Using a games approach to teach children about discriminatory bullying (GATE-BULL). Intellectual output 1 Report to European commission

DETERMINANTS OF INVOLVEMENT IN PREJUDICE-BASED BULLYING SITUATIONS AND BYSTANDER INTERVENTION.

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Executive Summary

GATE-BULL is an Erasmus⁺ funded project aiming to develop a whole-school intervention against prejudice-based bullying for children aged between 10 and 12. The intervention is comprised of three key elements: a serious game, an intercultural curriculum and an online training course for teachers. GATE-BULL is funded for two and a half years, from September 2017, and is being led by the University of the West of Scotland with the participation of the Open University (Netherlands), University of Patras (Greece) and University of Nitra (Slovakia).

This report presents the findings from the GATE-BULL user needs analysis phase and the preliminary results from the intervention evaluation. The methodology included a literature review of recent research on bystander intervention in bullying and prejudice-based bullying situations, a face-to-face pupil survey, a series of focus groups with pupils and a focus group with teachers, and a quasi-experimental trial.

Key Outcomes

The user requirement analysis identified 6 requirements that need to be met for the intervention to be successful.

- The intervention should aim to reduce stereotypes and outgroup bias (via game and especially intercultural curriculum) by encouraging empathy, perspective taking, and "imagining counter-stereotypic examples" (McBride, 2015). Children should be allowed to voice their often-conflicting viewpoints openly in a safe environment.
- 2. The game should provide opportunities for collaborative working with members of minority groups under the conditions identified by Intergroup Contact Theory.
- 3. The intervention should aim to reduce moral disengagement attitudes (via game).
- 4. The intervention should aim to increase bystanders' sense of personal responsibility especially in the context of group norms that do not favour intervention in bullying situations (via game).
- 5. The intervention should aim to increase bystanders' self-efficacy (via game).
- 6. Learning should be experiential and not instructional.

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Introduction

This document presents the results from the user requirements analysis conducted for the GATE-BULL project. The main aim of the GATE-BULL project is to design a whole-school intervention with the aim to support learning around prejudice-based bullying among children aged 10 to 12 years. Prejudice-based bullying is a widespread phenomenon that leads to various negative consequences for both victims and bullies (Thornberg, 2015). Prejudice-based bullying is defined as any form of bullying victimisation related to personal characteristics unique to a child's identity such as their race, sexual orientation or physical appearance (Tippett et al., 2010). Children are often bullied because of their ethnicity, appearance, school performance and/or disabilities (Aboud and Joong, 2007).

Previous research has identified that bullying is a group phenomenon that occurs where there is an audience (Padgett and Notar, 2013) and, therefore, influencing the behaviour of students who witness bullying (also known as bystanders) is an effective way to protect children from bullying victimisation. Kärnä, Voeten, Poskiparta, and Salmivalli (2010) examined whether the bystanders' behaviours in bullying situations influenced vulnerable students' risk for victimisation. The results from multilevel models indicated the associations between victimization and its two risk factors social anxiety and peer rejection - were strongest in classrooms that were high in reinforcing bullying and low in defending the victims. This suggests that bystanders' behaviours in bullying situations moderate the effects of individual and interpersonal risk factors for victimization and should, therefore, be targeted by interventions aimed at reducing bullying. Although the research clearly indicates that bystanders have immense power to intervene and effectively stop bullying; yet, few children actually do so, according to Siegel (2009) and Blank et al. (2010), stressing the need for bystander intervention programmes. While some interventions for changing bystanders' behaviours in bullying situations have been developed in recent years with some success, none is specifically targeted at prejudice-based bullying. Due to its distinct nature and the additional motivations behind it, tailored interventions for prejudice-based bullying are required and the GATE-BULL project is intended to fill this gap by designing a bystander intervention programme specifically for prejudicebased bullying.

This report details the activities carried out between October 2017 and July 2018 carried out to progress the user requirements analysis. It describes the methodologies used to identify the requirements, the initial findings and an analysis of the results. The results of this analysis have fed directly into the next Intellectual Output (O2): the design specification of the game.

