Imagery rescripting of revenge, avoidance, and forgiveness for past bullying experiences in young adults

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ABSTRACT

Background and Objectives: Forgiveness has been found to be a useful intervention for past trauma across a variety of situations. However, this has yet to be experimentally tested in victims of bullying. The aim of the current study was to evaluate the impact of imagining forgiveness, avoidance, or revenge responses towards a perpetrator among young adult victims of bullying.

Methods: One hundred and thirty-five undergraduate psychology students aged 17–24 who reported a recent experience of being victimized were led through imagery rescripting where they recalled a personal episode of bullying and imagined a new ending to one where they forgave, avoided, or took revenge on the bully.

Results: Results indicated significant differences between Time 1 (imagining the event as it occurred), to Time 2 (imagining an alternate ending) for all three processes. Negative affect decreased significantly in the forgiveness and avoidance conditions, but not in the revenge condition. Positive evaluations of coping decreased significantly in the revenge condition, but not in the avoidance or forgiveness conditions. However, imagined forgiveness of the bully was more stressful than either imagined avoidance or revenge.

Limitations: The short-term measurements and the researcher-directed re-scripting limit the interpretation of results, however, yield valuable information about the immediate impact of imaginal exposure and point to future research directions.

Conclusions: The impact of focusing on immediate stress reduction in dealing with bullying is explored, and a combination of short-term avoidance and longer term forgiveness is highlighted as a potentially effective strategy to deal with the negative emotional consequences of victimization.

Bullying has been defined as aggressive acts repeatedly perpetrated with intent to cause harm, involving a power imbalance felt by the recipient (Olweus, 1999). Bullying is a widespread social issue that leads to mental and physical health problems (Hawker & Boulton, 2000), substance abuse (Tharp-Taylor, Haviland, & D’Amico, 2009), and lower levels of school satisfaction and achievement (Miller, Verhoeck-Miller, Ceminsky, & Nugent, 2000). It
has been found to incur worse long-term effects on young adults’ mental health than other forms of maltreatment in childhood and is therefore an important area for intervention (Lereya, Copeland, Costello, & Wolke, 2015). There are many organizational or whole-school approaches aimed at reducing instances of bullying (Cook, Williams, Guerra, Kim, & Sadek, 2010), but far less work has focused on reducing negative outcomes for those who are victimized.

The role of forgiveness

One individual approach that may help to reduce negative outcomes for victims is to encourage forgiveness of the offender by the victim (Ahmed & Braithwaite, 2006). Forgiveness is part of a wider group of restorative justice approaches that incorporate conflict resolution strategies, which are integral to successful bullying intervention programs (Soutter & McKenzie, 2000). Forgiveness is an in-depth process of relinquishing feelings of resentment towards someone who has caused harm (Enright, 2001). This process decreases unforgiveness, the delayed negative emotions of a chronic stress response such as anger or fear (Worthington & Scherer, 2004), and therefore has the potential to ameliorate negative health consequences (Harris & Thoresen, 2005). Forgiveness is associated with positive socio-emotional adjustment in early adolescents (Reich, 2009), greater physical and mental health benefits (Lawler-Row & Piferi, 2006), and more positive relationship quality (Berry & Worthington, 2001). Forgiveness interventions have been found to improve outcomes in victims of domestic violence suffering from post-traumatic stress disorder (Reed & Enright, 2006), victims of sexual abuse (Walton, 2005), and adult children of alcoholics (Osterndorf, Enright, Holter, & Klatt, 2011).

