

**Evaluating the impact of a defender role-play intervention on adolescent's defender intentions and responses towards name-calling**

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**ABSTRACT**

Researchers and anti-bullying organisations have increasingly turned their attention to the role of bystanders in tackling bullying and peer victimisation (e.g. name-calling). The objective of this study was to develop and assess the impact of a role-play programme designed to strengthen adolescent's defending behaviour to name-calling. This was measured in two contexts: defending intentions in an outgroup name-calling scenario and cyber-defender behaviour in a scripted online peer interaction. Participants ( $N=121$ ,  $Mage=12.90$  years) were randomly assigned to either a role-play condition or a control condition. Results showed that defender intentions in an outgroup name-calling scenario were higher in the role-play condition, compared to the control; in addition, cyber-defender behaviour was more likely and quicker in the role-play condition, compared to the control. Defender self-efficacy was found to be significantly higher in the role-play condition, and mediated the effect of the role-play programme on defender intentions. Findings also revealed that defender intentions were positively correlated with cyber-defender behaviour, highlighting a link between intentions and behaviour. Implications for theory and practice are discussed.

*Keywords:* name-calling; role-play; defender self-efficacy; defending; cyber-defending; intergroup.

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Name-calling has gained prominence as the most common form of school bullying and victimisation (Garandeau, Poskiparta & Salmivalli, 2014; Waseem & Nickerson, 2017). Students who observe name-calling can respond in a number of different ways, they may: join the perpetrator(s) and call the victim names (assistants); support the perpetrator(s) by cheering and laughing (reinforcers); remain passive or uninvolved (outsiders); try to help or support the victim (defenders; Salmivalli, 2014). Defenders are thought to be a useful tool for combating name-calling in schools (Aboud & Joong, 2008; Salmivalli, 2014), but such responses are rare (Atlas & Pepler, 1998; Datta, Cornell, & Huang, 2016).

Researchers and anti-bullying organisations are increasingly investigating the individual and situational predictors of defender responses amongst young people (Ma, Meter, Chen, Lee, & 2019; van der Ploeg, Kretschmer, Salmivalli, & Veenstra, 2017; Yun & Graham, 2018) as well as attending to the development and evaluation of programmes to promote defender responses in schools (Salmivalli, Kärnä, & Poskiparta, 2010; Timmons-Mitchell, Levesque, Harris, Flannery, & Falcone, 2016). For example, the successful KiVa programme is the largest anti-bullying programme to acknowledge the importance of training bystanders. KiVa is a whole-school multi-layered programme including: discussions, role-play, video-clips about bullying, group work and written tasks (Kärnä et al., 2011). The range of training techniques used in such intensive anti-bullying programmes means it is difficult to pinpoint the precise mechanisms, or aspect, of the intervention that is most effective in promoting defender responses. With this in mind, the overall aim of the current research was to evaluate the impact of a *focused* role-play programme designed to promote defender responses, via the mechanism of defender self-efficacy.

The role-play programme was evaluated across three bystander outcomes: adolescent's defender intentions to outgroup name-calling, their cyber-defender behaviour and defender self-efficacy, the mediator by which we expect role-play to impact defender intentions and behaviours. Importantly, the focus on defender intentions in response to *outgroup name-calling* addresses a gap in the literature. Outgroup name-calling (also known as intergroup name-calling) refers to name-calling directed towards individual(s) who belong to a different social group (e.g. ethnicity) to the perpetrator (Abbott & Cameron, 2014). In contrast to the extensive literature on defender responses to interpersonal victimisation (Salmivalli, 2014), comparatively little is known about bystander responses when an outgroup member is targeted (Abbott & Cameron, 2014; Poteat & Vecho, 2016; Vezzali et al., 2019). Therefore, the findings provide an important insight into young people's defender intentions in response to a form of victimisation that is highly detrimental for young people's well-being (Palmer & Abbott, 2017; Verkuyten, Kinket, & Van der Wielen, 1997).

