebook and she checks... If there was something she couldn’t control, we probably wouldn’t have them [computers].” – Craig’s Dad

Similar to what we heard from Craig’s Mom, his Dad saw no problem with Craig downloading music illegally. The parents’ low level of responsiveness to their teens’ need for autonomy and their own individualistic sense of cost-benefit for digital piracy may have added to Monica and Craig’s tendency for hedonistic moral judgment (Stage 2).

The interview with Martin’s mom suggests that parents who are **indulgent** and do little to mediate their teen’s online behavior (**no mediation**) may also contribute to a hedonistic moral view. Martin accesses the Internet through a shared computer in a private room at home and through his iPod touch. His mom does not feel comfortable mediating his online behavior in any way (low demandingness):

“I don’t want to be breathing down his neck all the time because I don’t want to alienate him. At this point in his life, I feel like it’s important that I’m there for him if he needs me, but yet to respect some of the privacy that he has.” –Martin’s Mom

She repeatedly confirmed that she had no idea what Martin did online. However, she also had very little confidence that her son would act appropriately (low responsiveness).

“I worry about that with him because he’s blinded. He’s not as savvy as other people so he’s blinded by ‘oh, I’ll do it and won’t get caught.’ Whereas if he does it, he’ll get caught.” –Martin’s Mom

Martin’s mom is well aware of her son’s moral views regarding reward versus consequences. She mimicked Martin to show us his mentality. At the same time she did nothing to address Martin’s hedonistic viewpoint:

“The police, the Facebook police aren’t going to get me. I’m not going to have to be held to any consequences ...I can do whatever I want to do. [Mimicking her son] ...And I say, well if the police haven’t shown up I guess that’s a good thing.” –Martin’s Mom

In some ways, Martin seemed interested in having more engagement from his mom. For example, he friended her on Facebook, told her that he was downloading movies illegally, and shared inappropriate pictures on his phone sent between friends. It seems he was being confronted with ethical dilemmas and was not receiving guidance. Instead, Martin’s mom continued to enable Martin by indulging his hedonistic behavior and ensuring that he would not suffer negative consequences from them:

“I think I would be the fall guy. I would be the person he goes to after he did it. I would be the person that he went to and said hey, I did this, how do I get out of it? Yeah, mom to the rescue.” –Martin’s Mom

Aaron seemed quite different than the two other 15-year-old boys, expressing moral values that fell in Stages 3, 5, and 6. He exhibited characteristics of being a “good boy” (Stage 3) who wanted to win the approval of others. He also had a strong sense of right and wrong, institutionalized (Stage 5) by Christian beliefs that he has internalized (Stage 6) as his own personal moral beliefs. For example, when we asked Aaron if he knew what ethics meant, he asked:

“Could you define ethics, because it’s different for everyone ...Yeah, I have a strong ethic. I’m a Christian, so I know what’s right and wrong.” –Aaron, 15-year-old male

Overall, Aaron seemed to struggle most with moral issues that may cause disapproval by others. Sometimes, when it came to upholding his personal moral beliefs (Stage 6) versus doing what he thought would please others (Stage 3), he chose to take the path of most approval. For example, Aaron has strong moral values regarding digital piracy, but he makes exceptions when it comes to sharing his legally downloaded music with his friends:

“Like my friend said ‘I hate my songs on my iPod,’ and I don’t want them to feel all bad and stuff. And I don’t want to be just that friend and say ‘oh I have like 300 songs. I’m sorry I can’t give you any.’ I don’t want to be that guy

either because then I'm a total jerk all of a sudden. So... – Aaron, 15-year-old male

In general, Aaron had a high level of moral awareness that was expressed as personal moral integrity (Stage 6). He seemed to understand the difference between having the right to behave in a certain way but also the maturity to act how one should:

"I have rights. Freedom of speech. And I could say anything I want. It's just I don't want to be a jerk. Which is another thing ...Well, there's a difference between the right to and what you can and cannot do. I mean I can jump off a building but it's not like I'm going to so..."—Aaron, 15-year-old male

He also seeks advice regarding ethical dilemmas and incorporates the advice into his own moral deliberations:

"[I] get advice from multiples of people, write down their advice, and then clump them together, and make the best decision out of it ...and I look at each individual piece of advice, and see how it fits together and chose the best out of [the advice]." –Aaron, 15-year-old male

Our interview with Aaron's mom offered some insights as to why his moral profile was so different from the other two same-aged boys. Because of a severely negative experience concerning a family member who was involved in a serious cybercrime, Aaron and his mom are acutely aware of the dangers of engaging online. Aaron's mom was **authoritarian**, perhaps due to this negative experience. However, she tends to mediate Aaron's online activities through **monitoring** rather than restriction. She monitors Aaron's Facebook posts, reviews his games, and uses monitoring software. She also often uses **active mediation** in a more **authoritative** way to learn from past experiences and teach her son right from wrong:

Well, I just try to talk to him, you know, about what's right on there and what's wrong on there and he knows. And he knows from personal experience what can happen to him ...we're brought up, and we're Christian, and we believe that it's morally wrong to do this stuff too." –Aaron's Mom

Strong Christian family beliefs and negative consequences of online behavior help to explain Aaron's advanced moral character. He witnessed drastic consequences from inappropriate Internet use; this may have promoted a deeper understanding of online risks than most boys at his age.