Forgiveness increases one’s sense of personal empowerment (Hargrave, & Hammer, 2011), which could give youth a sense of self-efficacy and access to more effective coping mechanisms for dealing with bullying (Craig, Tucker, & Wagner, 2008). Forgiveness also allows adolescents to exert control in their lives in novel ways (Egan & Todorov, 2009). This, along with advocating for non-aggressive behaviors, should increase youth’s ability to cope with bullying experiences (Terranova, Harris, Kavetski, & Oates, 2011). Forgiveness also inherently involves empathy for the abuser (Davis & Gold, 2010), which precludes victims from self-attributions of blame, and should lead to higher levels of self-esteem in bullying situations (Noll, 2008). Correlational studies have shown that when parents forgive their children for bullying others, those children are significantly (22.4%) less likely to bully again in the future (Ahmed & Braithwaite, 2006), potentially because being forgiven creates a chance for bullies to build the emotional scaffolding needed to boost self-regulation (Ahmed & Braithwaite, 2005).

Further correlational studies point to positive impacts for the victim as well. Egan and Todorov (2009) found that young adults with higher trait forgiveness experienced less emotional hurt when reflecting on past bullying experiences. In a school bullying context, forgiveness has been correlated with positive coping strategies such as conflict resolution and support seeking, higher self-esteem, and lower levels of social anxiety (Flanagan, Hoek, Ranter, & Reich, 2012). Without a culture of forgiveness and harmony, there are increases in instances where bullying victims become perpetrators themselves (Hui, Tsang, & Law, 2011), leading to the worst outcomes (Dukes, Stein, & Zane, 2009; Sourander et al., 2007), often
including increases in future victimization (Champion & Clay, 2006; Kochenderfer-Ladd, 2004).

However, there is a lack of research on the clinical use of restorative justice approaches in school bullying (Ttofi & Farrington, 2011) and there has been little research to date that experimentally measures the impact of forgiveness interventions on victims of bullying. The first experimental study in this area promisingly revealed that providing youth with advice to forgive a bully in a hypothetical situation leads to less anger than advice to avoid or exact revenge (Watson, Rapee, & Todorov, 2015). There is therefore a clear need to explore this area further and apply forgiveness to real cases of bullying.

**Imagery rescripting**

Imagery is one particularly powerful mechanism for responding to trauma. Imagery goes beyond the impact of cognitive restructuring to influence highly automatic defense systems that respond to trauma memories (Hagenaars, Mesbah, & Cremers, 2015). Imagery therefore serves to change the meaning of the event, which is particularly helpful in bullying, where victims are subject to repeated negative messages about themselves that they often internalize (Lereya, Copeland, Costello, & Wolke, 2015). One potential therapeutic application of forgiveness in a bullying context is therefore through the use of imagery rescripting. Imagery has been used in research on interpersonal transgressions to provide accurate information regarding emotional responses (Witvliet, Ludwig, & Bauer, 2002). Imagery rescripting, where the individual imagines a different and desired end to a personal trauma, was found to have better effects on anger control, externalized anger, hostility, and guilt than the standard strategy of imaginal exposure treatment, where the individual imagines the event itself (Arntz, Tiesma, & Kindt, 2007). Such imagery rescripting has also been found to lead to fewer intrusive thoughts after witnessing trauma than both imagery re-experiencing and positive imagery (Hagenaars & Arntz, 2012), and has been successfully applied as treatment for patients with complicated PTSD (Arntz, Sofi, & van Breukelen, 2013). Memories of stressful bullying victimization have been shown to be predictive of PTSD symptomatology in both adults and youth (Laschinger & Nosko, 2015; Litman et al., 2015). Therefore, bullying is well suited for imagery interventions that have been used successfully in other trauma scenarios.

Previous research has found that unforgiving thoughts about a transgression prompt significantly greater increases in skin conductance than forgiving thoughts (Witvliet, Ludwig, & Laan, 2001). This points to the increased allostatic load that results from strong negative emotions and cognitive avoidance, leading to the overall negative health implications of unforgiving attitudes. However, subsequent research has not found the same results in regards to crime victimization scenarios (Witvliet et al., 2008) and there are no data that measure this stress response specifically in bullying situations. Previous research shows that imagery of a safe place is more effective at changing emotions than revenge imagery (Seebauer, Frob, Dubaschny, Schönberger, & Jacob, 2013), but this has also not been tested in a bullying-specific scenario. The use of imagery rescripting with an outcome of forgiveness in youth bullying situations is therefore an area that holds great potential for both research and intervention strategies, and is a field that is currently entirely unexplored.
The current study