Cyberbullying can be defined as repeated hostile/aggressive messages intended to inflict harm/discomfort on others, performed via electronic or digital media, by individuals or groups (Tanrikulu, 2018). Cyberbullying is prevalent among young people across the world (Campbell, Spears, Slee, Butler, & Kift, 2013; Topcu & Erdur-Baker, 2012). As cyberbullying is a contemporary phenomenon, cyber-defender responses are less well understood, compared to offline defender responses. To date, cyber-defender research has typically focused on identifying the predictors of such behaviour (DeSmet et al., 2014; Luo & Bussey, 2019; Zych, Baldry, Farrington, & Llorent, 2018). However, this prior research has not yet informed anti-cyberbullying programmes, where the focus is typically on supporting *victims* and increasing victim confidence (Tanrikulu, 2018; for exceptions see Blaya, 2019; Chaux, Velasquez, Schultze-Krumbholz, & Scheithauer, 2016; Garaigordobil & Martinez-Valderrey, 2015).

Finally, past research has relied on a variety of self-report, vignette and peer nomination measures to capture defender responses (Ma, et al., 2019). Such self-report measures are problematic as they may be vulnerable to self-presentation (Barhight, Hubbard, & Hyde, 2013). The use of a technology-based paradigms provides a means of ethically and reliably measuring defending behaviour (Tanrikulu, 2018). Moreover, methodology that utilises a cyberbullying design should be more relevant, familiar and meaningful for participants (Gini, Albiero, Benelli, & Altoè, 2008). Thus, we provide a novel measure of young people's defender behaviours using a scripted cyber-bystander name-calling scenario. The use of this novel measure enabled us to conduct the research ethically, ensuring it was appropriate for this young age group. The measure also afforded experimental control of the scenario, developing on from prior methods (Freis & Gurung, 2013).

### **Defending self-efficacy and role-play interventions**

Defending a peer who is being called names can be risky and is unlikely if the bystander does not have a strong belief in their ability to successfully defend (Thornberg & Jungert, 2013). Drawing on Bandura's model (1995), this strong belief can be defined as self-efficacy: an individual's self-appraisal of their ability to produce desired outcome by their behaviour. Bandura argued that self-efficacy is one of the most important determinants that can lead an individual to engage in a given behaviour. Self-efficacy has been shown to be a powerful predictor of behavioural intentions in a number of domains (e.g. health) and has been recently been applied to bystander behaviour. For example, high *social* self-efficacy (i.e. high competency in social situations, such as finding it easy to make new friends) predicts greater defending behaviour among adolescent bystanders in bullying situations (Gini, et al., 2008). Researchers have also found that self-efficacy specific to intervening is positively associated with defender behaviours (Barchia & Bussey, 2011; Pöyhönen, Juvonen, & Salmivalli, 2012). Furthermore, Thornberg and Jungert (2013) stress that even if bystanders

perceive bullying as morally wrong, they may remain passive if they do not believe that they are capable of intervening effectively. This prior work highlights the importance of *defender* self-efficacy and the potential for anti-bullying programmes that move beyond general assertiveness training (Akbari, Mohamadi, & Sadeghi, 2012), to more focused programmes that aim to promote defender self-efficacy. Intensive anti-bullying programmes tend to include a range of training techniques (e.g. student lessons, online games, posters, staff and parent guides) meaning it is difficult to pinpoint the precise mechanisms, or aspect, of the intervention that is most effective in promoting defending. Therefore, our research aimed to evaluate an anti-bullying programme designed to promote defender self-efficacy via one technique: role-play.

