Effect of Adolescent Cell Phone Use on Independence

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Abstract

Although there is research that examines cell phone use and college students, this study investigated high school student cell phone use and its effect on adolescent independence. Fourteen high school students were asked a variety of questions that determined the participants' characteristics, cell phone usage, contact with parents, and effect of cell phone on curfew, schedule, problem solving, and decision making. Overall, the study concluded that both parents and adolescents preferred to communicate by text messaging. Parents were slightly more likely to initiate contact with their adolescent children. Girls were more likely to contact their parents for advice with a dating or friendship conflict while boys were more likely to contact their parents when a school-related problem arose. Overall, boys considered themselves more independent from their parents than girls. These results both support and extend previous research.

Teenagers and cell phones go together like peanut butter and jelly. Of today's teens, 75% own a phone, using this device to call or text friends and family, take and share pictures and videos, play games, send and receive email, access the internet, and go shopping (Lenhart, Ling, Campbell, & Purcell, 2010). Phones have become so integrated into adolescents' lives that 86% of teens sleep with their phones right by their side (Lenhart et al., 2010). Cell phone technology allows parents the opportunity to be in constant touch with their teenage child or children and provides an increased sense of security to parents when they send their children into the world (Lenhart et al., 2010). However, cell phones affect youth more than by simply allowing their parents to be assured that they are alive and well. An adolescent's constant connection to his or her parents through the use of a cell phone makes it more difficult for that child to learn how to solve problems and make decisions independently (Marano, 2004). According to an article published in *Psychology Today*, the combination of teenagers, cell phones, and a constant connection to parents could produce a "nation of wimps" (Marano, 2004, p. 61).

Importance of developing autonomy in young adult years

During the adolescent stage of development, kids are floating between childhood and adulthood. Teenagers are no longer considered children by society and therefore feel that they are not submissive to parental rules (Omatseye, 2007). Instead of depending on parents, adolescents want to gain control of their lives and the decisions they make (Omatseye, 2007). However, during this time of development, parents and children often clash heads which creates conflict (Omatseye, 2007). The teenagers feel that their parents are exercising too much power and control, while their parents are only trying to prevent their children from making

poor decisions (Omatseye, 2007). Although parents are trying to protect their teenage children, the development of autonomy helps an adolescent develop an adult identity and provides emotional fulfillment. Teenagers can develop autonomy by making their own decisions concerning extracurricular activities, amount and type of physical exercise, phone use, reading choices, media use, food selection, and which friends to spend time with (Weinstein & Mermelstein, 2007). By making these decisions on their own, the autonomy of a teenager greatly increases while also raising positive self-esteem, decreasing depression symptoms, and lowering the amount of delinquent behaviors (Bynum & Kotchick, 2006). Another study also found that adolescents who had higher emotional autonomy had an increased sense of identity (Mullis, 2009). The development of autonomy in teenagers is fostered by parental involvement, but just as too little parental involvement hinders a child's development, too much parental involvement can yield the same results. Goldstein writes in a study that, "Kids given too much latitude, such as regularly staying at a friend's house after school with no adults present, were more likely to engage in riskier behaviors. But the same was true for kids whose parents were overly intrusive" (Cunningham, 2005). Parents must establish a delicate balance of involvement in their teenager's life and independence granted to the child to make his or her own decisions.

Dependence of high school students on parents

Researchers have connected a student's academic and social achievement with positive parental involvement. For example, one study linked positive parental involvement with higher grade point averages and an increase in academic engagement (Chen & Gregory, 2010). According to a study published by Catsambis and Garland in 1997, most parents are highly involved in the academic decisions of their high school children (Catsambis & Garland, 1997).

Specifically, of the parents interviewed, 71% had rules regarding a minimum grade point average for their high school seniors. Furthermore, 79% had rules regarding the completion of homework and 62% of the parents regularly had school-related conversations with their child.

