The Influence of Peer Relationships on Adolescent Technology Use

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Abstract

Today, technology is an integral component of adolescents' lives. The majority of adolescents now have smartphones and access to a computer in their home (Pew Internet and American Life Project, 2013). Research has been conducted on the role of technology in adolescents' lives, including how technology may influence peer relationships during adolescence. However, less research has explored the other direction of effect - that is whether peer relations influence technology use. Therefore, the present study aimed to assess the direction of influence in the relationship between adolescent technology use and peer relations. In addition, given that research has shown gender differences in both technology use and peer relations, gender differences were examined. Surveys on technology use and peer relations were given to adolescents (N=1,036; M = 16.15, SD=.75) during the spring of 2007 and 2008. Results from this study highlight the importance of studying the impact of adolescent technology use on peer relationships.

Sample

- 1,036 10th and 11th grade students (53% female)

- Fairly diverse: 58% Caucasian; 23% African American,12% Hispanic, 2% Asian, 5% Other

- Age Range: 14-19 years old; Mean age = 16.15 (SD=.75)

- All adolescents were in 10th (58%) or 11th (42%) grade and were attending a public high school in Delaware, Maryland, or Pennsylvania

Measures

Harter's Close Friend Scale

Harter's Close Friend Scale (Harter, 1988) is a subscale from the Self-Perception Profile. It is a six-item measure designed to assess whether adolescents have close peers that support them. An example item is, "Some kids have a close friend who they can tell problems to but other kids don't have a close friend who they can tell problems to." The response scale is presented in a structured alternative format and ranges from 1 = *low perceived competence* to 4 = *high perceived competence*.

Technology Use Questionnaire

The Technology Use Questionnaire is a nine-item measure used to assess frequency of technology use on an average day (watching television, talking on the phone, listening to music, texting, e-mailing/IMing, playing video games, using an iPod, surfing the web, and working on the computer). The response scale ranges from 1 = *none* to 6 = *4 or more hours*.

Procedures

During the spring of 2007 (Time 1) and 2008 (Time 2), trained undergraduate and graduate students gave surveys to students who provided assent and had parental consent. The survey took approximately 40 minutes to complete. Throughout the study, the participants were made aware of their voluntary status and told that they could withdraw at any time. In addition, participants were assured that all of their answers would be kept confidential. Participants were compensated with a movie pass and were invited to participate again the following spring.

Results

Bivariate correlations were first assessed to determine significant relationships between variables. Linear regression models were conducted to examine whether peer relations predict adolescent technology use and/or adolescent technology use predicts peer relationships. In the first model, peer relations assessed at Time 1 was the independent variable and the technology use variables assessed at Time 2 were the dependent variables. In the second model, the technology use variables assessed at Time 1 were the independent variables and peer relations assessed at Time 2 was the dependent variable. All models were conducted separately by gender.

The data supported the first model (see Table 1). For girls, peer relations predicted more frequent talking on the phone (β = .10, p < .05), texting (β = .19, p < .001), and listening to music (β = .11, p < .05) (see Table 1). Peer relations similarly predicted more frequent texting for boys (β = .17, p < .01). Less support was found for the reverse direction of effect (see Table 2). For girls, e-mailing/IMing predicted peer relations (β = .15, p < .05) and for boys, talking on the phone predicted peer relations (β = .15, p < .05).

Table 1
Linear Regression Results: Predicting Technology Use at Time 2 from Peer Relations at Time 1

		Watching television	Talking on the phone	Listening to music on a stereo	Text messaging	E-mailing/ IMing	Playing video games	Using an iPod	Working on the computer	Surfing the web
Close Peer Relationships	Girls	-.01	.10*	.11*	.20***	.10	-.04	.06	-.01	-.01
	Boys	-.04	.11	.00	.17**	.06	-.03	.07	.12	.07

NOTE: Standardized beta coefficients presented.
*p < .05, **p < .01, ***p < .001

Table 2
Linear Regression Results: Predicting Peer Relations at Time 2 from Technology Use at Time 1

	Close Peer Relationships	
	Girls	Boys
Watching television	-.01	-.03
Talking on the phone	.02	.15*
Listening to music on a stereo	-.05	-.05
Text messaging	.05	-.09
E-mailing/IMing	.15*	.05
Playing video games	-.09	-.07
Using an iPod	.09	-.02
Working on the computer	-.09	.03
Surfing the web	-.10	-.03

NOTE: Standardized beta coefficients presented.
*p < .05, **p < .01, ***p < .001

Conclusion

Results from this study indicate that the relationship between technology use and peer relations is bidirectional during adolescence. However, peer relations predicted technology use more consistently than the reverse. Of note, the type of technology that was influenced by having close relationships primarily was technology that allows for communication. Since many adolescents have access to a computer or a smartphone, it is not surprising that these types of technology seem to be most salient. Perhaps adolescents who have close, supportive relationships with peers may use technology to further strengthen their relationships. Although findings from this study are informative, it would be important for future research to systematically examine the underlying mechanisms involved in the relationship between peer relations and technology use during adolescence.

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