Role-play interventions typically involve the simulation of a situation where the participants can “act out” and practice a specific behaviour, with the aim of developing a particular skill. In the context of anti-bullying programmes, these typically focus on victims of bullying/victimization (Joronen, Konu, Ranken, & Åstedt-Kurki, 2012; Smith, Ananiadou, & Cowie, 2003). Two notable exceptions that focus on bystanders are StandUP and STAC. The StandUP programme (Timmons-Mitchell, et al., 2016) is a three-session online programme that delivers assessments and guidance. The STAC program (Midgett & Dourmas, 2019) includes 90-minute training with fortnightly 15-minute follow-up meetings in small groups that trains defender responses; its name comes from the first letter of each of the four defender strategies that are promoted: “Stealing the Show,” “Turning It Over,” “Accompanying Others,” and “Coaching Compassion.” However, as these programmes use multiple techniques, it is not possible to pinpoint the specific impact role-play has on bystander responses. Furthermore, defender self-efficacy, as a potential underlying mechanism driving the effect of such programmes on bystander behaviours, has yet to be explored.

We believe that carefully designed role-play programmes that focus on promoting defender self-efficacy are likely to empower students to stand up to name-calling (Johnson, 2001). Particularly because not knowing what to say or do, and not being confident of the desired outcome have been identified as the main barriers to defending (Forsberg, Thornberg, & Samuelsson, 2014), especially in outgroup name-calling contexts (Aboud & Joong, 2008). Role-play interventions provide an opportunity for rehearsal of specific, desirable responses (i.e. defender responses) by providing examples of words or actions (Lamb, Bigler, Liben, & Green, 2009), as well as a chance to put these into practice and observe positive outcomes, thus promoting self-efficacy. Therefore, in this context, role-play can serve as an opportunity to practice defender behaviours and develop mastery of such situation. A number of forms of role-play were utilised, including individual role-play work, role-play in small groups and Forum Theatre role-play techniques (Boal, 2008), involving a theatre production on bullying.

### **Research Intent**

This research aimed to develop and evaluate a focused defender role-play programme designed to promote defender responses, via defender self-efficacy. Participants either experienced the intervention programme (role-play) or did not (control). The outcomes variables were: defender self-efficacy, defender intentions to outgroup name-calling and cyber-defending responses. It was predicted that role-play would promote greater defender self-efficacy, which in turn, facilitates greater defender responses (both defender intentions to outgroup name-calling and cyber-defending responses). More specifically, it was hypothesised that defender intentions for an outgroup would be higher in the role-play condition, compared to the control condition. It was hypothesised that defender self-efficacy would mediate the relationship between the role play condition (experimental vs. control) and defender intentions for an outgroup. Finally, it was hypothesised that cyber-bystander

responses would more likely, and quicker, in the role-play condition, compared to the control condition.

## **Method**

### **Participants**

A sample of 128 school students was recruited from a secondary school in the South East of England. The majority of participants (94.5%) identified themselves as born in the UK and as White British (84%). Participants who identified as immigrants ( $N=7$ ) were excluded from the analysis, due to the nature of the outgroup name-calling scenario, leaving 121 participants (57 males, 62 females and 2 who did not disclose their gender identity). The mean age of the sample was 12.90 years (Range: 12-13 years). Participants were randomly assigned to the intervention ( $N=62$ ) or control condition ( $N=59$ ). A sub-sample of the participants ( $N=60$ ), randomly selected, completed the scripted cyber-bystander measure, in both experimental ( $N=31$ ) and control ( $N=29$ ) conditions.

### **Design**

An experimental design was utilised to test the impact of the role-play programme (e.g. role-play versus control) on bystander intentions and behaviours. The dependent variables were defender self-efficacy, outgroup defender intentions, use of each of the three cyber-bystander defender responses (prosocial, warning and end chat) and the time for the first use of each of the three cyber-bystander responses.

### **Materials**

Participants completed a questionnaire in their classrooms at the end of the focused one-day intervention. At the start of the questionnaire a definition of intervening was presented: "This questionnaire is all about how teenagers feel and behave when they see someone being



called nasty names. One thing that pupils can do is to 'intervene'. Pupils can intervene in many different ways, but overall intervening means speaking up about the bullying or trying to do something else to stop it".