Before evaluating the effects of imagery rescripting among young vulnerable populations who have been chronically victimized, this preliminary study investigated the impacts of this intervention strategy on young adults who had experienced more limited victimization. Unforgiveness is characterized by attitudes and behaviors of avoidance or vengeance (Worthington & Scherer, 2004). Avoidance and revenge are both well-researched responses to bullying victimization (Camodeca & Goossens, 2005; Dehue, Bolman, & Vollink, 2008; Meyer-Adams & Conner, 2008). Therefore, these two alternative strategies were contrasted with forgiveness. The aim of this study was to determine the effects of imagery rescripting terminating in images of forgiveness, revenge, or avoidance of a past bullying victimization scenario in young adults, on affect, evaluative responses, and levels of stress. Given that avoidance is correlated with depression, anxiety, and eating and substance abuse disorders (Aldao, Nolen-Hoeksema, & Schweiser, 2010), and revenge is related to depression (Newman, 2011; Rijavec, Jurcec, & Mijocevic, 2010), and is associated with poorer mental health outcomes (Kochenderfer-Ladd, 2004), it was hypothesized that forgiveness would lead to more positive responses across these measures than either avoidance or revenge.

Method

Participants

One hundred and thirty-five undergraduate psychology students who had been bullied in the past six months (110 females and 25 males) participated in this study. All students were recruited through an official university online protocol for study participation, and were provided course credit for their involvement in the research. Bullying was explained using Olweus’ (1999) recognized definition: Having someone in their life who had hurt them who they felt had power over them, and they wanted to change the situation but did not know how. Only those students who had experienced such a situation in the last six months, where the bullying had ceased, and were aged less than 25 years were asked to participate. The six-month time limit was stipulated in order to ensure that participants had access to recent vivid memories of the event, given the imaginal nature of the intervention. The requirement for the bullying to have ceased was necessary in order to ensure emotional consistency in the sample. The age cut-off was made in order to draw a sample of young adults, as differences are likely within a wider age range and the focus of this research was on youth populations. Ages ranged from 17 to 24, with a mean age of 18.39 years (SD = 1.22). One hundred and eighteen (87.4%) were in their first year of university, with the remainder being in their 2nd–4th years. One hundred and twenty-one participants (89.6%) had completed a Secondary School diploma as their highest level of education, while 12 (8.9%) had completed a previous undergraduate degree, and 2 (1.5%) had completed a post-graduate diploma. One hundred and twenty-one participants (89.6%) lived with their parents or family, while the remainder lived with a house-mate, partner, or alone. Sixty-six participants identified as being Caucasian (48.9%), 39 (28.9%) identified as being Asian, and the remainder (22.2%) identified with other ethnicities. Sixty-nine participants (51.1%) identified as Christian, 28 (20.8%) with other religions, and 38 (28.1%) identified as having no religion.
**Imagined scenarios**

