Understanding the Relationship between Cyber-victimisation and Cyber-bullying on Social Network Sites: The Role of Moderating Factors

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Research Highlights

- Knowledge of moderators of the cyber-victimisation-bullying relationship is scant
- Moral disengagement strengthened the cyber-victimisation-bullying association
- Parental monitoring weakened the cyber-victimisation-bullying association
- Greater Internet use marginally strengthened this association
- Younger age marginally strengthened this association

Abstract

The strongest predictor of engagement in cyber-bullying is having experienced cyber-victimisation oneself. We examined the extent to which trait (moral disengagement, cognitive empathy, affective empathy), demographic (age, sex), and situational factors (Internet use, parental Internet monitoring) moderated the strength of the relationship between victimisation and bullying on Social Network Sites (SNSs). We surveyed 175 adolescents (*M* age = 14.82 years; *SD* = 1.52; 53% male) who had a SNS profile. Higher moral disengagement strengthened the cyber victim-bully relationship, whereas greater parental monitoring weakened this relationship. Neither affective nor cognitive empathy, age, sex, nor time online moderated the relationship. Overall, 30% to 48% of the variance in cyber-bullying frequency was explained. The results suggest that cyber-bullying interventions need to also focus on experiences of victimisation and that reducing the adolescent's moral disengagement and educating parents about the importance of monitoring adolescent Internet use would be most effective.

Key words: cyber-bullying; cyber-victimisation; moral disengagement; empathy; Social Network Sites

1.0 Introduction

Cyber-bullying is the use of computers, mobile phones, and other devices to engage in deliberate, repeated, aggressive acts to harm others (Smith et al., 2008). Unlike traditional face-to-face (F2F) bullying, cyber-bullying is not limited by time (e.g., school hours) or location (e.g., school playground), and acts can be anonymous, viewed asynchronously and repeatedly, and more widely disseminated/shared by others (Slonje, Smith, & Frisén, 2013). Cyber-bullying can occur via mobile phone calls, instant or text messaging, email, online fora, blogs, personal websites, gaming sites, and Social Networking Sites (SNS; Kowalski, Giumetti, Schroeder, & Lattanner, 2014). We focused on cyber-bullying on SNSs. Facebook is the leading SNS; 71% of all American 13- to 17-year-olds have a Facebook profile (Lenhart, 2015). Statistics are similar for adults up to middle age and in Australia where the current study was conducted (Australian Communication and Media Authority, 2013).

Acts of cyber-bullying on SNSs include (a) posting intentionally hurtful, offensive, or intimidating messages, comments, or status updates; (b) creating hate groups; (c) sharing humiliating images; and (d) excluding someone from events, networks, or conversations (Nocentini et al., 2010; Palladino, Nocentini, & Menesini, 2015; Smith et al., 2008). We focused on the first group, “written-verbal” cyber-bullying behaviours, which are more strongly associated with global frequency of cyber-bullying and with victims’ internalizing problems than were other forms of cyber-bullying (Nocentini et al., 2010).

Reported prevalence rates of cyber- bullying and victimisation vary greatly due to differing definitions. In general, Zych, Ortega-Ruiz, and del Rey’s (2015) meta-analysis reported mean prevalence rates of 16% of students cyber-bullying and 15% being cyber-victims. Prevalence rates of 11% to 14% are reported for engaging in or being victims of written-verbal cyberbullying on SNSs, including Facebook, over the timeframe of the previous 30 days (Hinduja & Patchin, 2010; Kwan & Skoric, 2013), with rates of around 57% when the timeframe is the previous year (Renati et al., 2012). While these prevalence statistics are for school-aged samples, Kowalski, Giumetti, Schroeder, and Reece (2012)

reported that over 30% of college students were cyber-victimised for the first time during college.

Consistently, the strongest predictor of engaging in cyber-bullying is having been cyber-victimised oneself (mean weighted effect size r = .51, Kowalski et al., 2014; Kwan & Skoric, 2013). Prevalence rates for cyber bully-victims (i.e., victims who also bully) range from 3.3% (Renati, Berrone, & Zanetti, 2012) to 7% (Kowalski & Limber, 2007). Cyber bully-victims report more adverse outcomes than pure cyber-bullies or victims (Kowalski & Limber, 2013). For example, bully-victims were 3 to 4 times more likely to think about or attempt suicide (Holt et al., 2015). Thus, understanding individual differences and situational factors that moderate the cyber victimisation-bullying relationship is important.

We found no studies that had examined moderators of this relationship. However, research that identified correlates of being a cyber bully-victim (for review, see Wolke, Lereya, & Tippett, 2016) informed the current study. We examined personality-based individual differences (moral disengagement, cognitive and affective empathy), demographic characteristics (age, sex), and situational factors (Internet use, parental Internet monitoring) as potential moderators.

Moral disengagement involves disengaging from moral responsibilities via vilification of the victim, morally justifying the behaviour, and using euphemistic labelling in order to harm others without experiencing guilt or a bad conscience (Bandura, 1999). Kowalski et al. (2014) found mean weighted effect sizes of .27 between moral disengagement and cyber-bullying and .15 between moral disengagement and cyber-victimisation. It is likely that victims who cyber-bully others need to morally disengage in order to preserve their self-concept and conscience. F2F bully-victims indicated that aggressive behaviour was right at greater than chance levels (Perren, Gutzwiller-Helfenfinger, Malti, & Hymel, 2012) and exhibited higher callous unemotional traits (a lack of both guilt and empathy) than did pure victims or non-involved adolescents (Fanti & Kimonis, 2013), indicative of moral

disengagement. Based on this limited literature from F2F bully-victims, we hypothesised that stronger moral disengagement would strengthen the cyber victimisation-bullying relationship.