**Defender self-efficacy** was measured using two items: "If you saw someone being bullied in the next month...How confident are you that you would intervene?" and "How difficult would it be for you to intervene?" (reverse coded). Responses to both items were on a seven-point scale from "not at all" to "extremely" (Bish, Sutton, & Golombok, 2000). Analyses showed good internal reliability for self-efficacy towards intervening ( $r=.56^{**}$ ).

**Defender intentions.** Participants were presented with one of two hypothetical scenarios<sup>1</sup> (vignettes adapted from Abbott & Cameron, 2014): "Imagine that it is the end of the school day, and as you are walking out of the school gates you hear someone from your school (Person A) shout a rude word to someone else (Person B) because they are an immigrant (from another country and now live in the UK)/because they are from a school nearby". Following the vignette 15 possible bystander responses were presented (Trach, Hymel, Waterhouse, & Neale, 2010). Participants indicated how likely each response was on a five-point scale ranging from 'definitely would *not* do this' to 'definitely would do this'.

A confirmatory factor analysis with varimax rotation showed that six items loaded onto one distinct factor, namely, 'Discuss it with Person A at the time', 'Help Person B at the time it happened', 'Discuss it with Person A later', 'Help Person B after it happened', 'At the time, tell Person A to stop', 'Get friends to help stop it' (.86, .86, .84, .81, .70, and .61 respectively). This corresponds with previous research (Abbott & Cameron, 2014; Trach et al., 2010) on defender responses and analyses showed high internal reliability (Cronbach's

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<sup>1</sup> Participants either read a name-calling vignette concerning an outgroup member who is an immigrant, or an outgroup member who goes to another school. No significant differences in bystander intentions were found between the two outgroup vignettes, and so these were combined for subsequent analysis.

alpha = .88). Other types of bystander intentions were measured, which loaded onto distinctive alternative factors and were not the focus of this study. A composite mean score for defender intentions was then calculated.

**Cyber-bystander responses.** In this task participants observed a scripted online peer interaction (see supplementary materials). Participants were asked to act as the administrator for the group chat and to monitor the conversation. They were informed of three buttons they could click, each of which had an associated message: the first was a pro-social message, stating: "Please be nice to one another in this group chat"; the second was a warning message: "That type of language/behaviour is not acceptable in this group chat. Your chat will be ended if you do not stop"; finally, was the end chat message: "Due to unacceptable language/behaviour your chat has been ended". If a participant chose to click any of the buttons the associated message would appear in the group chat. Participants could click the prosocial and warning buttons at any time throughout the chat, and as many times as they wanted to. However, the final button ended the group chat, therefore could only be pressed once. The use of each of the responses was scored (e.g. used/not used). Also, the time (e.g. in seconds) was recorded for the first use of each response.

## **Procedure**

The study adhered to British Psychological Society ethical guidelines. This included informed consent from the gatekeeper (the headteacher) and parents or legal guardian, then verbal assent from participants. Participants were randomly assigned to either the role-play or control condition. A waiting control design was utilised, whereby the control group first completed the survey, and then at a later point, took part in the intervention.

**The role-play programme.** Eleven teachers and students designed and implemented the programme, including six members of a pre-professional student group, led by a Senior

Lecturer in Performing Arts (the third author), all of whom were trained for the implementation of the role-play programme and were introduced as part of the “drama team”. During the role-play, participants took part in a series of activities over the course of one school day (see supplementary materials). The programme for the day was based on the Forum Theatre technique (Boal, 2008) and well-established recommendations for role-play programmes (Argyle, 1994).

Those in the role-play condition completed dependent measures immediately following the role-play programme. Due to time constraints, it was only possible to administer the cyber-bystander measure to a sub-sample of participants. Participants were fully debriefed after the study and letters debrief letters were also sent home to parents or legal guardians.