Participants listened to two pre-recorded auditory tapes during testing and were asked questions measuring their emotional and evaluative responses after each one. The first recording took them through a visualization process regarding their past experience of victimization. This recording lasted 4.75 min, and asked them to recall a specific incident when they were hurt by this bullying dynamic. They were asked to imagine the event in detail, recalling their memory of all five senses in order to maximize the vividness of the imagery. Measures were then taken on their current state affect and their evaluative responses to the event. For the second recording, participants were randomly allocated to one of three conditions: Forgiveness, Avoidance, or Revenge. Each recording lasted approximately 6.5 min, and all followed an imagery rescripting process whereby the participant was asked to visualize the bullying incident again, changing the ending to one of forgiveness, avoidance, or revenge. In each of these conditions, the recording asked participants to imagine the specific bullying incident for a second time. A rationale was provided for the specific rescripting condition to which the participant was allocated. For the forgiveness condition, this process was modeled after the four phases of forgiveness proposed by Enright and Fitzgibbons (2000), in which forgiveness encompasses uncovering the extent of the harm caused and facing associated feelings, making a decision to forgive the perpetrator, gaining perspective and empathy for the offender as a rationale for offering forgiveness, and finding meaning in the suffering. For the revenge and avoidance conditions, the recording also mirrored these stages through uncovering the extent of the harm caused, making a decision to take revenge/avoid the perpetrator, gaining perspective on why revenge/avoidance is an appropriate way of responding, and finding meaning in the suffering. Cognitive avoidance was created in the avoidance condition by asking participants to imagine a place that brings them happiness and is away from the bully, and escaping to that place instead of facing the bully. In the revenge condition, participants were instructed to imagine any version of vengeance that they wished, in which they felt they were getting back at the perpetrator for the wrong done to them. The three conditions matched each other as closely as possible, addressing all of the same topics and ideas, but from different perspectives. Participants were then asked to reflect on how their allocated way of responding made sense in their current situation. Finally, they were asked to imagine the bullying incident again, but changing the ending in their mind to one where they avoid (escaping to a place that brings them happiness), forgive, or take revenge on the instigator of the abuse. After this second recording, participants’ current state affect and evaluative responses to the event were measured again.

**Skin conductance responses**

Electrodermal activity was measured using PowerLab 4/30 by ADInstruments, ML886, GSR1319. Two electrodes of 2 by 2.5 cm were attached to the medial phalanges of the first and third fingers of the left hand. Electrodermal activity was recorded through the software program LabChart, using a range of 40 μs, and extracting 200 samples a second. Means and standard deviations were calculated for a baseline of 1 min prior to the first recording, and at 10-s intervals during the second recording from the point at which the recordings diverged into the different conditions.
Measures

**DASS21**

The 21-item Depression and Anxiety Stress Scales (DASS 21) was used to determine the overall level of psychological well-being of each participant over the previous week. The DASS 21 is a set of three self-report scales designed to measure the negative emotional states of depression, anxiety, and stress (Lovibond & Lovibond, 1995). All items are rated on a 4-point scale (did not apply to me at all to applied to me very much, or most of the time), and the psychometric properties are excellent (Anthony, Beiling, Cox, Enns, & Swinson, 1998).

**Current levels of bullying**

Levels of current bullying were determined by providing participants with a recognized definition of bullying (Olweus, 1999: Bullying is when a person or group of people repeatedly does mean and hurtful things to you that make you feel bad (hurt, sad, angry, etc.) and you don't know how to make it stop.) Participants were asked how often they had experienced physical bullying (any form of touching, pushing, shoving, hitting, etc.), verbal bullying (any words spoken to you or to others about you), or cyber bullying (messages or images posted about you or to you online) in the past year (on a 5-point scale from never to nearly every day).

**PANAS**

The Positive and Negative Affect Schedule (PANAS) (Watson, Clark, & Tellegen, 1988) was used to measure the affect states of participants after both recordings. Scores after Recording 1 represented the individual's ratings about the event before the intervention (Time 1), and scores after Recording 2 measured ratings about the event after the intervention (Time 2). The PANAS is a 20-item, 5-point response scale (from very slightly or not at all to extremely), measuring both negative (10 items) and positive (10 items) emotional states, and has strong psychometric properties (Crawford & Henry, 2004).

**Evaluative responses**

Participants’ cognitive responses to their current bullying situation were also measured after each recording through questions about levels of rumination (how overpowering are your thoughts about this situation), self-esteem in relation to the problem (how good do you feel about yourself in relation to this issue), coping (how well do you think you can cope with this situation), self-blame (how much do you think that the situation is your fault), and empowerment (how much power do you think you have in the situation). All items were rated on a 5-point scale (from not at all to very). These items were measured after each recording.