Empathy is the ability to understand and experience another's emotional state (Eisenberg & Strayer, 1987). Affective empathy is the ability to experience and share another person's emotional state, whereas cognitive empathy is the ability to understand the other person's emotional state (Cohen & Strayer, 1996). Kowalski et al. (2014) showed that empathy had a weak protective effect against cyber-bullying (r = -.12), but was unrelated to cyber-victimisation. However, when the separate dimensions of empathy are considered, findings are mixed. Some studies find that only affective empathy (Renati et al., 2012; Schultze-Krumbholz, Schultze, Zagorscak, Wölfer, & Scheithauer, 2016) or only cognitive empathy (Barlińska, Szuster, & Winiewski, 2013; Steffgen, König, Pfetsch, & Melzer, 2011) are associated negatively with cyber-bullying, although other studies (del Rey et al., 2016; Topcu & Erdur-Baker, 2012) find that both are.

There is limited work on empathy and bully-victims. Whereas F2F bully-victims show significantly lower empathy than pure victims (Perren et al., 2012), cyber bully-victims show lower empathy than pure cyber-bullies, but do not differ from pure victims or non-involved adolescents (Steffgen, König, Pfetsch, & Melzer, 2009). However, the relationships might depend on the specific empathy dimension and the platform on which the cyber-behaviour occurs. When it occurs on the Internet (i.e., on computers), there are no between-group differences in cognitive empathy (Almeida, Correia, Marinho, & Garcia, 2012; Renati et al., 2012). When it occurs via mobile phones, Almeida et al. (2012) found that bully-victims showed significantly lower affective empathy than pure victims, but did not differ from pure bullies or non-involved adolescents, but Renati et al. (2012) still found no group differences. When behaviour on computers and mobile phones was combined, Pettalia, Levin, and Dickinson (2013) found that cyber bully-victims scored higher on cognitive empathy than non-involved children but not pure victims or bullies, and higher on affective empathy than both non-involved children and pure bullies but not pure victims. SNSs can be

accessed on both computers and mobile phones. Based on the mixed findings and the lack of studies that specifically examined behaviours on SNSs, we explored each dimension of empathy as a potential moderator.

The prevalence of cyber bully-victims increases with age to a peak around mid-adolescence (Mishna et al., 2012), mirroring the trend seen for cyber-bullying (Kowalski & Limber, 2013; Tokunaga, 2010). Thus, we expected the cyber victimisation-bullying relationship to be stronger in younger adolescents. There is no strong evidence of sex differences in cyber-victimisation (Tokunaga, 2010) or cyber-bullying (Hinduja & Patchin, 2010). Generally, cyber bully-victims are more likely to be girls (Kowalski & Limber, 2007; Mishna et al., 2012), although Yang and Salmivalli (2013) found it was boys. As cyber-bullying is more indirect and verbal than F2F bullying, it has been suggested that female victims feel more enabled to engage in it (Mishna et al., 2012). Thus, we expected that the cyber victimisation-bullying relationship would be stronger for girls.

Parental monitoring of adolescent Internet use and the time that adolescents spend online are also potential moderators of the cyber victimisation-bullying relationship. Meta-analyses showed that parental monitoring or supervision has weak protective effects against cyber-bullying, victimisation (Kowalski et al., 2014), and bully-victim status (Lereya, Samara, & Wolke, 2013). Therefore, we expected that more parental monitoring would weaken the cyber victimisation-bullying association. The time adolescents spend online is a weak risk factor for cyber-bullying and victimisation (*r*s = .20 and .17, respectively, Kowalski et al., 2014), but has not been examined for cyber bully-victims. Therefore, we explored time online as a potential moderator.

2.0 Method

2.1 Participants

We recruited 175 high school students (approximately 20% from each of Grades 8 to 12) who had a SNS profile (all had Facebook). They were aged 12 to 19 years (M = 14.82 years; SD = 1.52; 53% male, 3 did not report sex). The most common nationalities were

Australian (49%) and New Zealander (15%). Family SES (Hollingshead's, 1975, weighted index of parental education and occupational status) was available for 118 students and ranged from 14 to 63 (M = 37.48, SD = 12.15). Higher scores indicate higher SES (potential range is 8 - 66).

Most (91%) reported that they mainly accessed their SNSs on the home computer, although 57% also accessed them on mobile phones. For 62%, the home computer was in a location where their parents could not see what they were doing. Most (98%) reported that they accessed SNSs on school days and 96% reported they accessed them on weekends. Half reported they left their SNSs open whenever they were on the Internet.

2.2 Materials

A pen-and-paper questionnaire included Internet and SNS use, cyber-bullying and victimisation, moral disengagement, empathy, parental monitoring, and demographic questions.

2.2.1 Cyber-Bullying and Victimisation. Seven items each were written to assess written-verbal cyber-bullying and cyber-victimisation on SNSs (Table 1), based on existing measures (Hinduja & Patchin, 2010; Kwan & Skoric, 2013; Palladino et al., 2015). Participants indicated the frequency with which they engaged in or had experienced each behaviour from 1 (*Never*) to 5 (*All the time*). Exploratory factor analyses using principal axis factor extraction and varimax rotation revealed a single cyber-bullying factor (loadings .56 to .83; α = .85), and a single cyber-victimisation factor (loadings .59 to .83; α = .89).