Leslie is a 15-year-old female with a moral profile that is more similar to the 16-year-old girls we interviewed than the same-aged boys. For the most part, Leslie identified with Stage 3, evincing a "good girl" mentality that values relationships and approval of others. For example, when she was asked if she would act differently on a school computer as opposed to her own, she answered:

"Well the schools can, like, watch everything you do, and you wouldn't want to make a bad impression on yourself." –Leslie, 15-year-old female

Leslie also expressed a respect for parental authority (Stage 4); she understands that parents monitor kids for a reason:

"I guess it kind of is [a violation of privacy] but they're your parents, and they're also doing that for a moral reason." –Leslie, 15-year-old female

At the same time, she explained that her parents do not have to monitor her online behavior because she takes the responsibility to do so herself, unlike her brother:

"I kind of limit myself with most things, like with the amount of information I put on, the amount of time I spend, those kinds of things. My brother is on Xbox, internet, all the time so he's limited. I'm not." –Leslie, 15-year-old female

Leslie's mom mirrored her daughter's sentiments; she does not feel the need to use parental controls to monitor her daughter's online behavior. Leslie has earned her Mom's trust by meeting high expectations that have been placed on her. Leslie does not exceed the limit on her monthly text messages; she does not download music illegally; and according to both Leslie and her mom, she respects parental authority. Leslie's mom explained that Leslie is an honor student and does not spend as much time on Facebook as her friends. Therefore, she gives Leslie more freedom:

"I don't feel with her that I necessarily need to [use parental controls]. But maybe with my son I will, although right now he's 13 and he's only interested in games. That might change ha ha." –Leslie's Mom

Leslie's mom practices **active mediation** with an **authoritative** parenting style. She seems well-informed about her daughter's online behaviors and encourages her to engage with others online. Leslie has Internet access on her phone and a tablet that she is allowed to bring into her bedroom. Leslie's mom helped her set up her Facebook account; all of Leslie's Facebook messages go to her mom's email address as well, so that her mom can monitor them. However, she sees this as a way to be engaged in her daughter's social life, not to restrict her online activities:

"When I get home, or if it's a weekend and I'm home, I'll just say, well even [your friend] is on Facebook right now, do you want to get on and talk with her?" Or 'So and so wants to be your friend.'" –Leslie's Mom

Leslie's mom often finds teaching moments to educate her daughter on appropriate online behaviors, even cases when she thinks Leslie's friends are behaving inappropriately:

"I have even called one of her friends a very not-nice name. And it was just 2 days ago ...I said she's advertising, you know, that's what she's doing...I quickly came off with 'you know not to post...' I forget how I exactly worded it but either 'you have to watch what you put up online or you

know not to put bad photos up online.’ She gives me the eyes. The evil eyes. She looks at me and she says ‘mom, you know that I wouldn’t.’” –Leslie’s Mom

16- & 17-Year-Olds: Kim, Erica, Mary, and Jaden

Figure 4 displays the moral profiles of our oldest group of participants, three 16-year-old females and one 17-year-old male. In this age group, **Kim** and **Erica** are most similar. Both are centered on Stage 3 (approval of others), but also exhibit Stages 2 (hedonism) and 4 (respect for authority). Being more socially focused, both girls shared their observations of acceptable social norms when explaining what they believed was right or wrong. For example, Kim and Erica both acknowledged that illegal downloading of music harms the artists, but they had an “everyone does it” mentality regarding whether it was right or wrong to do so:

“Well, I’m sure everyone does that [pirates music] sometimes.” –Kim, 16-year-old female

“I mean, a lot of people do it, I guess it’s wrong, but I don’t know. I wouldn’t really tell them not to, I guess.” – Erica, 16-year-old female

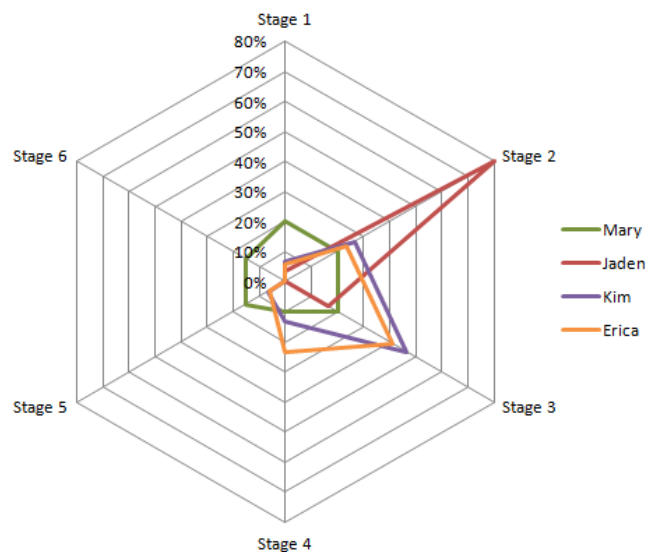


Figure 4: Moral Compass, 16 & 17-year-olds

Erica seemed to have greater respect for parental authority (Stage 4) than Kim. While both girls wanted their parents to trust them online, Kim wanted to have more autonomy:

“Um, not really. [I] just feel like it’s just kind of a trust thing. Like, why do you not trust me with the things on my computer?” –Kim, 16-year-old female

Erica respected that it was the parents’ role to protect their children from online threats. Therefore, Erica said she would be okay if they used a program like Net Nanny:

“Maybe but I mean it’d be alright. I want them to trust me, but if they didn’t then I guess it would be okay.” – Erica, 16-year-old female

Comparatively, Kim was slightly more hedonistic (Stage 2) and had less respect for parental authority (Stage 4) than Erica. This may partially be explained by the different parenting styles they experienced at home. Kim’s mom was difficult to categorize, perhaps because of cultural and language differences. However, her comments suggest that her parenting style is predominantly **neglectful** with **no mediation** in regard to Kim’s online behavior. However, this was coupled with a **restrictive authoritarian** parenting style regarding academic scholarship. Kim’s mom had very high expectations about school performance; therefore, she was adamant that Kim not waste time socializing online, and expressed a fairly negative view of technology overall:

“I think whole world, I wish people would spend less time with computers and do something else.... I try to tell her you know, I cannot monitor every minute. I just say, you know it’s a waste of time. Try to limit as much as you can.” – Kim’s Mom

Kim has Internet access through her laptop that she can use privately in her room with the expectation that she is productively doing her school-work. Kim has a Facebook account that her mom does not monitor. In fact, even though her mom currently does not have a Facebook account, Kim told her mom that she would not friend anyway. Kim’s mom is aware that she downloads music illegally; however, she does not concern herself with it:

“Sometime she told me some of the music is illegal to download but everybody else download, and they share with her. I basically, I’m not interested in that music, so I say okay as long as nobody trouble you.” –Kim’s Mom

In contrast, Erica’s mom has an **active mediation, authoritative** parenting style and is highly involved with Erica’s online behavior. Similar to the other moms in this category, she often interacts with her daughter regarding her online behavior; however, she also gives Erica freedom to engage online. Erica has her own laptop and iPod touch. Her mom is her Facebook friend but does not closely monitor Erica’s Facebook account. Erica’s mom trusts her to behave appropriately online and does not feel that she needs to monitor her very closely. However, she often talks to Erica about the negative consequences experienced by Erica’s peers, and she also intervenes when she feels that Erica’s friends are not acting appropriately:

“We’ve had conversations about different posts that people would post on her wall. Her friend, which is a very good friend, for a little while was putting some song lyrics on her daily whatever. Swearing. Suggestive.... [Erica told her friend that] she probably shouldn’t be doing that ...because I am good friends with her mother, and that I’d tell her mother.” – Erica’s Mom

Mary is a 16-year-old with a distinctive moral profile compared to the other same-aged girls we interviewed. Mary was very articulate during her interview, generating almost twice as many moral statements than Kim or Erica.

Her moral statements ranged from Stage 1 to Stage 6, showing heightened levels of moral development. One possible explanation is that Mary is very studious. Her mother characterized her as an “honor student,” and Mary herself admits that she predominantly uses her computer for school, though she does have Facebook and email accounts. Another explanation is that Mary views her online behavior as an extension of how she should behave in real life:

“I mean, to the point of what I should and shouldn’t be doing, it’s kind of understood I guess. Like, I wouldn’t do it normally, why would I do it online?” –Mary, 16-year-old female

Mary mentioned the value of “common sense” and discussed moral dilemmas in terms of “repercussions” and “guilty conscience.” Furthermore, she extended her moral convictions beyond herself (Stage 6), to what she felt was right or wrong for everyone:

“Yeah, I mean, I think people should respect others ideas. They can disagree but just disagree respectfully, and you know, if you have an opinion just back it up with facts.” – Mary 16-year-old female

With her own strong moral compass, Mary would be very upset if her parents chose to use a program like Net Nanny to monitor her online behavior. She feels she has earned trust and autonomy, and it would be a betrayal of that trust:

“I don’t think I would be upset as to ‘oh, I’m gonna have to stop doing something.’ It would be more like, ‘oh you’re not exactly trusting me as much.’ I think that would be a major issue. It would be more like the principle rather than what it actually does.” –Mary 16-year-old female

Mary’s mom is **authoritative** and uses **active mediation** and **monitoring** to encourage appropriate online behavior. She does little to restrict Mary’s online interactions. She is not Mary’s Facebook friend and has no parental controls on her computer. Mary has her own laptop that she uses in a common area, but her mom offered Mary her own office, if she wanted it. Mary’s mom has high expectations that Mary will take personal responsibility for her actions:

“Well I think she has, well you’re talking about personal rights [online], but to me she should have the responsibility not to go there. But that’s something that you’re taught.” – Mary’s Mom

Finally, **Jaden** is male and the only 17-year-old that we interviewed. As shown in Figure 4, Jaden expressed many hedonistic views (Stage 2), similar to 15-year-olds Craig and Martin. Jaden explained that his parents were restrictive when he was younger, but no longer do much monitoring of his online behavior. As a result of the earlier restrictions, Jaden does not have a Facebook account:

“At this point, I don’t really care as much, but growing up that’s the reason I didn’t get a Facebook. There was a point

where at 10 pm each night they would turn off the internet, whereas my friends didn’t.” –Jaden 17-year-old male

Apparently, Jaden’s parents used to be very strict, and Jaden learned then how to take subversive measures, such as deleting his browser history. At 17, Jaden feels that he is grown up and should not have any parental restrictions; those should be reserved for younger teens. In fact, when we mentioned Net Nanny, Jaden’s response was simply, “Sounds illegal.” According to Jaden, his parents no longer care about what he does online:

“I mean they don’t really care that much anymore. They don’t want me, well, they’re really big on me not handing out personal information but they don’t check. So if I wanted to...” –Jaden 17-year-old male

Unfortunately, Jaden expresses an under-developed sense of moral judgment and partakes in many negative online behaviors, such as pirating music and movies and trolling:

“I think a lot of the time it’s [trolling] pretty funny.” –Jaden 17-year-old male

Similar to Martin’s mom, Jaden’s mom is fairly **indulgent** regarding Jaden’s online activities. For the most part, she feels that she has no control of what Jaden does online and does little to mediate this (**no mediation**). However, her secondary style is **active mediation**, **authoritarian**, and she has been much more restrictive of her children in the past. She did not let Jaden play T-rated video games until he was 13, and she was strongly against him having a Facebook account. Jaden’s mom talked about how she had many fights with Jaden’s older sister regarding these restrictions:

“We had pretty significant fights with his older sister about it, and they were not subtle. They were pretty firm, pretty unpleasant... And you know, computers getting taken, it was bad ...Like when we found out she had a, I don’t think it was Facebook, it was Myspace, when she was young. That was not allowed. That had to have permission. We found out that she had done that without permission. That was a very bad, not good thing.” –Jaden’s Mom

Jaden’s mom wants to control her son’s online behaviors. She said that part of her strategy is to “torment” in hopes that Jaden has internalized some of what she has said:

“Ha ha. I used to say I shampoo their brain. That’s terrible.” –Jaden’s Mom

However, now, Jaden’s mom seems to have mostly given up trying to restrict her son, lets him do what he wants, and hopes for the best. This may be partially because she felt sorry for her son when he suffered a long-term injury:

“So 6 months he couldn’t really do a whole lot. At that point, I kind of felt sorry for him and he did a lot of gaming then. And it happened kind of contemporaneously with me saying you got to start cutting back. But I think even if he hadn’t [hurt himself] it would have been a bit of a struggle.” –Jaden’s Mom

Jaden has a Macbook Pro, iPhone, and multiple other computers. His mom cites her lack of technology savviness an important factor for why she feels she has lost control:

“Yeah, I think he sees me as technologically a nincompoop. His opinion of me is that I’m just beyond bad, and I’m full of concern. I think that would be his opinion.” –Jaden’s Mom

We speculate that Jaden’s transition from highly demanding and restrictive parents to parents who are indulgent and give him complete autonomy over his online behavior, may have negatively impacted Jaden’s moral development.

DISCUSSION OF EMERGENT THEMES

Several themes emerged from the detailed qualitative analysis of the parent-adolescent interviews. We now discuss these themes and their implications.

Age and Autonomy

By organizing adolescent-parent profiles by age, we uncovered interesting trends across cohorts of adolescents. For example, the youngest group of teens (ages 13 & 14) tended to exhibit the early stages of moral development (Stages 1 – 3) and required a fairly high level of parental supervision. Most young teens only shared computer access in a common area at home. Facebook usage was monitored or restricted. Technical monitoring was common. To some extent, however, we noted that parents who acknowledge the importance of allowing their children to engage online had teens that are more morally advanced than younger teens that were prevented from having these experiences.

In comparison, 15-year-olds exhibited less compliance toward parental authority (Stage 1) than younger teens. They also had fewer restrictions, for instance, the online devices shifted from common areas to private bedrooms. However, levels of parental mediation varied drastically. Martin’s mom was reticent to interfere with her son’s online activity, while Craig’s mom restricted his online usage as much as possible. Perhaps age 15 is a transition period for parents who struggle to know when to parent and when to let go.