**Procedure**

Participants responded to a recruitment description of the study that outlined the inclusion criteria and then individually attended a private research room on campus. All signed an informed consent agreement at the time of testing. Participants responded to questions on
Participants were randomly allocated to one of the three groups (forgiveness, avoidance, or revenge) through a random number generator prior to their arrival for the study. Each participant filled in the same survey online, listened to the same first recording, and listened to the second recording allocated to their condition. The study was approved by the Macquarie University Human Research Ethics Committee.

**Analyses of statistical data**

As there were no missing data for the survey responses, 2 (time: before and after intervention) × 3 (advice: avoidance, revenge, forgiveness) repeated measures analyses of variance (ANOVA) were conducted. In measuring affect, these analyses were performed on the previously developed scales (PANAS), whereas in the case of evaluative responses, principal components analysis was carried out on the individual cognitive responses in order to group them appropriately before the other analyses were performed. Where significant interactions were identified, tests of simple effects were applied using multiple pairwise comparisons to determine the specific time effect for each group. For the electrodermal activity data, a random intercept model was used, with time coded as a numeric variable, and including a squared version of time to assess differences between the groups in terms of non-linear change. For post hoc comparisons, interaction contrasts in curvilinear and linear change were applied, if appropriate.

**Results**

**Current mood and previous bullying**

Participants’ levels of current distress based on their scores on the DASS 21 fell predominantly in the severe range, with a mean score of 11.6 (SD = 3.63) on anxiety, 11.9 (SD = 4.00) on depression, and 14.7 (SD = 4.09) on stress. One hundred and thirty-one participants (97%) reported having been verbally bullied; 40 (66%) reported having experienced cyber bullying; and 34 (44%) reported being victims of physical bullying in the past year. Table 1 provides a summary of participants’ relationship to the person who bullied them, and the length of time the bullying had been affecting them.

**Results of guided visualizations**

A measure of the extent to which participants were able to engage in the visual imagery task was taken as a reliability check for the procedures used in this study. This resulted in a mean of 3.2 on a 5-point scale (ranging from not at all to very), suggesting that the resulting data accurately reflect the impacts of this imagery task.

**Affect**

Means and standard deviations for affect over time are reported in Table 2. Levels of positive affect showed a significant main effect increase over time, $F(1) = 66.196, p \leq .001, \eta_p^2 = .334$; but no significant main effect of group, $F(2) = 2.585, p = .079, \eta_p^2 = .038$. There
was no significant group by time interaction, \( F(2) = 2.087, p = .128, \eta^2_p = .031 \). Levels of negative affect did not differ significantly between groups, \( F(2) = 0.129, p = .880, \eta^2_p = .002 \). However, there was a significant main effect reduction over time, \( F(1) = 84.389, p \leq .001, \eta^2_p = .390 \), which was qualified by a significant group by time interaction, \( F(2) = 10.894, p \leq .001, \eta^2_p = .142 \). Pairwise comparisons revealed that in the Forgiveness group, negative affect dropped significantly from Time 1 to Time 2, \( t(132) = 6.561, p \leq .001, d = .8 \). In the Avoidance group, negative affect also dropped significantly from Time 1 to Time 2, \( t(132) = 7.711, p \leq .001, d = .9 \). However, in the Revenge group, there was no significant change between Time 1 and Time 2, \( t(132) = 1.584, p = .796, d = .2 \).
Evaluative responses
Principal component analysis suggested that two factors best described the structure of the evaluative responses. Values on the factors were scored through the regression method within the factor analysis. The first factor, with an eigenvalue of 2.24, represented positive evaluations (self-esteem about the event, coping self-efficacy, and perceived power in the situation), and the second, with an eigenvalue of 1.13, representing negative evaluations (self-blame, rumination about the incident). Factor loadings for each subscale on each factor are displayed in Table 3. A measure of the internal consistency of these two factors was established using Cronbach’s alpha. For the positive evaluations scale, there was good internal consistency ($\alpha = 0.8$), and for the negative evaluations scale, internal consistency was not as strong ($\alpha = 0.4$). There was no significant main effect of group on participants’ positive evaluative responses in relation to their bullying experience, $F(2) = 1.411, p = .248$, $\eta^2_p = .021$, nor a significant main effect of time, $F(1) = 0.002, p = .965, \eta^2_p = .000$. However, there was a significant group by time interaction, $F(2) = 4.376, p = .014, \eta^2_p = .062$. Pairwise comparisons showed that participants’ positive evaluations decreased significantly from Time 1 to Time 2 in the Revenge group, $t(132) = 2.391, p = .018, d = .4$; but there was no significant change in the Forgiveness group, $t(132) = 1.074, p = .286, d = .1$; or the Avoidance group, $t(132) = 1.366, p = .175, d = .2$. On participants’ negative evaluative responses in relation to their bullying experience, there was no significant main effect of group, $F(2) = 0.525, p = .593, \eta^2_p = .008$, or time, $F(1) = 0.000, p = .997, \eta^2_p = .000$. Nor was there a significant group by time interaction, $F(2) = 0.159, p = .853, \eta^2_p = .002$. Table 4 displays differences between groups in affect and evaluative responses before and after the intervention.