2.2.2 Moral Disengagement. The 32-item moral disengagement scale (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996) assesses "proneness to … different forms of detrimental conduct in diverse contexts and interpersonal relationships" (p. 367). Items tap a range of cognitive strategies (e.g., displacement of responsibility, diffusion of responsibility) across various immoral activities (e.g., verbal abuse, deception, physical injury). For example, "Teasing someone does not really hurt them". Bandura et al. (1996) demonstrated validity by expected correlations with prosocial, aggressive, and delinquent behaviours and

internal consistency was good (α = .82). We adapted the original 3-point *agree-disagree* response format to a 5-point *strongly disagree-strongly agree* response format to be consistent with the formats used on the other scales, and obtained α = .96.

2.2.3 Empathy. The Basic Empathy Scale (Jolliffe & Farrington, 2006a) assesses both cognitive (9 items; e.g., ‘‘I can usually figure out when people are cheerful’’) and affective empathy (11 items; e.g., “Other people’s feelings don’t bother me at all”- reversed) across four basic emotions (anger, fear, happiness, sadness). A 5-point *strongly disagree-strongly agree* Likert-type response format is used. There is evidence for validity and good internal consistency (αs = .85 and .79 for cognitive and affective subscales, respectively; Jolliffe & Farrington, 2006a). Our sample yielded αs of .73 and .78, respectively.

2.2.4 Internet and SNS Use. Participants indicted the number of days per week they used the Internet, the SNSs they had profiles on, their access of SNSs on school and weekend days, the devices used to access SNSs, and the extent to which they had their SNS open when they were on the Internet.

2.2.5 Parental Monitoring. There were two items: “At home, how much do your parents monitor what you are doing on the Internet?” (1 = *Not at all* to 5 = *They completely control it*) and “How much do your parents know what you are doing on the Internet when you are using it away from home?” (1 = *Nothing* to 5 = *They know everything I do on it*). Cronbach’s α was .69.

2.3 Procedure

Ethical clearance was obtained from the authors’ university. Students in participating classes (two at each grade level) whose parents gave informed consent completed the questionnaire during their regular homeroom class under the teacher’s supervision. The questionnaires were anonymous.

3.0 Results

Table 2 shows the descriptive statistics and bivariate correlations. As expected, cyber-victimisation was the strongest predictor of cyber-bullying. Cyber-bullying was correlated

positively with moral disengagement and Internet use, and negatively with parental monitoring. Cyber-victimisation was not related to moral disengagement or Internet use, but was correlated negatively with parental monitoring. Cyber-bullying was not related to either type of empathy, but cyber-victimisation weakly correlated positively with affective empathy. Neither cyber-behaviour was related to age or sex.

Moderation was conducted using the PROCESS (Hayes, 2016) macro in SPSS-v23. PROCESS uses an ordinary least squares approach and a bias-corrected bootstrap method (with 1000 bootstrapped samples) to estimate the conditional (moderated) effects. To probe significant interactions, simple slope analysis at low (–1 *SD*), average (mean), and high (+1 *SD*) levels of the moderator was used, with the Johnson-Neyman technique (Spiller, Fitzsimmons, Lynch, & McClelland, 2013) used to indicate regions of significance. Cyber-bullying was the criterion, cyber-victimisation was the predictor, and moral disengagement, cognitive and affective empathy, age, sex, Internet use, and parental monitoring were tested in separate analyses as moderators. Results are in Table 3.

3.1 Moderation by Personality Traits

The model with moral disengagement included explained 48.09% (MSE = 8.22) of the variance in cyber-bullying, $F(3, 134) = 41.38$, $p < .001$. There were significant cyber-victimisation and moral disengagement main effects, and a significant cyber-victimisation x moral disengagement interaction, $\Delta R^2 = .019$, $F(1, 134) = 4.77$, $p = .03$. The unstandardized simple slope coefficients were 0.371 for low and 0.607 for high moral disengagement (all $p < .001$). Thus, the positive cyber victimisation-bullying relationship was strengthened as moral disengagement increased (Figure 1). The Johnson-Neyman technique indicated that the slopes were significant across the range of moral disengagement values.

With cognitive empathy as the moderator, 33.52% (MSE = 10.10) of the variance in cyber-bullying was explained, $F(3, 154) = 25.88$, $p < .001$. With affective empathy, 31.13% (MSE = 10.33) of the variance was explained, $F(3, 156) = 23.50$, $p < .001$. There were significant cyber-victimisation main effects but no empathy main effects or interactions in

both models. Increasing cyber-victimisation was associated with increasing cyber-bullying, regardless of empathy.

3.2 Moderation by Demographic Characteristics

The model with age explained 31.04% (MSE = 10.06) of the variance, $F(3, 167) = 25.06$, $p < .001$. With sex, 29.96% (MSE = 10.32) of the variance was explained, $F(3, 165) = 23.53$, $p < .001$. In both models, only the cyber-victimisation main effects were significant. There were no significant age or sex main effects and no moderation effects.

3.3 Moderation by Situational Factors

Overall, 32.55% (MSE = 9.45) of the variance was explained with Internet use included, $F(3, 165) = 26.54$, $p < .001$. There were significant cyber-victimisation and Internet use main effects of, but a non-significant interaction effect.