The aforementioned study also concluded that too much parental control over a child's academic decisions could lead to a lack of decision-making skills and increased anxiety regarding meeting parental expectations. Although 41% of high school seniors decide what courses to take on their own, 20% of families reported equal parent and child involvement in deciding what courses the teen will take in high school (Catsambis & Garland, 1997). When parents of twelfth-grade students were asked about their educational expectations for their children, 39% expected their children to earn a four-year college degree and 18% wanted their children to receive a medical degree or doctorate degree (Catsambis & Garland, 1997).

Contact between college students and parents

In 2002, Trice published a study that examined the content of emails that were exchanged between college students and their parents. Of the emails sent from students, 78% did not state problems the student was having or ask for assistance or advice from parents (Trice, 2002). However, seven percent of the emails contained a statement of an academic problem and 16% of the emails asked for academic, social, or financial assistance (Trice, 2002).

According to Kuehn, teenagers prefer to use their cell phones to text their parents instead of calling them. Of the 94 high school students interviewed, 46.3% used text messaging to contact their parent or another caring adult compared to the 44.7% who preferred to call (Kuehn, 2011). However, when teenagers enter college, 76.53% don't text their parents at all

(Wolf, Sax, & Harper, 2009). On the other hand, 30.67% of these young adults call their parents a "few" times a week and 24.95% called every day (Wolf, Sax, & Harper, 2009).

Most college students seem content with this amount of communication with their parents. Hofer discovered that 77% of college freshman and 78% of sophomores are satisfied with the amount of contact with their parents (First-Year Experience). The same study also concluded that a majority of student communication in college is between the student and mother. Although over 77% of underclassmen reported being satisfied with the amount of contact with their parents, 55% of the students reported that their mothers desired to have more communication with them (Hofer, 2008).

One main reason that college students call or text their parents is to discuss their academic decisions and progress. In one study, two-thirds of college students reported that their parents showed interest in their academic progress (Wolf, Sax, & Harper, 2009). Among those same college students, 22% regularly discussed course material with their parents (Wolf, Sax, & Harper, 2009). Eleven percent also agreed that their parents helped decide what courses to take (Wolf, Sax, & Harper, 2009).

Parental involvement in students' lives is extremely important, especially at a time when young adults are learning how to live on their own and make their own decisions. However, students who experience less parental regulation, either academic or behavioral, while in college and have less frequent communication with their parents than other students have a more positive relationship to their parents (Hofer, 2008). In addition, positive parent-student relationships were also reported among students who experience functional autonomy and are comfortable with initiating actions on their own (Hofer, 2008). Parental involvement in

students' lives can have positive results, but too much parental control can prevent students from learning how to make decisions and solve problems.

Differences of Female and Male Cell Phone Use and Parental Dependence

Studies have shown that girls are more likely to embrace and use their mobile phones more than boys. One study conducted by the Pew Research Center concluded that girls send and receive an average of 50 more text messages per day than boys of the same age do (Lenhart et al., 2010). In addition, 59% of girls call their friends each day compared to 42% of boys who do the same (Lenhart et al., 2010).

Females also have more contact with their parents during college than boys do. First-year males contacted their parents 5.6 times per week compared to females who communicated with their parents an average of 6.1 times each week (Hofer, 2008). This trend was also true regarding the number times parents initiated contact with their children; parents contacted their freshman sons 6.8 times and their daughter 7.8 times each week (Hofer, 2008). Furthermore, women are more likely to contact their parents more than boys during the most stressful weeks of each semester (Trice, 2002).

Purpose of Study

Prior research has found that high school and college students depend on parents for academic and social support and cell phones allow them to extent this dependence beyond inside the home. The purpose of this study was to provide more recent research on adolescents and their cell phone use. Most published studies on this topic were conducted over five years ago. Since then, the trend of teenagers owning and depending on mobile phones has greatly increased. According to Pew Internet, teen cell phone ownership has increased from 63% in

2006 to 71% in 2008 (Lenhart, 2009). If the trend has continued, an even higher percentage of teenagers own a cell phone now. This creates a need for more current research. Second, this study was conducted to determine how high school students use their cell phones to contact their parents. In addition, the data collected examines how this technology affects an adolescent's independence from his or her parents and his or her ability to make decisions and solve problems. The final purpose of this study was to determine if there is a difference between male and female cell phone use and their parental dependence.