Electrodermal activity
Analysis of the GSR data revealed a significant interaction between group and time squared across time, $F(2) = 4.81, p = .008$. Interaction contrasts were used to assess pairwise differences in curvilinear change between the slopes, and revealed that forgiveness differed
from both avoidance and revenge. Participants in the forgiveness condition experienced a decrease in arousal during the intervention that was less steep in slope than participants in the other two conditions. In other words, participants in the Forgiveness group exhibited less arousal reduction than those in the other two groups. There was a significant difference between Forgiveness and Avoidance $t(4414) = 2.97, p = .003$; and between Forgiveness and Revenge $t(4414) = 2.28, p = .023$; but not between Avoidance and Revenge $t(4414) = 0.71, p = .480$ (Table 4).

As a further check, a model which calculated a main effect of squared time but not differences between time squared and group was tested in order to assess differences in linear change between groups. No significant differences were found between groups in terms of linear change, $F(2) = 1.50, p = .223$. It appears that the change across time between groups was purely in terms of the steepness of the slopes. The variance accounted for by the squared time interaction (in comparison with the linear interaction plus squared time main effect) was .014%. So the differences between time squared in the three different conditions were subtle, yet significant. Figure 1 displays actual and predicted change over time, including both linear and quadratic (time squared) change in the calculation.

**Figure 1.** Electrodermal activity—point where slopes diverge (Avoidance and Revenge with steeper slope than Forgiveness) indicated at line.
Discussion

The findings of this study partially supported the hypotheses. Forgiveness imagery was found to be more beneficial than revenge imagery in emotional impacts and evaluative responses, but avoidance imagery was also found to have similar positive results. In addition, forgiveness was found to be initially more stressful than either revenge or avoidance. Specific findings are discussed below.

Results showed that engaging in imagery rescripting describing either avoidance or forgiveness about a past bullying incident resulted in significant reductions in negative affect, whereas imagery rescripting describing revenge did not. The lack of reduction in negative emotions following revenge rescripting was expected, as hostile attributions have been found to increase aggression (Perren, Ettekal, & Ladd, 2013). These results reflect literature showing that when making the decision to forgive, expressive suppression (Gross & Thompson, 2007) of negative emotions occurs as a first step towards emotional forgiveness (Worthington, Witvliet, Pietrini, & Miller, 2007). The fact that avoidance led to an immediate reduction in negative affect is consistent with literature on the usefulness of avoidance as a short-term strategy in performance situations such as sport (Anshel & Anderson, 2002). However, while avoidance restrains negative emotions in the short term, it does not ultimately resolve unhelpful responses to offences (Worthington & Sootoohi, 2009) because unlike forgiveness, it does not result in long-term emotional habituation (Houbre, Tarquinio, & Lanfranchi, 2010). Literature in this area points to poor outcomes for avoidance in the longer term (Hutzell & Payne, 2012), but avoidance remains a common strategy used by peer-victimized youth (Dehue, Bolman, & Vollink, 2008; Meyer-Adams & Conner, 2008). The current results are unable to shed any light on these longer term results, however, they do reveal the immediate reduction in emotional tension that could be perpetuating this coping response.