### **Results**

Table 1 presents the means and standard deviations for all the variables measured in the study according to intervention condition (role-play/control). Table 2 displays the correlation coefficients between all study variables. As expected, defender self-efficacy and defender intentions were significantly positively correlated. However, defender self-efficacy towards intervening only significantly correlated with one cyber-bystander behavioural measure: use of the end chat behaviour. Defender intentions and the likelihood of all three cyber-bystander behaviours was significantly positively correlated. Moreover, defender intentions and the time for the first use of all three cyber-bystander behaviours was significantly negatively correlated (i.e. as defender intentions increased, time for first use decreased). These findings highlight an important link between defender intentions and behaviour.

**(Table 1 and Table 2)**

### **Impact of the anti-bullying programme**

**Defender intentions towards outgroup name-calling.** In line with the hypothesis, independent samples *t*-test revealed a significant effect of the role-play programme, whereby those in the role-play condition reported significantly higher defender intentions ( $M = 3.58$ ,  $SD = .56$ ) compared to the control condition ( $M = 2.59$ ,  $SD = .66$ ),  $t(117) = -8.89$ ,  $p < .001$ . (Cohen's  $d = 1.62$ ;  $r = .63$ ).

**The mediational effect of defender self-efficacy.** An independent samples *t*-test revealed that defender self-efficacy was significantly higher in the role-play condition ( $M = 4.66$ ,  $SD = 1.26$ ), compared to the control condition ( $M = 3.96$ ,  $SD = 1.45$ ),  $t(119) = -2.85$ ,  $p = .005$  (Cohen's  $d = .52$ ;  $r = .25$ ). A subsequent mediation analysis using INDIRECT was conducted (Preacher & Hayes, 2008). In line with predictions, results revealed that defender self-efficacy significantly mediated the effect of the role-play programme on defender intentions (see *Figure 1*). Significant mediation was demonstrated by confidence intervals that did not contain a zero (95% bias corrected confidence intervals, lower = .05, upper = .29). Thus, taking part in the role-play programme was related to higher levels of defender self-efficacy, which in turn, was associated with greater defender intentions for an outgroup. The continued significant association between role-play condition and defender intentions does however suggest that other mediating factors are also at play.

### **(Figure 1)**

**Cyber-bystander behaviour towards online name-calling.** Table 3 presents the percentage of participants who chose to use each of the cyber-bystander behaviours, by condition. The effect of the role-play programme on cyber-bystander behaviours was explored using chi-square analysis. In partial support of the hypotheses, two of the three forms of cyber-bystander intervention were significantly *more likely* in the role-play

condition, compared to the control condition. Chi-squared analysis revealed that those in the role-play condition were significantly more likely to use the prosocial cyber-bystander behaviour compared to the control group,  $\chi^2(1, N=60)=4.58, p=.03 (r=.28)$  and were significantly more likely to end the chat,  $\chi^2(1, N=60)=5.34, p=.02 (r=.30)$ . The higher likelihood of individuals in the role-play condition to use the warning cyber-bystander behaviour was not significant, but was in the expected direction,  $\chi^2(1, N=60)=3.38, p=.07$ .

### (Table 3)

Furthermore, independent samples *t*-tests revealed that the first use of two of the cyber-bystander behaviours (pro-social, warning) was sooner in the role-play condition than in the control condition. Individuals in the role-play condition were quicker to use the prosocial cyber-bystander behaviour ( $M=93\text{secs}, SD=82$ ) compared to the control condition ( $M=174\text{secs}, SD=51$ ),  $t(54)=4.28, p=.008$  (Cohen's  $d=1.18, r=.51$ ), and were quicker to use the warning cyber-bystander behaviour ( $M=189\text{secs}, SD=75$ ) compared to the control condition ( $M=247\text{secs}, SD=56$ ),  $t(55)=3.27, p=.002$  (Cohen's  $d=.88, r=.40$ ). However, for the first use of the end chat cyber-bystander behaviour, no significant differences between conditions was found (role play:  $M=318\text{secs}, SD=74$ ; control:  $M=372\text{secs}, SD=48$ ;  $t(32)=2.22, p=.40$ ).