Methodology

The key question that needs to be addressed in designing a bystander intervention for prejudicebased bullying situations is to understand what makes some bystanders actively defend victims of prejudice-based bullying. To answer this question, we employed a mixed-methods methodology that consisted of the following elements: a review of previous theoretical and empirical studies on bystander behaviours in bullying and prejudice-based bullying situations, a face-to-face pupil survey, focus groups with pupils from both minority and majority status groups and a focus group with teachers. Given that the main users of the intervention that will be designed as part of the GATE-BULL project are children between the ages of 10 and 12 that witness prejudice-based bullying situations, it was felt that this should be the main group from which views should be elicited for the user requirement analysis phase of the GATE-BULL project. As such and to increase the reliability and validity of the findings, it was agreed by the project team to supplement the pupil focus groups with a larger-scale survey of pupils from multi-cultural schools. At the same time, it was agreed that, whilst still useful, teachers' views were not as central to designing the game element of the intervention and for that reason only one focus group with teachers was conducted at this stage. More views from teachers will be elicited at later stages of the GATE-BULL project to inform the development of the other elements of the intervention that are more teacher-focused i.e. the online teacher training material and intercultural curriculum.

Ethical approval for the user requirement analysis of the GATE-BULL project was awarded by the relevant body in each country (e.g. University Ethics Committee).

Pupil survey

A survey of children aged 10 to 12 years was conducted in Greece and Slovakia¹. Children were recruited from schools that had a sufficient number of ethnic, national and/or religious minorities (at least 25% of the overall student population). Only those students attending the last two years of primary school were invited to take part in the survey (ages 10-12). A power analysis conducted by the team indicated that the required sample size for the survey was 219 children per country. Anonymous questionnaires were administered in children's schools by a member of the project team in each country following an agreed protocol. Questionnaires were administered with the prior permission of the school and the pupils' parents. Questionnaires took between 40 and 60 mins to complete. A total of 550 children took part in the survey.

The measures used in the survey were informed by theories of bystander behaviour in bullying situations and prejudice-reduction theories (see next section) and included the following:

Demographic data: Information on age, school, school grade and gender was collected.

Group membership and identification

Ethnicity/nationality/religion membership and ingroup identification Children were asked to report their ethnicity, nationality, religion and their parents' ethnicity and nationality. After each ingroup membership question, children were invited to report the strength of their identification with each ingroup, using two items adapted from Jasini et al (2014). The answers from these questions were combined to assign participants to either the majority or minority status group, similarly to Durkin et al. (2012).

¹ The reasons we were not able to collect survey data in Scotland and the Netherlands as of yet are outlined in the limitations section of the methodology chapter.

Self-identification as a person with disabilities (additional needs): This was measured by the following question: Do you think of yourself as having additional needs?

Self-identification as an overweight person: This was measured by the following question: Other people think that I look... (5-point scale from Very slim to Very overweight). We also included a filling question on height (measured on a 5- point scale from very short to very tall).

Participant's bullying roles (self-reported): adapting the paradigm used by Pozzoli and Gini (2010), children were asked to provide the frequency with which they have bullied others, they have been bullied by other peers in the class and they have defended or observed bullying episodes in their classrooms during the last year.

Prejudice –based bullying: children were asked to provide the frequency with which they have bullied others, they have been bullied by other peers in the class and they have defended someone who was being bullied in their classrooms during the last year because of: (a) ethnicity/nationality/religion, b) weight, c) additional needs or d) other (to provide reason, if known).

Individual differences measures

Stigma by association (SBA): Six items were generated to evaluate the extent to which children worry about looking similar to those from stigmatised groups and of being stigmatised/ isolated from their social environment because of the association with them. Three items are aimed at measuring fear of SBA from classmates and three items are about SBA from best friends, using a 5-point response scale.

Perceived teacher and peer pressure: Children were asked to evaluate the extent to which they think that their teachers intervene when bullying occurs, and their perception of teachers' expectations for them to intervene when bullying occurs, if the teachers are not present (three items, with a 5-point response scale, adapted from Pozzoli et al., 2010). Similar questions were asked about the perceived peer pressure (from their best friends), using adapted items from Pozzoli et al. (2010).

Personal moral disengagement: this 14 –item scale validated by Caprara et al. (1995) evaluated participants' endorsement or rejection of moral exoneration of harmful conduct.

Defender self-efficacy: two items were used as by Thornberg & Jungert (2013): "If I saw bullying, I am sure I would be able to stop it", "I have a high confidence in my ability to intervene in bullying situation and help the victim", and evaluation was provided on a 5-point scale.