When parental monitoring was the moderator, 33.83% (MSE = 9.643) of the variance was explained, $F(3, 159) = 27.098$, $p < .001$. There were significant cyber-victimisation and parental monitoring main effects, and a significant interaction, $\Delta R^2 = .028$, $F(1, 159) = 6.647$, $p = .01$. The unstandardized simple slope coefficients were 0.564 for low ($p < .001$), and 0.212 for high parental monitoring ($p = .04$), indicating that the positive cyber victimisation-bullying relationship was weakened as parental monitoring increased (Figure 2). The slopes were significant at levels of parental monitoring up to 1.8 *SD* above the mean.

4.0 Discussion

We examined potential moderators of the relationship between SNS cyber-victimisation and bullying. To date, no studies have examined this, yet the cyber-victimisation-bullying relationship is strong, and bully-victims are a particularly high risk group (Kowalski & Limber, 2013). Therefore, understanding risk versus protective factors is crucial to informing interventions. We investigated personality-based individual differences, as well as demographic and situational factors. Moral disengagement was the most powerful risk factor. Higher moral disengagement strengthened the cyber victimisation-bullying relationship. Parental monitoring was the most important protective factor. This relationship

was weaker when adolescents perceived that their parents knew more about their behaviours online. Cognitive and affective empathy, age, sex, and Internet use were not significant moderators.

This study adds to the research demonstrating that moral disengagement is not just important to F2F bullying (Hymel, Schonert-Reichl, Bonanno, Vaillancourt, & Henderson, 2010; Menesini et al., 2003), but also to cyber-behaviour (Renati et al., 2012; Slonje et al., 2013; Wachs, 2012). Despite arguments that the Internet's anonymity makes moral disengagement unnecessary for engagement in cyber-bullying (Hymel et al., 2010; Wachs, 2012), our results show that this is not so. Rather, the cognitive strategies that enable an individual, including one that has been cyber-victimised themselves, to direct negative acts toward another without experiencing a bad conscience are related to more frequent cyber-bullying.

In contrast, cognitive and affective empathy were not directly related to cyber-bullying, nor did they moderate the victim-bully relationship. Previous findings were mixed, even when the dimensions of empathy were separated (Almeida et al., 2012; Renati et al., 2012). When significant relationships were found, they were very weak, with empathy explaining 1% or less of the variance in cyber-bullying (Topcu & Erdur-Baker, 2012). This is somewhat surprising as empathy inhibits antisocial behaviour (Jolliffe & Farrington, 2006b) and promotes prosocial and helping behaviours, including assisting victims of bullying (Gini, Albiero, Benelli, & Altoe, 2007) so would be expected to reduce the likelihood that adolescents cyber-victims would, in turn, cyber-bully others. However, in cyberspace, bullies cannot observe the victim's emotional cues or the immediate consequences of their behaviour (Steffgen et al., 2011; Topcu & Erdur-Baker, 2012), which might render empathy unimportant. However, further work is needed to see if our null results generalise across different cyber-bullying platforms (e.g., computers versus phones; cf. Almeida et al., 2012). While we found that the adolescents mostly accessed SNSs via the home computer, we did not examine differences depending on the means of access.

The only significant situational moderator was parental monitoring of adolescent Internet use, both in the home and outside. This was a significant protective factor, weakening the likelihood that cyber-victims would cyber-bully others. This confirms previous findings that both cyber-victimisation and cyber-bullying are lower when parents monitor more (Kowalski et al., 2014) and that cyber bully-victims experience less parental monitoring (Lereya et al., 2013). Given that our sample indicated mainly accessing their SNSs on the home computer, and that over half reported that these computers were where parents could observe them, parental monitoring should be easy to achieve. It is important to note that we only measured adolescents' perceptions of parental monitoring, not actual monitoring. However, our results suggest that, regardless of actual monitoring, if adolescents perceive that their parents know what they are doing online, there is less cyber-victimisation and cyber-bullying, and the victimisation-bullying relationship is weaker.

While greater Internet use was associated with more cyber-bullying, it was unrelated to cyber-victimisation and did not moderate the victim-bully relationship. We are the first to examine Internet use in relation to cyber bully-victims. It is unclear whether our null results reflect inadequate power or whether time on the Internet is not an important moderator. Further work with a larger sample is needed.

Similarly, neither of the demographic characteristics, age and sex, significantly moderated the cyber victimisation-bullying relationship, nor were they bivariately associated with either cyber-victimisation or cyber-bullying. Previous literature yielded mixed findings regarding their roles in differentiating cyber bully-victims and in predicting cyber-bullying (e.g., Kowalski & Limber 2013; Mishna et al., 2012; Yang & Salmivalli, 2013).

Our results have implications for cyber-bullying interventions. They suggest that strategies to reduce moral disengagement are likely to reduce the frequency of cyber-bullying generally, and amongst cyber-victims in particular. Individuals who morally disengage justify their behaviour, minimise their responsibility for negative acts and the harm it causes the victim, and blame the victim for their plight (Bandura 1999). Therefore, interventions should

focus on educating adolescents about the harm cyber-bullying causes the victims and engaging them in activities to increase personal responsibility for behaviour, such as discussions or role plays regarding the link between cyber-bullying and victim responses. For those who have been cyber-victims themselves, they can first reflect on their own experiences of victimisation and how their targets might experience the same. It is possible that cyber bully-victims engage faulty cognitive justifications (e.g., “I was bullied so it is ok for me to bully others”). Interventions that help them engage more positive cognitive and behavioural responses are needed.