Parents afford their older teens (ages 16 & 17) greater autonomy by allowing them to have computers in their rooms and choosing not to heavily monitor their online usage. Parents of these older adolescents are less likely to use parental controls to technically monitor their teens. In fact, doing so would likely violate an older teen’s sense of privacy and damage the trust relationship between parent and teen. In general, parents of older teens understand that restricting online usage is no longer an option. Some parents of older teens leveraged the high demands from school work as a means to influence older teens to self-regulate their social engagement online. Instead, they must actively engage with their teen if they want to remain part of their teens’ online lives.

Predisposition toward Hedonism

Overall, we were surprised to find a pervasive moral predisposition toward hedonism (Stage 2) in our sample, particularly for the male adolescents. In **Figure 5**, we have averaged and aggregated our coding results by gender. Adolescent males tend to center around hedonism, while adolescent females tend to have a more external focus, caring more about the approval of others (Stage 3). We believe that this phenomenon can be explained by the different moral expectations placed on boys and girls. Research suggests that parents and society have lower moral expectations of boys than they do for girls. As such, girls are expected to exhibit higher levels of moral judgment and empathy than boys [18]. Our research suggests that this expectation may also carry over to the context of online behavior.

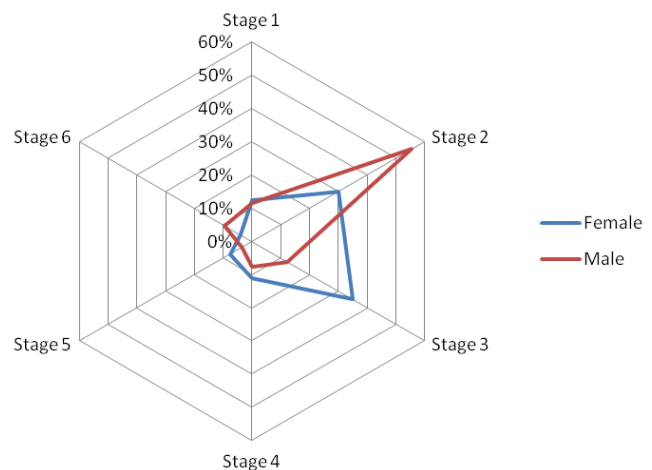


Figure 5: Moral Development by Gender

We also compared these results to Kohlberg’s original findings [9]. **Figure 6** compares the moral profiles from our sample to males who were of age 13 and 16 in Kohlberg’s data. While we cannot make a one-to-one comparison due to the differences in the studies, we can make one broad observation: Compared to Kohlberg’s 1963 study [9], our study of today’s adolescent online behaviors seems to be much more skewed toward a *hedonistic world view*. Even the girls in our sample presented with more hedonistic characteristics than the boys in Kohlberg’s studies.

For example, the teens in our sample often justified right and wrong in terms of punishment versus reward. They felt that they should be able to do whatever they want to do online as long as they don’t get caught:

“If you feel comfortable doing what you’re doing, then you should be able to do it.” –Craig, 15-year-old male

They also had little respect for parental guidelines.

“My mom said I wasn’t allowed to put my last name up on my Facebook until I just finally did it and she kind of got mad, but I didn’t care. Ha ha.” –Monica, 13-year-old female

And, they believed that if they did get caught for doing something illegal, such as digital piracy, the repercussions would not be very harsh:

“Well the thing is, when you’re my age, they [authorities] can’t exactly do a whole lot.” –Martin, 15-year-old male

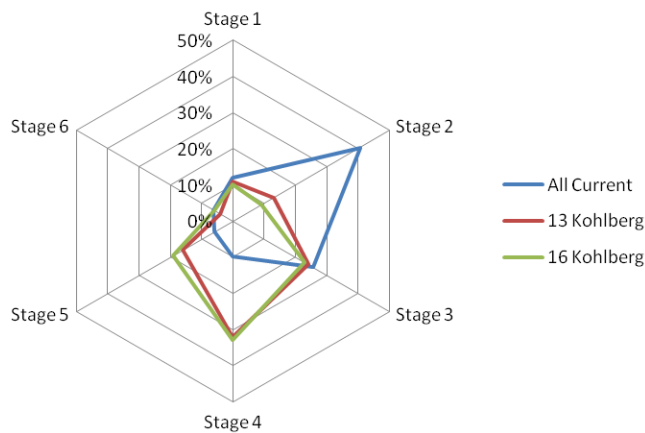


Figure 6: Moral Profiles Compared to Kohlberg¹

Another aspect of hedonism is reciprocity or quid-pro-quo. But in our sample, reciprocity often came up as justification for retaliation. For example, Craig justified punishing his friend when he felt he had been wronged online:

“A friend found out my stuff, and he thought it’d be funny to get on there and say like, post as me, and say I’m admitting I’m gay. I kind of lost it, and the next day at school I punched him in the mouth for it. And, well we’re still friends but he realized that I’m not gay, or I’m not joking around about that stuff.” –Craig, 15-year-old male

Past research offers a possible explanation for a hedonistic paradigm shift: “The online world has its own etiquette, its own system of rules, and its own morality” [4]. The Internet is a completely different world, unconstrained by physical boundaries, giving teens more autonomy than ever before [4]. Online, teens consume information and have experiences that are unmediated by adults [4]. It is possible that heightened levels of individual autonomy online may predispose teens to a sense of “individualistic morality” [9] or hedonism. If this is the case, an implication of this shift would be that parenting teens online may be even more challenging than in the “real world.” Online parenting may require even more active and authoritative engagement in the teen’s online world. In addition, parents may want to emphasize to their adolescents that their behaviors online should be consistent with who they are offline. This strategy seemed very successful in Mary’s case.