### Discussion

The aim of the study was to evaluate a role-play programme designed to promote defender bystander intentions towards an outgroup and defender cyber-bystander behaviours, via defender self-efficacy. In line with predictions, defender intentions towards an outgroup and defender self-efficacy were significantly higher in the role-play, compared to the control condition. Defender self-efficacy was identified as an underlying mechanism driving the effect of the role-play programme on bystander intentions. Cyber-bystander behaviours were also measured in a novel online scripted name-calling paradigm, to move beyond measuring

bystander intentions. Crucially, analyses revealed that those in the role-play condition engaged in defending bystander behaviours more frequently, and earlier in the interaction. Individuals in the role-play condition were significantly more likely to use the prosocial and end chat cyber-bystander behaviours, and were significantly quicker in their first use of the prosocial and warning cyber-bystander behaviours compared to the control group. Finally, bystander intentions and cyber-bystander behaviours were significantly, positively correlated highlighting the significant relationship between bystander behaviours and intentions in this context.

Our findings extend previous research by highlighting the role of defender self-efficacy for promoting bystander defender intentions in an outgroup name-calling context. Previous research on self-efficacy, role-play and defender bystander behaviour in adolescents has focused on victims of bullying, general assertiveness and general self-efficacy (Gini, et al., 2008; Smith, et al., 2003). Some well-established, effective programmes incorporate role-play and bystander training into their design, such as KiVA (Salmivalli, et al., 2010) and STAC (Midgett & Doumas, 2019). However, to our knowledge, the research presented here is the first to uncover the impact of a focused role-play intervention on defender intentions, and identify the role of self-efficacy specifically *towards defending* in mediating this relationship. The findings have a number of practical and theoretical implications.

Notably, the findings underline the positive impact rehearsal via role-play can have on young people's defender responses. According to Bandura's (1995) model of self-efficacy, rehearsal of an action is likely to increase self-efficacy and the likelihood that behaviour will be enacted. According to this model, role-play provides an opportunity to practice behaviours and develop a sense of mastery of the situation that enhances self-efficacy. In the context of our intervention we argue that rehearsal during role-play provided a script for intervening, which could make the scripted defender responses more cognitively accessible. In addition to

defender responses being more readily accessible, role-play can also allow young people to experience positive outcomes of defending (i.e. it stopped the name-calling). This then increases defender self-efficacy, in turn, facilitating defender bystander intentions towards outgroup name-calling and cyber-bystander behaviour within the novel scripted cyber-bystander name-calling interaction. This is theoretically important, as it extends previous research linking self-efficacy and intentions by demonstrating this in a new intergroup context. Moreover, this study used a novel cyberbullying peer interaction paradigm to begin to move beyond measuring bystander intentions, to investigate the impact of role-play on cyber-bystander *behaviours*. Notably, the bystander intentions and cyber-bystander behaviour scores were correlated, providing weight to the utility of bystander intention measures. This is important methodologically, as it suggests measures of bystander intentions are a potential indicator of bystander behaviour.

Our findings also have practical implications for educators engaged in efforts to reduce bullying, and increase peer defending. Firstly, we have developed and evaluated a theoretically-based role-play programme that has a positive impact on bystander defender intentions and cyber-defender responses. We have pinpointed the impact of role-play specifically in increasing bystander defender self-efficacy, intentions and behaviours. Thus, our research supports the use of role-play programme for promoting not only greater defender bystander intentions, but also greater, and quicker, defender cyber-bystander behaviours. The role-play programme was associated with significantly higher likelihood of two of the three possible cyber-bystander behaviours (prosocial and end chat) as well as significantly earlier first use of two of the three behaviours (pro-social and warning). It is noteworthy that *all* participants in the role-play condition used both the prosocial or warning forms of cyber-bystander intervention. Such findings have promising implications for the use of scripted role-play, rehearsal and forum theatre as a means of tackling name-calling both in schools

and online. Secondly, the underlying principles we have uncovered can be applied to the development of future interventions. The research demonstrates the importance of defender self-efficacy, and points to the importance of rehearsal and mental scripts for promoting defending. These principles can be utilised to develop future education programmes to promote defender intention and behaviours. Finally, the findings suggest that defending intentions and cyber-defending behaviours are malleable. That is, they can be changed via targeted education programmes. This is encouraging, and supports the use of education tools to promote peer defending in bullying contexts.