Methods

Participants

A total of fourteen students were interviewed for this study. All participants were recruited from the same rural high school in Indiana. All participants owned cell phones and were either a junior or senior in high school. There were an equal number of males and females with seven participants of each sex. Four of the participants were juniors in high school (28.57%) and ten were seniors (71.43%).

Measures

A set of 45 questions was developed to determine the participants' characteristics, cell phone usage, contact with parents, and effect of cell phone on curfew, schedule, problem solving, and decision making. The questions included yes or no, open-ended, and Likert-scale responses. When a question required a response from the Liker-scale, the participants were asked to rate the question 1 for 'not likely', 2 for 'somewhat unlikely', 3 for 'likely', 4 for 'somewhat likely', and 5 for 'very likely.' A complete list of the questions is located in the appendix.

Procedure

Students were interviewed during their study hall period on a typical (i.e., not field trip or testing) school day. Each participant was asked to come to a separate room to be interviewed individually. They were asked the series of set questions listed in the appendix and described above.

Results

Participant Characteristics

Table 1 presents the participants' demographic characteristics and status on key factors. Most participants lived with their biological parents, had a driver's license, owned a car, and held a part-time job. More males were more females reported having a job while fewer males reported receiving spending money from their parents than females. When asked how independent the participants considered themselves from their parents, nine participants (64.29%) considered themselves neither independent nor dependent. No participants considered themselves very dependent on their parents and five (35.71%) considered themselves independent from their parents. More males reported that they were independent of their parents than females.

Adolescent Cell Phone Use

Approximately 10 (71%) of the participants owned a cell phone that was paid for entirely by their parents. Three of the participants (21.43%) split their cell phone expenses with a parent. Only one participant paid for all cell phone expenses by himself. Eight participants (57.14%) had an unlimited voice minutes, texting, and data plans. All participants had unlimited texting. When asked about the initial reason for getting a cell phone, eight participants

(57.14%) listed communication with parents as a main reason. Other initial reasons included to communicate about transportation (21.43%, n=3), in case of emergencies (14.29%, n=2), safety (7.14%, n=1), and work (7.14%, n=1). Additional results relating to the participants' cell phone use can be seen in Table 2.

Contact with Parents

Table 3 represents adolescents' cell phone contacts with their parents. When initiating contact with parents, the participants were more likely to text their parents than to call them. When parents were the initiators of contact, they were also more likely to text their children than to call them. More females than males chose to call their parents to contact them. Men were slightly more likely to initiate contact with their parents during school and while in the same building. A majority of the participants contacted their parents at least twice a day (85.71%, n=12) and was contacted by their parents at least twice a day (92.86%, n=13). Parents were slightly more likely to initiate cell phone contact with the participants than the participants did.

Effect on Schedule and Curfew

Table 4 represents the effects that a cell phone has on adolescents' curfew. Approximately 57% of female participants (n=4) stated that having a cell phone effected how late their curfew was compared to only 42.86% of males (n=3). Males were more likely to be given the option of staying out as late as they wanted as long as they stayed in contact with their parents. Of the six participants that have been given this option, 50% (n=3) said that this option was only given once in a while. One (16.67%) said that this option was offered on a regular basis and two (33.33%) said that this option was almost always the case.

Participants were more likely to contact their parents to discuss their schedule than to arrange transportation. Both males and females were more likely to text than call their parents to establish curfew, while females were more likely to contact their parents to extend their curfew. Males preferred to check-in with their parents via text messaging while girls preferred to call their parents. Overall, men were more likely to contact their parents to discuss their schedules or transportation while females contacted their parents to discuss curfew.