¹ Note that values for Kohlberg’s stages are an approximation based on a chart in his original findings.

Experience Fosters Moral Growth

We also noticed that more advanced moral views often seemed tied to a direct or indirect negative experience. In concert with extreme negative experiences within his family, Aaron’s profile was distinct from same-aged boys. Other teens made moral judgments that included examples of how they or people they knew had been victims of identity theft or cyberbullying. For example, both Craig and Emily said that their moms had her identity stolen in the past. Craig (predominantly hedonistic with 66% of his moral statements at Stage 2), may have reached a higher level of moral development (Stage 6) after internalizing this experience:

“I mean you were born a person. You were born who you were. Why are you trying to be someone else?” –Craig, 15-year-old male

Martin is consistently hedonistic (87% of his moral statements at Stage 2). When he was asked about digital rights and what he felt teens should and should not do online, he made it clear that he should be able to do what he pleases, as long as he does not get caught:

“Like my right is to download anything I want to and take the repercussions that would come afterward if I get caught ...Yeah, it’s just like action-reaction. I don’t remember what that is, it’s one of the laws.” –Martin, 15-year-old male

However, Martin exhibited some level of moral growth when he was posed with a moral dilemma:

“The hardest thing that I ever had to decide was fixing a computer from when my mom or my dad downloaded a virus . . .” –Martin, 15-year-old male

Martin had discovered pornography on his dad’s computer, and was unsure about what to do. He thought “*maybe it’ll be a wakeup call*” for his dad, implying that he did not approve of his dad looking at pornography. Martin’s mom has not discussed pornography with Martin; she is predominantly indulgent and uninvolved with his online activities:

“Obviously he’s going to be curious [about porn], I know that. But I can only hope that he only goes so far ...But I said, honestly I’d rather not know.” –Martin’s Mom

Meanwhile, Martin reiterated his moral disdain (Stage 4) for pornography on two separate occasions, when his advice to other teens was, “*not to get onto porn sites unless they are 18 or older,*” and, “*don’t go on porn sites. Don’t give away information. That’s it ha ha.*”

These examples illustrate that some level of direct or indirect experience can work as a positive influence on a teen’s moral development. Conversely, our interviews with Joshua, Craig, and Monica suggested that lack of online social experiences can serve to stunt overall moral growth in the context of online behavior. A key implication of this finding is that restricting online experiences is not an

optimal means for achieving adolescent online safety. Therefore, researchers and parents need to find more effective ways to allow teens to engage socially online while keeping them safe.

Parenting Style Influences Moral Development

A consistent theme across our analysis is that parenting style has a direct relationship to adolescent moral development. Compare **Figure 7** and **Figure 8**:

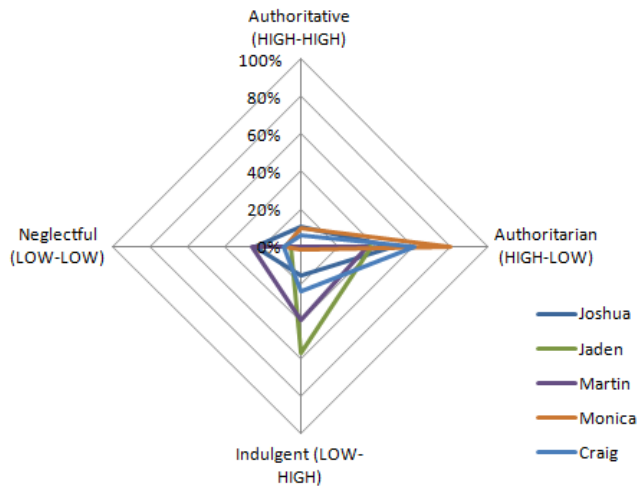


Figure 7: Adolescent Parenting Styles, Hedonistic Teens

Figure 7, we have graphed the teens who displayed higher levels of hedonism (Stage 2). The figure shows a clear pattern of authoritarian and indulgent parenting styles among the more hedonistic teens. For more hedonistic teens, online parental mediation strategies tended to be more restrictive or non-existent. For example, Martin and Craig were both extremely hedonistic (Stage 2). Martin’s mom gave him complete autonomy (high responsiveness) but had little trust that he was behaving appropriately online (low demandingness). Craig’s mom gave him very little autonomy (low responsiveness) and carefully supervised his online activities (high demandingness). It may be that the “Goldilocks principle” applies here, where both extremes – indulgent and authoritarian parenting –lead to sub-optimal outcomes. Autonomy without any responsibility and high levels of parental control that limit overall online engagement can both hinder adolescent developmental growth.