When individuals engaged in an imagery rescripting of revenge about a past bullying incident, their positive evaluations about themselves in the situation decreased, whereas self-evaluations remained consistent following imagery of either avoidance or forgiveness. It has been argued that forgiveness reduces negative affect by increasing perceptions of cognitive control (Wilkowski, Robinson, & Troop-Gordon, 2010). Similarly, avoidance has been conceptualized as a process of cognitive control (Gardner, & Moore, 2008). Surprisingly then, the current results did not indicate that imagining avoidance or forgiveness increased positive beliefs about bullying experiences in young adults. This could be due to the brief nature of the intervention, and more therapeutic processing may be needed to achieve these cognitive shifts. Nonetheless, imagined scenarios involving forgiveness and avoidance retained more positive evaluations about the bullying situation than thoughts of revenge, indicating that revenge is not an effective cognitive coping strategy (Copeland-Linder, Johnson, Haynir, Chung, & Cheng, 2011).

Participants in the forgiveness condition experienced less of a decline in arousal as the intervention progressed than did those imagining revenge or avoidance. This seemingly paradoxical effect reflects literature suggesting that forgiveness is more difficult for the individual to achieve than attitudes of revenge or avoidance (Mullet, Riviere, & Sastre, 2007) because it is a process that involves directly facing the hurt within oneself. However, these results are not consistent with previous imagery rescripting research on forgiveness to interpersonal transgressions where participants have shown decreased stress responses
(Larsen, Darby, Harris, Nelkin, Milam, & Christenfeld, 2012; Witvliet, Ludwig, & Laan, 2001), or to hypothesized crime victimization scenarios where no difference was found in stress responses when imagining forgiveness (Witvliet et al., 2008). The current data therefore suggest that situations of bullying may represent a unique category of harm. In severe situations such as that of the repeated harm and power imbalance found in bullying (Olweus, 1999), forgiveness may be a more stressful process. Forgiveness reduces prolonged chronic stress (Worthington & Scherer, 2004), which is detrimental to physical and mental health (Brosschot & Thayer, 2003). However, these data reveal one possible pathway that leads people to forgo this long-term benefit, for the immediate gratification of short-term stress reduction. These results could therefore be useful in understanding people's responses to bullying, and in assisting clinicians to address the short and longer term impacts of these responses. As avoidance has been found to increase empathy for the bully (Watson, Rapee, & Todorov, 2015) and these results show that it is less stressful in the short-term, perhaps a combination of short-term avoidance and longer term forgiveness may be the most effective and acceptable therapeutic intervention strategy for victims of bullying.

In addition, the prevalence rates of bullying victimization in this study are notable and warrant further discussion. These results reveal that in this sample of bullied university students, 97% experienced verbal bullying, 66% experienced cyber bullying, and 44% experienced physical bullying. In other studies, overall levels of bullying among college students have been reported at around 30–45% (Rospenda, Richman, Wolff, & Burke, 2013). When comparing between types of bullying, cyber bullying rates tend to be higher than offline harassment rates (Beran, Rinaldi, Bickham, & Rich, 2012). Cyber bullying is reported to range between 10 and 55% in college students overall (Na, Dancy, & Park, 2015). In addition, physical bullying rates are generally found to be lower than other types of bullying in this demographic (Wang, Iannotti, & Luk, 2012). The current results add to this literature by revealing higher rates of verbal bullying in comparison to cyber bullying than is found elsewhere in the literature and consistently high levels across all three types of bullying. This points to the importance of interventions aimed at bullying victimization in young adult populations, and the need for further research to fully understand and respond to this phenomenon.