### **Limitations and future research**

This research focuses on the short-term impact of a one-off intervention. Future research should examine the long-term impact of such an intervention, and determine whether follow-up sessions can maintain increased levels of defender self-efficacy, defender intentions and behaviours. Future research could also explore the generalised impact of the programme, and identify whether the effects generalise across intergroup contexts, and different types of bullying.

This research focused on defender self-efficacy as an underlying mechanism driving the effect of the role-play programme. Future developments of this programme could draw on the bystander intervention model (Nickerson, Aloe, Livingston, & Feeley, 2014) to further inform future intervention efforts. Moreover, further research is required to further unpack the mechanisms underlying the effectiveness of scripted role-play by examining additional potential mechanisms such as empathy, anxiety and perceived severity of name-calling. Future work could also examine the role of gender of the victim/bystander/perpetrator in determining the impact of the role-play programme, as previous research has found gender differences in the likelihood and type of bystander behaviours (Topcu & Erdur-Baker, 2012), which could moderate the impact of bystander training programmes.



The research utilised a waiting control design, whereby while the intervention group completed the intervention, the control group participated in a typical school day (completing the measures prior to taking part in the intervention at a later time). This was important in order to provide equal opportunities for all students in the participating school, which was requested by the school head teacher. Future research should include a control condition where participants complete a task that takes a similar amount of time as the intervention.

Finally, we developed a scripted name-calling interaction providing a novel means of capturing cyber-bystander behaviour, which can be utilised and adapted in future studies to help capture bystander behaviours. However, the paradigm required participants to assume the role of the group chat administrator, therefore placing the participant was in a position of power or responsibility in the scenario. Future research should examine the impact of power on response to cyberbullying.

In summary, the role-play programme was found to have a positive impact on bystander defender intentions for an outgroup and cyber-defender responses; with defender self-efficacy pinpointed as a key underlying mechanism. Our research supports the use of role-play programmes for promoting not only greater defender bystander intentions for an outgroup, but also greater, and quicker, defender cyber-bystander behaviours.

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**Tables and figures**

Table 1. Means and standard deviations for all study variables by role-play condition (role-play/control).

| Variables                            | Role-play condition |             |           |          |             |           |
|--------------------------------------|---------------------|-------------|-----------|----------|-------------|-----------|
|                                      | Role-play           |             |           | Control  |             |           |
|                                      | <i>N</i>            | <i>Mean</i> | <i>SD</i> | <i>N</i> | <i>Mean</i> | <i>SD</i> |
| Defender self-efficacy               | 62                  | 4.66        | 1.26      | 59       | 3.96        | 1.45      |
| Defender intentions towards outgroup | 62                  | 3.58        | .56       | 59       | 2.59        | .66       |
| Cyber-bystander pro-social behaviour | 31                  | 1.00        | .00       | 29       | .86         | .35       |
| First use of pro-social behaviour    | 31                  | 92.98       | 82.31     | 29       | 174.01      | 51.73     |
| Cyber-bystander warning behaviour    | 31                  | 1.00        | .00       | 29       | .90         | .31       |
| First use of warning behaviour       | 31                  | 189.06      | 75.26     | 29       | 247.70      | 56.62     |
| Cyber-bystander end chat behaviour   | 31                  | .71         | .46       | 29       | .41         | .50       |
| First use of end chat behaviour      | 31                  | 318.47      | 747.37    | 29       | 371.81      | 489.10    |

*Notes.* Cyber-bystander pro-social, warning and end chat behaviours were measured as dichotomous variables, whereby a 0 indicates no cyber-bystander bystander intervention behaviour, whereas 1 is associated with conducting that behaviour. First use for each of the cyber-bystander behaviours (i.e. first use of pro-social, warning and end chat behaviours) shows the average speed in seconds for the first time that action was used, from the start of the interaction.