Effect on Problem Solving and Decision Making

Table 6 contains information on adolescent problem solving and decision making. Males were more likely than females to contact their parents when a school-related problem arose and before purchasing an inexpensive item such as food. On the other hand, females were more likely to call or text a parent when there was a conflict within a relationship and before purchasing a more expensive item such as clothing or concert tickets. Girls were also more likely than boys to contact a parent to ask a question before searching for the answer elsewhere.

Discussion

Overall, the study concluded that both parents and adolescents preferred to communicate by text messaging. Parents were slightly more likely to initiate contact with their adolescent children. Girls were more likely to contact their parents for advice with a dating or friendship conflict while boys were more likely to contact their parents when a school-related problem arose. Overall, boys considered themselves more independent from their parents than girls. These results both support and extend previous research.

Timing of Contact

As with previous work that indicates that female college students contacted their

parents more than males during the two most stressful weeks of the semester (Trice, 2002),

female high school students in the current were more likely to contact their parents when there

was a conflict within a dating or friendship relationship. The current study indicates that female

college students' cell phone behavior patterns begin prior to starting college and are influenced

by social stressors as well as academic stressors.

Mode of Contact

While preferences for time of contact appear to be similar between female high school

and college students, the preferred mode of contact may be different among middle and high

school students. Research conducted at Ohio State University showed that there was only a

slight difference between whether teenagers, including a high percentage of middle school

students, prefer to text or call their parents (Kuehn, 2011). However, high school students

reported favoring texting their parents over calling. This difference could be a result of the age

difference of the participants. As adolescents age, they naturally seek more independence from

their parents (Omatseye, 2007). As a result, teenagers might prefer to create more emotional

separation between themselves and their parents and exercise this separation by preferring to

communicate in a less personal way.

Frequency of Contact

Previous research also concluded that college females contacted their parents more

times than males did. However, I found that, on average, boys contacted their parents more

each day than girls did. At the same time, parents contacted their sons more on average than

they contacted their daughters. The difference in results from previous studies and this study

might be attributed to the age and maturity differences of high school and college students. While women reach full brain maturity by age 21, most men don't cognitively mature until they are 30 years old (Sax). Since girls begin to mature sooner than boys, they will begin to seek independence from their parents at an earlier age. As a result, girls might seek separation from their parents and express this wish by contacting their parents less. However, by the time teenagers enter college, boys will be at this stage of seeking separation from their parents and therefore contact their parents less than girls.

Gender Differences in Cell Phone Usage

The results of this study also revealed some gender differences in adolescent cell phone use and contact with parents. When looking at the amount of contact with parents, boys contacted their parents more times during each day than girls. In addition, they were more likely to call or text their parent during school or while in the same building. Besides amount of contact with parents, there were also gender differences regarding how curfew was affected, established, and changed via cell phone. Specifically, girls were more likely to say that having a cell phone affected how late their curfew was.

Gender differences were also present in the effects of cell phones on adolescent independence. During stressful times, males were most likely to contact their parents about a school-related problem while females contacted their parents when there was a problem with a dating or friendship relationship. This reflects the difference in how boys and girls are socialized. Society teaches girls to foster personal relationships and to care for others. On the other hand, boys are taught to focus on completing instrumental tasks (Cherlin, 2010). This

difference in societal values of boys and girls is reflected in which situations boys and girls contact their parents about.

When deciding what products to purchase, males were more likely to contact their parent before purchasing an inexpensive item such as food. However, girls depended more on their parents for problem solving as they were more likely contact their parents for the answer to a question before finding the answer elsewhere. The study discovered gender differences in the amount of dependence adolescents have on their parents to make decisions and solve problems.

Limitations

While the current study updates the knowledge-base regarding teenagers' cell phone use patterns, particularly as such use relates to their independence from parents and their decision-making abilities, it is not without limitation. One limitation of this study is that there was a small pool of participants. With only fourteen total participants, it's hard to determine whether the results can be generalized to the entire population of teenagers. In addition, the participant demographics reflect the homogenous community in which they live. Again, this factor makes it hard to conclude how accurate the results of the study are for people of other socioeconomic statuses and races.