Our results do not support focusing intervention strategies on empathy, as many existing F2F bullying interventions do (e.g., Salmivalli, Kärnä, & Poskiparta’s KiVa, 2011; Pikas’ Method of Shared Concern, 1989), despite evidence that interventions that increase empathy reduce cyber-bullying (Schultze-Krumbholz et al., 2016). We found no studies that had specifically examined whether increasing empathy reduces cyber-bullying by cyber-victims. Further research is needed, for example, to clarify whether the mechanism through which existing empathy-based intervention programs work is actually via reducing bullies’ moral disengagement as they come to better understand how their victims feel, rather than via enhanced empathy per se.

Instead of focusing interventions only on the adolescents, our results indicate that educating parents about the importance of monitoring their adolescent's Internet behaviour (whether on computer, phone, or other devices such as tablets) is likely to be effective. Monitoring online behaviour at home as well as outside the home is likely to be important. Greater parental monitoring is also likely to control the time the adolescent spends online, which, although not a significant moderator, was associated with less cyber-bullying.

Our study had some limitations. All measures were self-report so common method variance is a problem. The cross-sectional design means that the temporal relationship between cyber-victimisation and cyber-bullying could not be established. Longitudinal examination of this relationship and the moderators is needed. As we only surveyed high

school students it is not clear if these results generalise to adults, a group where research on cyber-bullying and victimisation is very limited. However, consistent with our results, Kowalski et al. (2012) found no sex differences in either adult cyber-bullying or victimisation. In contrast to our findings, they found that more (work) time on the Internet predicted greater cyber-victimisation; we only found this predicted cyber-bullying. Kowalski et al. examined different personality traits to us, finding lower agreeableness in adult cyber-victims. However, they did not examine cyber bully-victims. Future work examining Big Five personality traits in adolescent or adult cyber victim-bullies is needed. Research also needs to examine if monitoring of Internet use by work supervisors moderates the adult cyber victimisation-bullying relationship in a similar manner to parental monitoring of adolescent use.

We only examined cyber-behaviours via SNSs, and did not differentiate access from different devices. Given the evidence that the device might make a difference, particularly with respect to the role played by empathy (Almeida et al., 2012), future studies should examine these moderation models when different devices and means of cyber-bullying (e.g., instant messaging or email) are used. A number of factors that could be important vary with device and means, including the nature of the bully-victim contact, the level of perpetrator anonymity, the publicity given to the act, and the perception of the harm that the act causes the victim (Smith et al., 2008; Tokunaga, 2010). In addition, we only focussed on written-verbal cyber behaviours. Future work needs to examine the cyber victimisation-bullying relationship with other behaviours including dissemination of hurtful graphic content and exclusion. Other individual and situational moderators also need to be examined to better understand risk and protective factors and inform interventions for this high risk group.

References

Almeida, A., Correia, I., Marinho, S., & Garcia, D. (2012). Virtual but not less real. In Q. Li, D. Cross, & P. K. Smith (Eds.), *Cyber-bullying in the global playground*, pp. 223-244. Oxford, UK: Wiley-Blackwell.

Australian Communication and Media Authority. (2013). *Like, post, share.* Retrieved from http://www.cybersmart.gov.au

Bandura A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review, 3,* 193-209.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Mechanisms of moral disengagement in the exercise of moral agency. *Journal of Personality and Social Psychology, 71,* 364-374. doi:10.1037/0022-3514.71.2.364

Barlińska, J., Szuster, A., & Winiewski, M. (2013). Cyber-bullying among adolescent bystanders. *Journal of Community & Applied Social Psychology, 23,* 37–51. doi:10.1002/casp.2137

Cohen, D., & Strayer, J. (1996). Empathy in conduct-disordered and comparison youth. *Developmental Psychology, 32,* 988-998. doi:10.1037/0012-1649.32.6.988

Del Rey, R., Lazarus, L., Casas, J. A., Barkoukis, V., Ortega-Ruiz, R., & Tsorbatzoudis, H. (2016). Does empathy predict (cyber) bullying perpetration, and how do age, gender and nationality affect this relationship? *Learning and Individual Differences, 45,* 275-281. doi:10.1016/j.lindif.2015.11.021

Eisenberg, N., & Strayer, J. (1987). Critical issues in the study of empathy. In N. Eisenberg, & J. Strayer (Eds.), *Empathy and its development,* (pp. 3-13). New York, NY: Cambridge University Press.

Fanti, K. A., & Kimonis, E. R. (2013). Dimensions of juvenile psychopathy distinguish "bullies," "bully-victims," and "victims". *Psychology of Violence, 3,* 396-409. doi:10.1037/a0033951

Gini, G., Albiero, P., Benelli, B., & Altoe, G. (2007). Does empathy predict adolescents' bullying and defending behavior? *Aggressive Behavior, 33,* 467–476. doi:10.1002/ab.20204

Hair, J. F., Black, W., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Pearson.

Hayes, A. (2016). *The PROCESS macro for SPSS and SAS.* Retrieved from http://processmacro.org/index.html

Hinduja, S. & Patchin, J. W. (2010). Bullying, cyber-bullying, and suicide. *Archives of Suicide Research, 14,* 206-221. doi:10.1080/13811118.2010.494133.

Hollingshead, A. A. (1975). *Four-factor index of social status.* Unpublished manuscript, Yale University, New Haven, CT.