Table 2. *Correlations for all study variables across experimental and control conditions.*

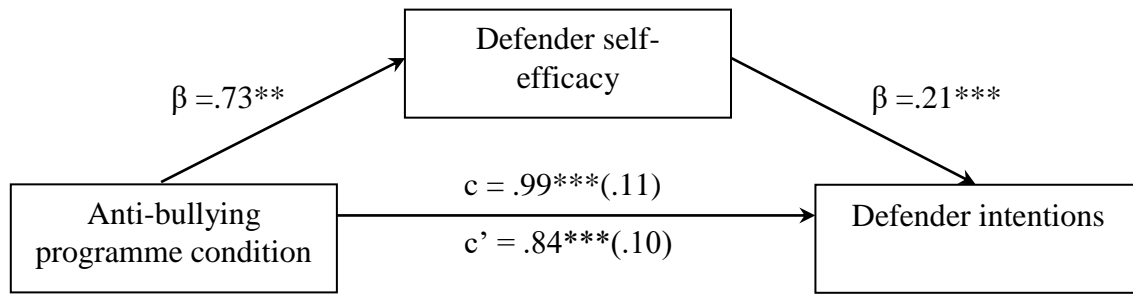
| No. | Variable                                  | <i>N</i> | 1 | 2     | 3     | 4      | 5     | 6      | 7     | 8     |
|-----|---|----------|---|-------|-------|--------|-------|--------|-------|-------|
| 1   | Defender self-efficacy                    | 121      | - | .52** | .22   | -.21   | .25   | -.26   | .54** | -.06  |
| 2   | Defender intentions for outgroup          | 121      |   | -     | .42** | -.50** | .40** | -.42** | .71** | -.35* |
| 3   | Cyber-bystander prosocial behaviour usage | 60       |   |       | -     | .21    | .86** | .17    | .31*  | .22   |
| 4   | First use of prosocial behaviour          | 60       |   |       |       | -      | .20   | .62**  | -.22  | .20   |
| 5   | Cyber-bystander warning behaviour usage   | 60       |   |       |       |        | -     | .23    | .26*  | .24   |
| 6   | First use of warning behaviour            | 60       |   |       |       |        |       | -      | -.20  | .50** |
| 7   | Cyber-bystander end chat behaviour usage  | 60       |   |       |       |        |       |        | -     | .23   |
| 8   | First use of end chat                     | 60       |   |       |       |        |       |        |       | -     |

*Notes.* \*  $p < .05$ . \*\*  $p < .01$  \*\*\* $p < .001$ . Spearman's coefficient is reported for all correlations that include a dichotomous variable, all other correlations reported use Pearson's coefficient.

Table 3. *Percentages of participants who decided to use each of the cyber-bystander behaviours (prosocial, warning and end chat) by role-play condition (role play/control).*

| Variables                            | Role-play |        | Control |        |
|--------------------------------------|-----------|--------|---------|--------|
|                                      | N         | %      | N       | %      |
| Cyber-bystander pro-social behaviour | 31        | 100%   | 29      | 86.21% |
| Cyber-bystander warning behaviour    | 31        | 100%   | 29      | 89.66% |
| Cyber-bystander end chat behaviour   | 31        | 70.96% | 29      | 38.71% |

*Note.* Overall N=60.



Notes. Standard Error (SE) in parenthesis. \*  $p < .05$ . \*\*  $p < .01$  \*\*\*  $p < .001$ .

Figure 1. Mediation of defender self-efficacy on the relationship between the role-play programme (role-play/control) and defender intentions