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Cyber victimization by peers: Prospective associations with adolescent social anxiety and depressive symptoms

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ABSTRACT

Peer victimization that occurs via electronic media, also termed cybervictimization, is a growing area of concern for adolescents. The current study evaluated the short-term prospective relationship between cybervictimization and adolescents' symptoms of social anxiety and depression over a six-week period. Participants were 839 high-school aged adolescents (14–18 years; 58% female; 73% Hispanic White), who completed measures of traditional peer victimization, cybervictimization, depression, and social anxiety at two time points. Findings supported the distinctiveness of cybervictimization as a unique form of peer victimization. Furthermore, only cybervictimization was associated with increased levels of depressive symptoms over time, and only relational victimization was associated with increased social anxiety over time, after controlling for the comorbidity of social anxiety and depression among youth. Cybervictimization appears to be a unique form of victimization that contributes to adolescents' depressive symptoms and may be important to target in clinical and preventive interventions for adolescent depression.

Cybervictimization is a growing concern for adolescents (Gerson & Rappaport, 2011; Slonje, Smith, & Frisen, 2013). Estimates reveal that over 90% of adolescents are online and spend close to a third of their waking time using electronic devices (Lenhart, Purcell, Smith, & Zickuhr, 2010; Rideout, Foehr, & Roberts, 2010). While the majority of cyber experiences are positive (Valkenburg, Peter, & Schouten, 2006), cybervictimization is a growing problem that, in extreme cases, has been implicated in adolescent and young adult suicide (e.g., Pilkington, 2010).

Cybervictimization is associated with a variety of negative outcomes, including low self-esteem, symptoms of anxiety and depression, and suicidal ideation (e.g., Sinclair, Bauman, Poteat, Koenig, & Russell, 2012; Slonje et al., 2013; Wang, Nansel, & Iannotti, 2011; see Kowalski, Giumetti, Schroeder, & Lattanner, 2014). However, a number of important research gaps limit our understanding of the potential psychological impact of cybervictimization. Specifically, existing findings have been limited by the predominant use of cross-sectional research designs and by uncertainty about the distinctiveness of cybervictimization from other more traditional forms of peer victimization. Thus, the key aims of the current study were to examine the short-

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term prospective relationship between cybervictimization and adolescents' reports of internalized distress (i.e., symptoms of social anxiety and depression) and to evaluate the distinctiveness of cybervictimization from other types of peer victimization. To do so, we used a multi-item measure of cybervictimization by peers, for which psychometric properties are also reported.

Peer victimization: traditional and cyber forms

In the present study, we use the term cybervictimization to refer to peer victimization that occurs via the Internet or other forms of electronic media (Tokunga, 2010). In contrast to cybervictimization, traditional peer victimization typically occurs in-person and includes: *overt victimization* (being hit, pushed, or threatened by peers), *relational* victimization (being left out or excluded by peers), and *reputational* victimization (being the target of peers' efforts to embarrass or damage one's reputation) (De Los Reyes & Prinstein, 2004).

As our initial step, we evaluated whether cybervictimization is distinct from traditional forms of peer victimization, as this has become an important research issue (Gradinger, Strohmeier, & Spiel, 2009; Katzer, Fetchenhauer, & Belschak, 2009). Evidence suggests that youth who are peer-victimized in a traditional face-to-face context are often cybervictimized by peers as well (Del Rey, Elipe, & Ortega-Ruiz, 2012; Salmivalli, Sainio, & Hodges, 2013). However, distinctions between cyber and traditional forms of peer victimization have also been found (Landoll, La Greca, & Lai, 2013; Perren, Dooley, Shaw, & Cross, 2010), and may be due to certain unique characteristics of cybervictimization. In particular, cybervictimization has the potential for anonymity of the perpetrator, and the ability to broadcast damaging information to a much wider audience (Gerson & Rappaport, 2011; Slonje et al., 2013) than is the case for other forms of peer victimization. Moreover, turning off an electronic device does not prevent the cyber "attack" from being seen by peers and affecting adolescents' social lives (Brown & Bobkowski, 2011; Slonje et al., 2013). In view of these unique features of cybervictimization, we anticipated that cybervictimization would be distinct from, but related to, more traditional types of peer victimization.

Peer victimization and internalized distress

Our primary study aim examined whether cybervictimization is associated concurrently and prospectively with adolescents' symptoms of internalized distress. A robust literature links traditional peer victimization and internalizing problems (e.g., Adams & Bukowski, 2008; Hawker & Boulton, 2000; La Greca & Harrison, 2005; Siegel, La Greca, & Harrison, 2009). In particular, peer victimization can be conceptualized as an interpersonal stressor and as such has been linked with adolescent social anxiety and symptoms of depression (see La Greca & Lai, 2014, for a review). Moreover, traditional peer victimization appears to precede adolescent distress, and adolescents with internalizing symptoms also are at elevated risk for future peer victimization (Reijntjes, Kamphuis, Prinzie, & Telch, 2010; Siegel et al., 2009). In addition to these general findings, unique associations between peer victimization types and internalized distress have been found, such that relational peer victimization, as compared to overt and reputational victimization, is more strongly related to adolescents' symptoms of social anxiety (La Greca & Harrison, 2005; Siegel et al., 2009).

Concerning cybervictimization, however, research examining the prospective associations between cybervictimization and psychological distress has been scarce; thus, causal interpretations are difficult to substantiate (for review, see Kowalski et al., 2014). Though growing research supports concurrent associations between cybervictimization and negative psychological outcomes (Dempsey, Sulkowski, Nichols, & Storch, 2009; Gradinger et al., 2009; Perren et al., 2010), prospective research on cybervictimization is limited and has focused primarily on linkages between cybervictimization and aggression (Fanti, Demetriou, & Hawa, 2012; Wright & Li, 2013). Preliminary research does suggest some prospective associations between cybervictimization, social anxiety and depression when examined separately (Gamez-Gaudix, Orue, Smith, & Calvete, 2013; van den Eijnden, Vermulst, van Rooij, Scholte, & van de Mheen, 2014), but has not accounted for the high degree of comorbidity between symptoms of internalizing disorders (for review, see Starr, Davila, La Greca, & Landoll, 2011). This line of research would represent a critical step forward in evaluating the potential impact of cybervictimization.

In evaluating associations between cybervictimization and adolescents' symptoms of social anxiety and depression in the current study we considered the common co-occurrence/comorbidity between these internalizing symptoms, unlike in most previous research (Cummings, Caporino, & Kendall, 2014; Starr et al., 2011). In a rare study that addressed comorbidity between social anxiety and depression, Ranta, Kaltiala-Heino, Pelkonen, and Marttunen (2009) found that traditional forms of peer victimization were more directly related to adolescent social anxiety than to depression and that associations between peer victimization and adolescent depression could be explained by the shared variance between social anxiety and depression. Thus, controlling for comorbidity can help elucidate etiological pathways between risk factors and specific internalizing outcomes, potentially benefiting both research and practice. Accordingly, we examined concurrent and prospective associations between traditional peer victimization, cybervictimization, and adolescents' social anxiety, while controlling for depressive symptoms; we also controlled for social anxiety when examining associations between peer victimization, cybervictimization and adolescents' depressive symptoms.

Based on prior research, we expected that relational peer victimization would be associated with social anxiety, both concurrently and over time (La Greca & Harrison, 2005; Siegel et al., 2009). However, we expected cybervictimization to be most strongly related to adolescent symptoms of depression, given the embarrassing and potentially public nature of this type of victimization.