**Limitations and future directions**

It is important to recognize certain limitations inherent in the design of this research. The short-term nature of the reactions tested in this study was the most significant limiting factor in interpreting the results. These findings reveal only the immediate impact of forgiveness, avoidance, and revenge in the individual. Naturally, clear clinical implications will only come from research looking at the longer term impacts. However, looking at these immediate responses has yielded important information regarding the rationale for choosing avoidance as a coping strategy, due to its immediate reduction in affect, cognitive evaluations, and stress response. Future studies could build on this research, looking at the longer term impacts of responses of forgiveness, avoidance, and revenge in bullying situations. The lack of ecological validity in this study can also be seen as a limitation, given the guided visualization instruction of imagery re-scripting, which is usually led by the patient. However, as this was a first study looking at the manipulation of forgiveness in bullying situations, the use of imagery re-scripting is a helpful tool, specifically because it can act
as a template for developing forgiveness interventions based on this procedure (Wenzel & Okimoto, 2010). This research was also based partly on self-reports, which involve inherent reporting biases. However, responses were provided anonymously in an online format, minimizing social desirability and as reported attitudes are a good predictor of behavior in students (Salmivalli & Voeten, 2004), this is a valid method of indicating response patterns in individuals. Skin conductance measures were also used as a more objective measure of participant stress response. The sample of mostly female first-year psychology students can also be seen as a limitation in this study, although it should be pointed out that the bullying experiences they drew on were real and recent, and that their levels of depression, anxiety, and stress were in the severe range on the DASS. Further, a recent meta-analytic synthesis found that neither gender nor age was significantly related to one's ability or likelihood to forgive (Fehr, Gelfand, & Nag, 2010). Therefore, these limits in sample should not greatly impact the generalizability of the results. In addition, levels of bullying victimization in participants were measured, but levels of bullying behaviors were not. The impacts of coping strategies may differ between bully/victims and those who are purely victims of bullying. Therefore, future research could draw this distinction within samples in order to further explore these coping mechanisms across populations. Bullying levels were measured using verbal, physical, and cyber distinctions, which are common categorizations for youth populations. However, other categorizations of bullying such as relational bullying do exist, but were not addressed specifically in this study. This may be a limitation of this research, and future studies could include more breadth of bullying distinctions, with a specific focus on relational bullying victimization in young adults. Internal consistency of the negative evaluative responses scale may also be seen as a limitation. Given that this scale held only two items, a low Cronbach's alpha score is expected, however, future studies should look at expanding items on this scale in order to enhance its reliability. Finally, avoidance was measured in this study through an exercise where individuals imagined that they escaped from the experience. This method was used in order to mimic as closely as possible the other conditions of revenge and forgiveness rescripting, and can therefore be seen as a strength of this experimental design. However, this imagined avoidance could in fact be construed as an effective coping strategy, if this form of self-distancing is done in order to be able to process the event fully (Ayduk & Kross, 2010) or gain control of the situation, which can ultimately reduce their avoidance behavior (Sartory, 2006). Therefore, the results in this study highlight the need to explore further the fine line between avoidance as a short-term positive coping response to bullying, and as a negative longer term response leading to chronic stress in the individual.

Conclusions

The current results indicate that both forgiveness and avoidance lead to more positive cognitive and emotional coping responses than revenge directly following imagination of a bullying transgression. Skin conductance data suggested that forgiveness is the more immediately stressful process, providing insight into why people may choose avoidance strategies, which are associated with negative impacts in the longer term (Dehue et al., 2008; Hunter & Boyle, 2004; Hutzell & Payne, 2012; Houbre et al., 2010; Kochenderfer-Ladd, 2004). Hence, a combination of short-term avoidance and longer term forgiveness may
provide the most promising balance between positive short-term and long-term benefits for victims of bullying.

**Disclosure statement**

No potential conflict of interest was reported by the authors.

**References**