Holt, M. K., Vivolo-Kantor, A. M., Polanin, J. R., Holland, K. M., DeGue, S., Matjasko, J. L….Reid, G. (2015). Bullying and suicidal ideation and behaviors: A meta-analysis. *Pediatrics, 135,* e496-e509. doi:10.1542/peds.2014-1864

Hymel, S., Schonert-Reichl, K. A., Bonanno, R. A., Vaillancourt, T., & Henderson, N. R. (2010). Bullying and morality. In S. R. Jimerson, S. M. Swearer, & D. Espelage (Eds.), *The international handbook of school bullying.* Mahwah, NJ: Lawrence Erlbaum.

Jolliffe, D., & Farrington, D. P. (2006a). The development and validation of the basic empathy scale. *Journal of Adolescence, 29,* 589-611. doi:10.1016/j.adolescence.2005.08.010

Jolliffe, D, & Farrington, D. P. (2006b). Examining the role between low empathy and bullying. *Aggressive Behavior, 32,* 540-510. doi:10.1002/ab.20154

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age. *Psychological Bulletin, 140,* 1073–1137. doi:10.1037/a0035618.

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Reece, H. H. (2012). Cyber bullying among college students. In L. A. Wankel and C. Wankel (Eds.), *Misbehavior online in*

higher education (pp. 293-321). Emerald Group Publishing, retrieved from http://www.emeraldinsight.com/doi/abs/10.1108/S2044-9968(2012)0000005016

Kowalski, R. M., & Limber, S. P. (2007). Electronic bullying among middle school students. *Journal of Adolescent Health, 46,* S22-S30. doi:10.1016/j.jadolhealth.2007.08.017

Kowalski, R. M., & Limber, S. P. (2013). Psychological, physical, and academic correlates of cyberbullying and traditional bullying. *Journal of Adolescent Health, 53,* S13-S20. doi:10.1016/j.jadolhealth.2012.09.018.

Kwan, G. C. E., & Skoric, M. M. (2013). Facebook bullying. *Computers in Human Behavior, 29,*16-25. doi:10.1016/j.chb.2012.07.014

Lenhart, A. (2015). *Teens, social media, and technology overview 2015.* Retrieved from http://www.pewinternet.org

Lereya, S.T., Samara, M., & Wolke, D. (2013). Parenting behavior and the risk of becoming a victim and a bully/victim. *Child Abuse & Neglect, 37*, 1091–1108.

Menesini, E., Sanchez, V., Fonzi, A., Ortega, R., Costabile, A., & Lo Feudo, G. (2003). Moral emotions and bullying. *Aggressive Behavior, 29,* 515-530. doi:10.1002/ab.10060

Mishna, F., Khoury-Kassabri, M., Gadalla, T., & Daciuk, J. (2012). Risk factors for involvement in cyber bullying. *Children and Youth Services Review, 31,* 1222-1228. doi:10.1016/j.childyouth.2011.08.032

Nocentini, A., Calmaestra, J., Schultze-Krumbholz, A., Scheithauer, H., Ortega, R., & Menesini, E. (2010). Cyber-bullying. *Australian Journal of Guidance and Counselling, 20*, 129–142. doi:10.1375/1jgc.20.2.129

Palladino, B. E., Nocentini, A., & Menesini, E. (2015). Psychometric properties of the Florence Cyber-bullying-Cybervictimization Scales. *Cyberpsychology, Behavior, and Social Networking, 18*, 112-119. doi:10.1089/Cyber.2014.0366

Perren, S., Gutzwiller-Helfenfinger, E., Malti, T., & Hymel, S. (2012). Moral reasoning and emotion attributions of adolescent bullies, victims, and bully-victims. *British Journal of Developmental Psychology, 30*, 511-530. doi:10.1111/j.2044-835X.2011.02059.x

Pettalia, J. L., Levin, E., & Dickinson, J. (2013). Cyber-bullying. *Computers in Human Behavior, 29,* 2758–2765. doi:10.1016/j.chb.2013.07.020.

Pikas, A. (1989). A pure concept of mobbing gives the best results for treatment. *School Psychology International, 10,* 95–104. doi:10.1177/0143034389102003

Renati, R., Berrone, C., & Zanetti M. A. (2012). Morally disengaged and unempathic. *Cyberpsychology, Behavior, and Social Networking, 15,* 391-398. doi:10.1089/cyber.2012.0046

Salmivalli, C., Kärnä, A., & Poskiparta, E. (2011). Counteracting bullying in Finland. *International Journal of Behavioral Development, 35,* 405-411. doi:10.1177/0165025411407457

Schultze-Krumbholz, A., Schultze, M., Zagorscak, P., Wölfer, R., & Scheithauer, H. (2016). Feeling cybervictims' pain. *Aggressive Behavior, 42,* 147–156. doi:10.1002/ab.21613

Slonje, R., Smith, P., & Frisén, A. (2013). The nature of cyber-bullying, and strategies for prevention. *Computers in Human Behavior, 29,* 26-32. doi:10.1016/j.chb.2012.05.024

Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyber-bullying. *Journal of Child Psychology and Psychiatry, 49,* 376-385. doi:10.1111/j.1469-7610.2007.01846.x

Spiller, S. A., Fitzsimmons, G. J., Lynch, J. G., & McClelland (2013). Spotlights, floodlights, and the magic number zero. *Journal of Marketing Research, 50,* 277-288. Retrieved from https://faculty.fuqua.duke.edu/~gavan/bio/GJF_articles/floodlights_jmr_2013.pdf

Steffgen, G., König, A., Pfetsch, J., & Melzer, A. (2009). The role of empathy for adolescents' cyber-bullying behaviour. *Pedagogical Quarterly, 214,* 183-198.