Implications

To determine how the results of the current study generalize to cell phone use among a more diverse range of teenagers, further study needs to be conducted with a larger participant pool that includes teenagers of different races and with a variety of socioeconomic backgrounds. In addition, educational institutions and organizations that work with adolescents and their parents should educate parents and their children on the importance of developing

autonomy in the young adult years. Cell phones can encourage teens to develop autonomy by

providing a sense of security that eases anxiety associated with risk-taking (Sanchez-Martanez

& Otero, 2009). However, cell phones can also hinder a teenager's autonomy by creating a

tether that constantly connects them to their parents, inhibiting the teenager from making

decisions on their own (Marano, 2004).

Furthermore, parents need to be encouraged to monitor their amount of involvement in

their teen's life when they are making decisions and finding solutions to their problems.

Adolescents need be encouraged to make decisions and solve problems on their own when the

results will not harm the teen in any way. The process of making mistakes is healthy and

important for the development of independence (Tugend, 2001). Parental education is the key

to creating healthy parent-child cell phone contact during the adolescent years.

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Appendix

Participant Characteristics
1. Sex?
2. Grade in high school?
3. Who do you live with?
4. Do you have a driver's license?
5. Do you have your own car?
6. Do you have a job?
7. Does your parent(s) provide you with spending money?
8. On a scale from 1 to 3 (1 being very little), how independent do you consider yourself to be from your parent(s)?

Adolescent Cell Phone Use
9. Do you own a cell phone?
10. Do you share a cell phone with another person?
11. Who pays for your cell phone?
12. Why did you get a cell phone?
13. What type of voice plan do you have?
14. What type of text messaging plan do you have?
15. What type of data plan do you have?

Cell Phone Contact with Parents
During a typical day, how…
16. Likely are you to contact your parent(s) by a voice call?
17. Likely are you to contact your parent(s) by text message?
18. Likely are you to send your parent(s) a picture or video message?
19. Likely are you to call or text your parent(s) during school?
20. Likely are you to call or text your parent(s) while in the same house/building?
21. Often do you call or text your parent(s)?
22. Likely are you to be contacted by your parent(s) by a voice call?
23. Likely are you to be contacted by your parent(s) by a text message?
24. Likely are you to receive a picture or video message from your parent(s)?
25. Likely is your parent(s) to call or text you during school?
26. Likely are your parent(s) to call or text while in the same house/building?
27. Often do your parent(s) call or text you?

Effect on Schedule and Curfew
28. Do your parent(s) expect you to be reachable by cell phone at all times?
29. Do you expect your parent(s) to be reachable by cell phone at all time?
30. Does having a cell phone affect how late your curfew is?
How likely are you to..
31. Contact your parent(s) by cell phone to discuss your schedule?
32. Contact your parent(s) by cell phone to discuss transportation to and from activities?

33. Establish your curfew by texting your parent(s)?
34. Establish your curfew by calling your parent(s)?
35. Call or text your parent(s) to extend your curfew?
36. How likely are your parent(s) to call you to check up on you?
37. How likely are your parent(s) to text you to check up on you?
38. Have your parent(s) ever given you the option of staying out as late as you want as long as you call/text them to update your location and activities?
39. How often is that case?

Effect on Problem Solving and Decision Making
How likely are you to call or text your parent(s)…
40. When a school-related problem arises?
41. For advice when there is a conflict within a friendship?
42. For advice when there is a conflict within a dating relationship?
43. Before purchasing an inexpensive item such as food?
44. Before purchasing a more expensive item such as clothing or concert tickets?
45. To answer a question before searching for the answer elsewhere?

Table 1. Participant characteristics.

Variable	Males (n=7)		Females (n=7)		Total (n=14)	
Grade	Juniors (n=1)	Seniors (n=6)	Juniors (n=3)	Seniors (n=4)	Juniors (n=4)	Seniors (n=10)
Live with both parents only (n[%])	5 (71.43)		5 (71.43)		10 (71.43)	
Have driver's license	6 (85.71)		7 (100.00)		13 (92.86)	
Have car	7 (100.00)		6 (85.71)		13 (92.86)	
Have job	7 (100.00)		5 (71.43)		12 (85.71)	
Get spending money from parents	2 (28.57)		5 (71.43)		7 (50.00)	
Consider themselves very independent from parents	3 (42.86)		2 (28.57)		5 (35.71)	

Table 2. Adolescent cell phone behavior.