Personal responsibility: measured by 4 items as reported in Pozzoli & Gini (2010).

Pluralistic Ignorance: this concept was measured by calculating the difference between perceived classmates' and one's own moral disengagement toward bullying using the moral disengagement scale from Thornberg & Jungert (2013).

Prejudice-relevant measures

Ingroup bias/prejudice: ingroup bias items asking about liking toward ingroups and outgroups (e.g. Nesdale et al., 2009), with additional filling items were administered to participants, using 5-point response scales.

Intergroup contact: five items asked children about the quantity of contact they have with members from different stigmatised groups (children that are from different nationalities, ethnicities,

religions, overweight and with additional needs), similarly to items used also with same-age and younger children (Castelli, De Amicis & Sherman, 2007)

Pupil focus groups

A series of focus groups with pupils aged between 10 and 12 from both majority and minority status groups were conducted in Greece, Slovakia and Scotland². Focus groups were conducted to elicit more detailed views on children's experiences of prejudice-based bullying and the obstacles they face as bystanders in these situations. Children were also asked about their views on video games, whether they thought a video game could be a useful tool for learning about how to intervene in situations of prejudice-based bullying and what such a game might look like. For details of the guide used in pupil focus groups please see Appendix.

A total of 10 focus groups were conducted (4 with ethnic minority group only, 5 with ethnic majority group children only and 1 mixed). A total of 65 children (35 girls and 30 boys) took part in the focus groups (13 from Scotland, 26 from Slovakia, 26 from Greece). 29 children belonged to an ethnic minority group (6 Black, 4 White Other, 3 Asian, 15 Roma, 1 Chinese).

Teacher focus group

A focus group with Greek teachers was conducted to elicit teachers' views on the perceived obstacles to pupil intervention in prejudice-based bullying situations. Teachers were recruited from the audience of an anti-bullying conference that was organised specifically for teachers and trainee teachers in Greece in April 2018 by the project team. Views were also collected on the need for a tailored bystander intervention to address prejudice-based bullying in primary schools. For details of the guide used in the teacher focus group discussion please see Appendix.

Strengths of methodology

Strong theoretical underpinning

Prejudice-based bullying involves children from minority/stigmatised groups that are bullied usually (although not exclusively) by children belonging to a majority group, at least partly, due to prejudiced attitudes. When examining bystander responses to prejudice-based bullying, it is therefore important to examine how inter-group processes (e.g. group norms, outgroup contact) and prejudicial attitudes affect bystanders' behaviours. For this reason, the design and methodology of the user requirements analysis phase of the GATE-BULL project was informed by theories of bystander behaviour in bullying situations in combination with prejudice-reduction theories.

Theoretical model for predicting bystander behaviour in bullying situations

DeSmet et al. (2014) merged elements from both the Reasoned Action Approach (Fishbein & Ajzen, 2010) and Social Cognitive Theory (SCT) (Bandura, 2007) to develop their own theoretical model of bystander behaviour in bullying situations. Reasoned Action Approach (TRA²) combines the former Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) and Theory of Planned Behavior (TPB) (Ajzen, 1991) and states that behaviour is predicted by behavioural intention, assuming an enabling environmental context and adequate personal skills. Intention is in its turn influenced by attitudes,

² Please see the limitations section of the methodology chapter for an explanation of why no focus group data was collected in the Netherlands as of this date.

perceived norms and self-efficacy to enact the behaviour (see Fig. 1). TRA² also recognizes the importance of background variables that can influence behavioural, normative and control beliefs. SCT has been added to the model as it shares most determinants with TRA² but additionally highlights the importance of moral disengagement attitudes.



Figure 1 White boxes represent elements from Reasoned Action Approach (Fishbein, 2008). Grey boxes are additions from Social Cognitive Theory (Bandura, 2007).

Prejudice-reduction theories

It is important to consider how prejudicial attitudes form before developing interventions aimed to tackle prejudiced-based bullying. Theories of prejudice reduction are divided into two strands.