Steffgen, G., König, A., Pfetsch, J., & Melzer, A. (2011). Are cyber-bullies less empathic? *Cyberpsychology, Behavior, and Social Networking, 14,* 643-648. doi:10.1089/cyber.2010.0445

Tokunaga, R. S. (2010). Following you home from school. *Computers in Human Behavior, 26,* 277-287. doi:10.1016/j.chb.2009.11.014

Topcu, C., & Erdur-Baker, Ö. (2012). Affective and cognitive empathy as mediators of gender differences in cyber and traditional bullying. *School Psychology International*, *33*, 550-561. doi:10.1177/0143034312446882

Wachs, S. (2012). Moral disengagement and emotional and social difficulties in bullying and cyber-bullying. *Emotional and Behavioural Difficulties*, *17*, 347-360. doi:10.1080/13632752.2012.704318

Wolke, D., Lereya, T., & Tippett, N. (2016). Individual and social determinants of bullying and cyberbullying. In T. Völlink, F. Dehue, and McGuckin, C. (Eds.), *Cyberbullying: From theory to intervention* (pp. 26-53). New York, NY: Routledge.

Yang, A., & Salmivalli, C. (2013). Different forms of bullying and victimization. *European Journal of Developmental Psychology*, *10*, 723-738. doi:10.1080/17405629.2013.793596

Zych, I., Ortega-Ruiz, & Del Rey, R. (2015). Systematic review of theoretical studies on bullying and cyberbullying. *Aggression and Violent Behavior*, *23*, 1-21. doi:10.1016/j.avb.2015.10.001

Table 1

Exploratory Factor Analysis of Items Measuring Cyber-bullying and Cyber-victimisation

Cyber-bullying (N = 172)	
I…	Loadings
…called someone a negative name on a SNS because of something about them (e.g., culture, religion, appearance, ability)	.83
…called someone a negative name on a SNS that was about sexual activity	.82
…made a negative comment about someone's sexual activity on a SNS	.81
…teased or made fun of someone on a SNS	.73
…made rude comments on a SNS about someone to upset them	.71
...made jokes on a SNS about someone that I knew would upset them	.70
…made rude comments on a SNS about someone's looks	.56
Eigenvalue	3.87
% Variance	55.35
Kaiser-Meyer-Olkin measure	0.81
Bartlett's test of sphericity	χ^2 (21) = 774.23, p < .001
Cyber-victimisation (N = 175)	
Someone…	Loadings
…called me a negative name on a SNS because of something about me (e.g., culture, religion, appearance, ability)	.83
…teased or made fun of me on a SNS	.79
…made rude comments on a SNS about my looks	.79
…made jokes on a SNS about me that they knew would upset me	.75
…made rude comments on a SNS about me to upset me	.74
…called me a negative name on a SNS that was about sexual activity	.64
…made a negative comment about my sexual activity on a SNS	.59
Eigenvalue	3.79
% Variance	54.01
Kaiser-Meyer-Olkin measure	0.83
Bartlett's test of sphericity	χ^2 (21) = 708.90, p < .001

Note. .50 was considered the minimal factor loading required to be significant at an alpha level of .05 (Hair, Black, Babin, & Anderson, 2010).

Table 2

Descriptive Statistics and Bivariate Correlations for Cyber-bullying, Cyber-victimisation, and Moderators

	Mean ($CI_{.95}$)	Range	1	2	3	4	5	6	7	8	9
1. Cyber-bullying	9.10 (8.54; 9.67)	7–31	-	.55***	.33***	.03	.01	.04	.03	.19*	-.24**
2. Cyber-victimisation	10.47 (9.80; 11.14)	7–27		-	.08	.07	.18*	.01	.09	.12	-.16*
3. Moral Disengagement	72.65 (68.55; 76.74)	32–156			-	-.03	-.20*	-.02	-.10	.13	-.36**
4. Cognitive Empathy	26.41 (25.38; 27.48)	9–36				-	.54***	-.22**	.29**	-.06	.11
5. Affective Empathy	27.14 (26.06; 28.22)	11–45					-	-.15*	.39**	.03	.08
6. Age (years)	14.82 (14.60; 15.05	12–19						-	-.05	.09	-.13
7. Sex[a]									-	-.06	.07
8. Internet Use	5.91 (5.66; 6.16)	1–7								-	-.18*
9. Parental Monitoring	3.98 (3.71; 4.25)	2–10									-