Variable	Males (n=7)	Females (n=7)	Total (n=14)
Own a cell phone (n[%])	7 (100.00)	7 (100.00)	14 (100.00)
Parents pay all cell phone expenses	5 (71.43)	5 (71.43)	10 (71.43)
Cell phone expenses split between parents and student	1 (14.29)	2 (28.57)	3 (21.43)
Have unlimited voice plan	4 (57.14)	4 (57.14)	8 (57.14)
Have unlimited text messaging	7 (100.00)	7 (100.00)	14 (100.00)
Have unlimited data plan	4 (57.14)	5 (71.43)	9 (64.29)

Table 3. Cell phone contact with parents.

Variable	Males (n=7)	Females (n=7)	Total (n=14)
During a typical day, how likely are you to…			
Contact parents by voice call?	2.43	3.29	2.86

Contact parents by text messaging?	4.43	4.71	4.57
Text or call parents during school?	2.14	2.00	2.07
Text or call parents from the same building	1.71	1.29	1.50
Contact parents by cell phone at least twice a day (n[%])	6 (85.71)	6 (85.71)	13 (92.86)
Be contacted by parents by voice call	2.29	2.71	2.51
Be contacted by parents by text messaging	4.00	4.29	4.15
Receive a call or text from parents during school	2.86	2.14	2.50
Receive a call or text from parents from the same building	1.43	1.29	1.36
Be contacted by parents by cell phone at least twice a day (n[%])	7 (100.00)	6 (85.71)	13 (92.86)

*Likert-scale ratings: 1-not likely, 2-somewhat unlikely, 3-likely, 4-somewhat likely, 5-very likely

Table 4. Cell phone effects on curfew and schedule.

Variable	Males (n=7)	Females (n=7)	Total (n=14)
Expect to reach parents at all times (n[%])	6 (85.71)	7 (100.00)	13 (92.86)
Parents expect to reach student at all times	7 (100.00)	7 (100.00)	14 (100.00)
Cell phone effects how late curfew is	3 (42.86)	4 (57.14)	7 (50.00)
Given option of staying out late if contact parents by cell phone	4 (57.14)	2 (28.57)	6 (42.86)

*Likert-scale ratings: 1-not likely, 2-somewhat unlikely, 3-likely, 4-somewhat likely, 5-very likely

Table 5. Communication with parents about schedule and curfew.

Variable	Males (n=7)	Females (n=7)	Total (n=14)
During a typical day, how likely are you to use your cell phone to…			
Discuss your schedule	4.43	4.14	4.29
Discuss transportation	3.71	3.57	3.64
Establish curfew by texting	3.71	4.71	4.21
Establish curfew by calling	3.00	3.00	3.00
Extend curfew	3.86	4.43	4.15
Text to check in with parents	3.43	3.00	3.22
Call to check in with parents	3.86	4.29	4.08

*Likert-scale ratings: 1-not likely, 2-somewhat unlikely, 3-likely, 4-somewhat likely, 5-very likely

Table 6. Cell phone effects on adolescent problem solving and decision making.

Variable	Males (n=7)	Females (n=7)	Total (n=14)
How likely are you to call or text you parent(s) when…			
A school-related problem arises	3.86	2.86	3.36
There is a conflict within a friendship	1.71	2.14	1.93
There is a conflict within a dating relationship	1.29	2.29	1.79
Purchasing an inexpensive item	2.71	2.00	2.36
Purchasing a more expensive item	3.71	3.71	3.71
You have a question before finding the answer elsewhere	2.57	3.14	2.86

*Likert-scale ratings: 1-not likely, 2-somewhat unlikely, 3-likely, 4-somewhat likely, 5-very likely