As shown in Figure 2, for males, text messaging predicted more frequent marijuana use ($\beta = 0.18, p < 0.01$). In contrast, playing video games predicted less alcohol consumption ($\beta = -0.14, p < 0.05$) and less binge drinking ($\beta = -0.12, p < 0.05$). For females, e-mailing and instant messaging predicted more alcohol use ($\beta = 0.11, p < 0.05$) and marijuana use ($\beta = 0.11, p < 0.05$). In addition, listening to music predicted more marijuana use ($\beta = 0.11, p < 0.05$). However, working on the computer predicted less marijuana use ($\beta = -0.12, p < 0.05$) and less binge drinking ($\beta = -0.13, p < 0.05$).

**RESULTS**

**MEASURES**

**Technology Use Questionnaire**
- The Technology Use Questionnaire is a nine-item measure used to assess frequency of technology use on a typical day. The types of technology assessed include text messaging, e-mailing/instant messaging, playing video games, listening to music on an iPod/MP3 player, and working on the computer. Responses range from 1 = none to 6 = 4 or more hours.

**Substance Use**
- **Alcohol Use** - Participants were asked how often on an average day they usually drank, with responses ranging from 0 = never to 9 = more than 8 drinks. They also were asked how often they usually had a drink in the last six months, with responses ranging from 0 = never to 7 = every day. These two questions were used to calculate a total alcohol quantity x frequency score.
- **Binge Drinking** - Youth were asked how many times they drank 6 or more drinks on one occasion in the last six months.
- **Marijuana Use** - Participants were asked how often they had used marijuana or hashish in the previous six months (non-medical use only).

**DISCUSSION**

- Technology use was found to have both negative and positive effects on youth.
- Substance use also predicted technology use for girls.
- Future research should consider the importance of gender when examining the relationship between technology use and substance use.
- Results from this study highlight the need to consider both directions of influence between technology use and youth adjustment.

**REFERENCES**


**Figure 2. Model predicting substance use from technology use.**

**Figure 1. Model predicting technology use from substance use.**

**INTRODUCTION**

Current theories of human development (e.g., relational developmental systems models; Overton & Lerner, 2014) purport that characteristics of the individual and his/her contexts influence one another to produce development. One context that is becoming increasingly salient in the lives of young people is the world of technology that surrounds them. Research suggests that youth now are engaged in technology for more than 7.5 hours a day (Rideout, Foehr, & Roberts, 2010). Spending more time online and using technology has warranted some concern. Some research has indicated that technology use is related to negative adjustment, such as physical inactivity, body fat, and sleep difficulties (Lemola, Parkinson-Gloor, Brand, Dewald-Kaufmann, & Grob, 2014; Marshall, Biddle, Gorely, Cameron, & Murdeny, 2004).

Although technology use has been shown to be associated with externalizing problems (Anderson et al., 2007), less is known about the relationship between technology use and substance use. Future research should consider the importance of gender when examining the relationship between technology use and substance use.