* $p < .05$, ** $p < .01$, *** $p < .001$

[a] 0 = *male* (52.9%), 1 = *female* (47.1%); 3 did not report

Table 3

Moderation of the Relationship between Cyber-victimisation and Cyber-bullying

Variables	*B* (*SE*)	Lower $CI_{.95}$	Upper $CI_{.95}$	*t*	*p*
Moderator: Moral Disengagement (MD)					
Cyber-victimisation (CV)	0.489 (0.054)	0.379	0.598	8.817	<.001
MD	0.048 (0.010)	0.028	0.068	4.732	<.001
CV x MD	0.005 (0.002)	0.001	0.009	2.184	.009
Moderator: Cognitive Empathy (CE)					
CV	0.520 (0.059)	0.403	0.637	8.768	<.001
CE	-0.011 (0.041)	-0.093	0.070	-0.275	.784
CV x CE	0.005 (0.007)	-0.009	0.020	0.717	.474
Moderator = Affective Empathy (AE)					
CV	0.479 (0.057)	0.366	0.593	8.328	<.001
AE	-0.057 (0.038)	-0.132	0.019	-1.471	.143
CV x AE	0.003 (0.007)	-0.011	0.017	0.433	.666
Moderator = Age					
CV	0.471 (0.055)	0.362	0.579	8.560	<.001
Age	0.021 (0.161)	-0.297	0.338	0.128	.899
CV x Age	-0.068 (0.038)	-0.144	0.007	-1.793	.075
Moderator = Sex					
CV	0.467 (0.056)	0.355	0.578	8.260	<.001
Sex	-0.052 (0.497)	-1.033	0.929	-0.104	.917
CV x Sex	0.057 (0.113)	-0.165	0.279	0.501	.614
Moderator = Internet Use (Use)					
CV	.0.423 (0.058)	0.308	0.537	7.311	<.001
Use	0.306 (0.146)	0.018	0.594	2.101	.037
CV x Use	0.069 (0.044)	-0.017	0.156	1.583	.115
Moderator = Parental Monitoring (PM)					
CV	0.388 (0.058)	0.274	0.503	6.687	<.001
PM	-0.417 (0.144)	-0.701	-0.133	-2.902	.004
CV x PM	-0.101 (0.039)	-0.179	-0.024	-2.578	.011

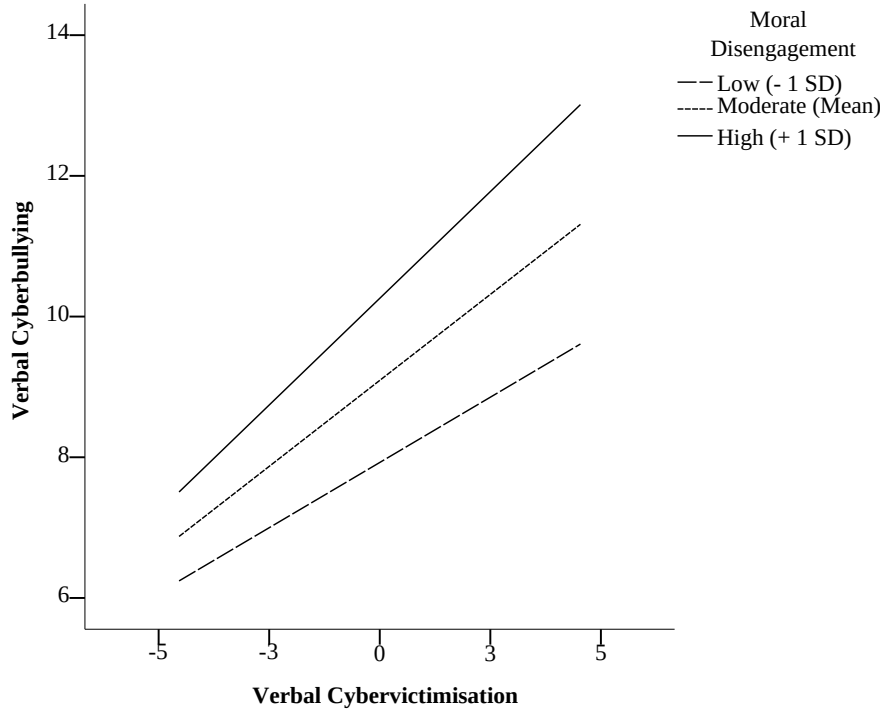

Figure 1. Moderation of the cyber-victimisation-bullying relationship by moral disengagement.

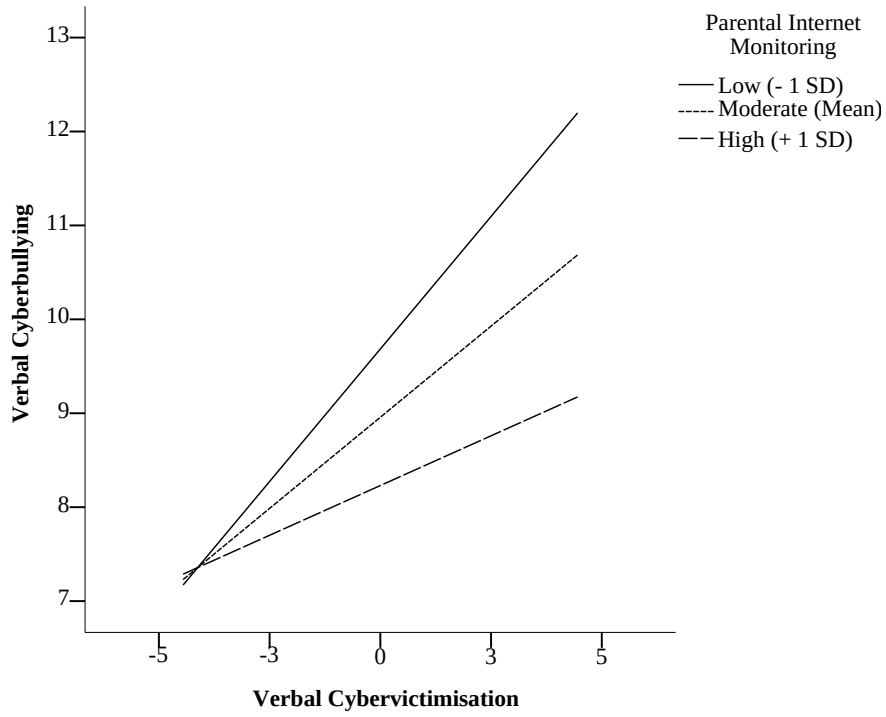

Figure 2. Moderation of the cyber-victimisation-bullying relationship by parental monitoring.