Intergroup Contact Theory and Cooperative Learning

The Intergroup Contact Theory was initially reported as a hypothesis in the influential book "The Nature of Prejudice" (Allport, 1954) but in the last 60 years has been developed and conceptualised as a more elaborated theory, supported by extensive empirical evidence. Since its origins, Allport noted that intergroup contact can usually reduce, but sometimes exacerbate, the prejudice experienced by people belonging to different groups. This author identified four conditions that he considered essential for an intergroup situation to be optimal to decrease prejudicial intergroup attitudes. Intergroup contact was indeed supposed to improve intergroup relations in intergroup contexts in which members of different groups 1) perceive their groups with equal status in those situations, 2) they cover interdependent roles 3) they achieve common goals, 3) and their intergroup collaboration is supported by authorities. A major meta-analysis run by Pettigrew and Tropp (2006) that focused on published and unpublished studies on intergroup contact conducted in the 20th century, found that ninety-four per cent of 515 studies were consistent with the conclusion that intergroup contact reduces prejudice and these effects were larger for majority than minority groups. However, this meta-analysis also demonstrated that the optimal conditions suggested by Allport are not essential to prejudice reduction, also when they are not met intergroup contact leads to prejudice reduction. However, when all these conditions are actually met, intergroup contact leads to greater prejudice reduction effects.

Pettigrew and Tropp's meta-analysis (2006) also showed that intergroup contact improves intergroup attitudes towards a variety of stigmatised groups and improved attitudes towards known

members of a specific group are generalised to their entire group. Most importantly, this metaanalysis uncovered the importance of intergroup friendship as a special element to reduce prejudice, because it embeds many of Allport's conditions and other aspects that are helpful for prejudice reduction (e.g. self-disclosure, intimacy, forgiveness and trust). Examining the processes through which intergroup contact improves intergroup attitudes, Pettigrew and his colleagues (Pettrigrew, Tropp, Wagner and Christ, 2011) found that stereotype knowledge has a minor role compared with affective factors (e.g. reduced intergroup anxiety and threat and increased trust and empathy) in the intergroup contact- prejudice reduction relation. Schellhaass and Dovidio (2016) also highlighted how intergroup contact helps with processes as de-categorisation, re-categorisation and deprovincialism that are also important to improve intergroup relations. To sum, advances of the intergroup contact theory have widely shown that intergroup contact is one of the most powerful strategies for ameliorating intergroup relations, operating at the best when specific factors and processes take place in intergroup contexts, as tested by the empirical evidence on intergroup relations accumulated in the last 60 years.

Allport cited evidence that asserts that when students of diverse backgrounds have the opportunity to interact and get to know one another on an equal basis, they find it more difficult to hold biased views against one another (Slavin and Cooper, 1999). One of the most widely used strategies to achieve this outcome is cooperative learning (Slavin and Cooper, 1999). Slavin and Cooper (1999: 4) explain that cooperative learning methods "attempt to reduce competition or individualism in classrooms by rewarding students based on the performance of all individuals in their group. The instructional methods used are structured to give each student a chance to make substantial contributions to the team, so that the teammates will be equal – at least in the sense of role equity specified by Allport".

Anti-bias theories

Lewin (1947) maintained that it is ineffective to focus on changing the behaviour of individuals because the individual is constrained by group pressures to conform (Burnes, 2004). Consequently, the focus of change must be at the group level exploring factors such as group norms, roles, interactions and socialization processes to create 'disequilibrium' and positive change (Burnes, 2004). His theory is summarised by Bargal (2008 as cited in McBride 2015): "Lewin (1945/1948) likened false stereotypes and prejudices to erroneous concepts and theories. In his view, the first step to changing those concepts and theories is to re-examine them. Re-examination should be carried out through an alternative perception of the self and one's social relations. It cannot be left to accident, and group experiences should be planned as a forum for such re-examination. Lewin suggested that through the group one can acquire norms and means to learn new perceptions and behaviours, marked by a commitment to self-examination, active confrontation with one's own perceptions and perceptions held by the other group members, active involvement in problem solving, and a willingness to expose oneself to empirical examination of ideas and conceptions." According to McBride (2015), this means that teaching skills and disposition, such as critical thinking and empathy, could be more effective than instructing what types of behaviours, language, or attitudes are "wrong".