However, teens who expressed fewer hedonistic views tended to have parents who were more authoritative (**Figure 8**). These parents often opted to actively mediate their teen’s online activities or to monitor instead of restrict. For instance, Leslie experienced both high levels of demandingness coupled with high levels of responsiveness, which translated into the ability to self-regulate her online activities. Authoritative parenting that allows teens to engage online, coupled with high expectations from parents regarding appropriate behavior, seems to be linked to higher levels of moral judgment in teens. These findings are

consistent with adolescent developmental psychology literature, which suggests that authoritative parenting is associated with positive adolescent outcomes, such as competence and school performance [2, 21]. However, ours is the first study to confirm the relationship between authoritative parenting styles and adolescent moral judgment in the context of online engagement.

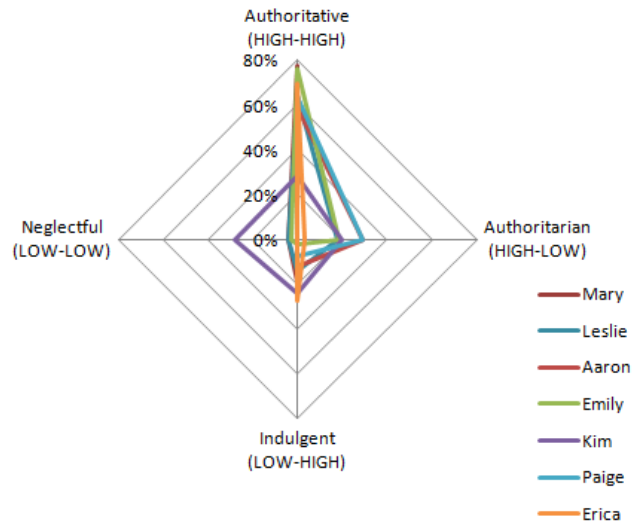


Figure 8: Adolescent Parenting Styles, Non-Hedonistic Teens

One related question concerns parenting styles for girls versus boys. Only one female teen presented as predominantly hedonistic (Monica). We observed that mothers tended to be authoritarian and restrictive with their sons but more authoritative and using active mediation with their daughters. One interpretation is that a gender-based difference in parenting style may be confounded with the more general processes of adolescent moral development [18]. This finding deserves more scrutiny in future research.

Digital Literacy Influences Mediation Strategies

Our analysis also suggests that parents’ level of digital literacy moderates their mediation strategies. Parents who knew more about technology tended to be more actively engaged in their teens’ online behaviors while parents who were less technically inclined tended to be more in favor of restricting how their teens engaged with others online. Some parents, such as Aaron’s mom, were successful in strictly monitoring their teens’ online activities while still allowing them opportunities to engage online with others. However, other parents, such as Monica and Craig’s, were restrictive to the point that they limited online risks, but also opportunities for their teens to engage with others online. This finding relates to our earlier conclusion that adolescent experience is needed for moral growth. Parents who actively engaged and monitored their teens tended to have more morally developed adolescents than the parents who focused on restriction of online social activities. This

may mean that parents should increase their digital literacy in order to effectively mediate adolescent online behavior.

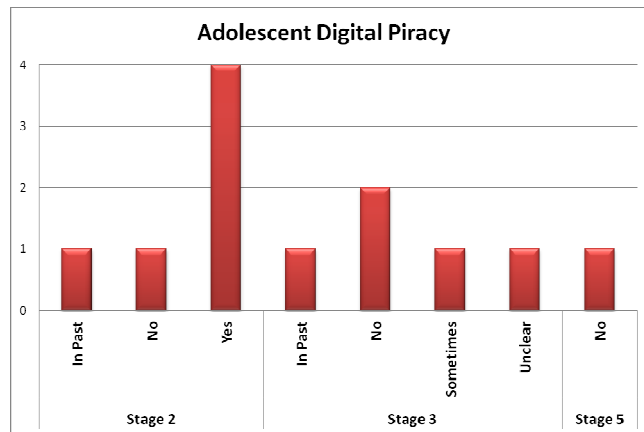


Figure 9: Digital Piracy by Moral Stage

Moral Judgment Influences Online Behavior

Our data suggests that moral judgment plays a role in ethical decision making online. In a more focused analysis, we classified teens by moral views regarding digital piracy and their decision about whether or not to pirate digital content. While consistent with previous research that found a general acceptance towards piracy among high school students [16], our data additionally suggests that moral judgment influences whether teens choose to pirate digital content or not. **Figure 9** shows that hedonism (Stage 2) is most often associated with the decision to illegally download digital content. Unlike prior research that posited piracy occurred because teens are unaware of legal consequences [17], our teens who pirate digital content seem to be aware that they are doing something illegal. Teens who pirated digital content realized that doing so was not “right,” but they felt that the benefits outweighed the costs. For the teens classified in Stage 2 who chose not to download digital content illegally, the decision was made because they felt that the costs outweighed the benefits. Viruses, followed by legal consequences, were the main reason hedonistic teens chose not to pirate digital content:

“Um, not from an ethics standpoint. From a security standpoint, I don’t like to torrent just because other computers connect to you that way. But from an ethics stand point, I mean I don’t illegally download a lot of things, but I wouldn’t feel guilty if I were to download like a movie or a bunch of songs.” –Jaden, 17-year-old male

Teens who made moral justifications that were more socially based (Stage 3) than individualistic (Stage 2), chose not to pirate music due to sympathy toward the artist:

“Immoral I guess. Because you’re stealing other people’s stuff when they could be making a profit off of it. And that’s kind of like ruining, if like a whole bunch of people do it

then it’s kind of like ruining them.” –Leslie, 15-year-old female

Stage 3 teens who had pirated digital content in the past or in certain circumstances were influenced by peer pressure. As we mentioned earlier, Aaron thought that pirating music was wrong, but he felt compelled to share his legally downloaded music with his friends. Emily had downloaded music illegally in the past, but her mom made her stop. However, she justified her behavior because it was accepted among her friends.

Only one participant gave moral justification for not illegally downloading digital content that extended beyond a Stage 3. Mary recognized the conflict between society and the individual (Stage 5), expressing a deeper understanding of the importance to conforming to a moral society:

“No, I don’t think they should because that would just kind of cause chaos. An artist makes music and the company sells it, and they make a profit off of it, and that’s part of their business. It’s like stealing from a regular company. Just because it’s a larger organization doesn’t mean you should steal from it.” –Mary, 16-year-old female

In addition to seeing an association between adolescent moral character and online behavior, we saw a direct relationship between parenting and digital piracy. Parents who explicitly condoned digital piracy *all* had teens who pirated digital content. Parents who preferred their teens download music legally, usually through iTunes, tended to have teens who obeyed those wishes. We did not find that teens went against their parent’s wishes when it came to digital piracy. An implication of this finding is that parents can directly influence specific online behaviors that could have negative, even legal, consequences for their teens.

Limitations

Before concluding, we would like to note some of the limitations of our study. First, due to the small sample size, we do not assume that our findings are generalizable to all teens. Our sample was fairly homogeneous as most participants were Caucasian and from a small proximate area. However, we believe the strength of our research is that the small sample size allowed us to do an in-depth dyadic analysis of parents and adolescents. We believe that our qualitative results can be used as a foundation for future research that can further substantiate and refine our qualitative findings through quantitative research methods (e.g., survey) with a large sample size. Second, we used subjective, quantitative coding of qualitative data in order to characterize adolescent moral growth, parenting styles, and parental mediation strategies. Our intention was not to negatively label or stereotype individuals or sub-groups of teens as “hedonists” or parents as “neglectful” or “indulgent.” We used these categorizations and labels only to gain summative insights. The categorizations were drawn from previously validated theoretical models, but we want to emphasize that the resulting classifications are

approximate, based only on statements that were uttered during the interviews. Our analysis assumes that statements made by participants are truthful and reflective of participant attitudes.

CONCLUSION

Today's adolescents are growing up in a world where online social interactions occur every day. Therefore, teens need to learn how to positively engage online and effectively cope with the negative aspects of online social interactions. Our paper contributes to the theoretical understanding of adolescent moral development and parental mediation as they relate to adolescent online behavior. While we confirmed that Kohlberg's CMD and Baumrind's parenting style theories can extend to the context of adolescent online social interactions and parenting, we also developed new understandings. For example, compared to Kohlberg's 1963 study [9], our study of today's adolescent online behaviors seem to be much more skewed toward online moral hedonism. Unfortunately, our evidence suggests that hedonism is associated with inappropriate online behaviors, such as digital piracy. Some parents may be contributing to this problem because they do not possess the technical expertise to authoritatively engage their teens through active mediation and monitoring. Instead, they take authoritarian approaches to restrict all online experiences or let their teens indulge without any kind of parental mediation. Yet, overly authoritarian or indulgent parents tended to have more hedonistic teens. We also found that adolescent experience facilitates moral growth; therefore, restricting does little to teach teens how to engage appropriately online.

We have already discussed some of the implications of our research for parents; however, these findings present many design opportunities for our research community. For example, we can leverage what we have learned to redesign existing technical monitoring software. New, customizable features could promote active and collaborative engagement between parents and adolescents to reinforce appropriate online behavior while being responsive to adolescents' needs for more autonomy as they mature. Furthermore, we are challenged with designing interfaces that help bridge the digital gap between parents who are often technologically disadvantaged compared to their tech savvy teens. Finally, we can move beyond technical monitoring solutions to develop new tools that encourage adolescents to engage in meaningful social interactions online while learning to be responsible digital citizens.

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