Multilevel investigation of determinants of bystander behaviour

Previous studies have found that individual variables as *moral disengagement, self-efficacy* and *personal responsibility* are important in predicting defenders' behaviour in bullying contexts (Pozzoli and Gini, 2010; Gini et al, 2008; Thornberg and Jungert, 2013). However, the theories outlined above clearly indicate that group-level factors also need to be taken into consideration when designing a bystander intervention programme especially when targeting prejudice-based bullying behaviours that most often take place in a group context by members of a majority status group towards

members of a minority group. Therefore, apart from the individual-level variables outlined above, this user requirements study also sought to investigate the role of inter-group processes and prejudicial attitudes in influencing children's bystander responses.

More specifically, this user requirements study has investigated the role of *peer, teacher and class norms* in encouraging defending behaviour as well as the role of fear of stigma by association and pluralistic ignorance in preventing bystander active intervention. Previous literature has examined this topic in homogenous majority group contexts and a few studies have evidenced that class and peer norms contribute to uniquely explain defending behaviour (e.g. Pozzoli et al, 2012). Nesdale and Lawson (2011) also found that peer and class norms acted independently as predictors of attitudes toward outgroup members, meaning that the effects of negative peer norms were not mitigated by positive class norms. However, Nipedal et al. (2010) found a moderating effect of class norms on the impact of peer norms on aggressive intentions towards outgroup members, especially in younger (7 years old children) than older (10 years old) children. As far as we are aware, no research has been conducted measuring directly pluralistic ignorance and fear of stigma by association as possible variables affecting bystander intervention in multi-ethnic contexts with children (in other contexts see Sandstrom et al, 2013).

Importantly, this user requirements study also examined the influence that *personal prejudicial attitudes (i.e.bias)* and *previous contact with minority groups* have on defending behaviour toward classmates from different status groups.

Setting

Research on bystander behaviours in bullying behaviours has so far been conducted mainly with children from homogeneous ethnic/nationality populations. Also, the existing literature on children's intergroup and intragroup relations has predominantly used scenarios and vignettes asking young participants about their intention to act in bullying episodes rather than their actual behaviour. Furthermore, this research has investigated mainly bullying towards ethnic minority children. Much less consideration has been given to stigmatised groups such as overweight and children with additional support needs (for an exception Cameron et al, 2006). The present user requirements analysis tried to address these issues by conducting a survey of pupils' actual behaviour towards bullying in a multicultural naturalistic setting including bullying related to appearance and disability.

Limitations of methodology

The biggest limitation of the user requirement analysis is that, due to reasons beyond our control, we have not been able to this date to collect data in the Netherlands and have only managed to collect limited data in Scotland.

In Scotland, the team was requested by the University's Ethics Committee to follow a very strict procedure for gaining consent from parents, to ensure also compliance with the new GDPR legislation, which led to an inexplicably low response rate. More specifically, we were obliged to ask for parents' explicit consent (known also as opt-in) before a child could take part in the survey or focus groups. The UWS team recruited and visited in total 6 multicultural schools in two cities in Scotland (Edinburgh and Aberdeen) and invited 308 children in total to take part in the survey and focus groups. The study had the support of teachers who spoke to students about the benefits of taking part. However, out of all those invited only 30 returned parental consent forms and were therefore eligible to take part in the user requirement analysis. Such a low response rate of 10% was completely unanticipated and cannot be easily explained. As previously mentioned in the methodology section one of the strengths of the study is that it was due to be conducted in multicultural schools which are usually found in deprived areas where parents may not have a very

strong relationship with the school and/or due to increased work requirements may not be able to invest as much time in their children's school matters. This may have impacted negatively on our response rate. In Slovakia and Greece, project teams were only required to get opt-out consent from parents (i.e. a parent was instructed to return the form only if they did NOT want their child to take part) which explains the much higher response rate. Another possible explanation is that as the survey was conducted towards the end of the school year pupils may have been tired and less likely to engage with school life. For this reason, we have decided to return to schools at the beginning of the school year 2018-19 to repeat the invitation to take part hoping for a better return rate. To increase the response rate, we will also be offering pupils who consent to take part a small gift to compensate for their time and effort.

In the Netherlands, the University's Ethics Committee took a long time to review the proposal. After a first review the Ethics Committee requested informed consent for children aged 12 or older. While schools were enthusiastic about the research, they were not able to conduct the study at the end of the school year. At the moment of writing, informed consent forms for parent are being distributed amongst more than 200 parents across 5 schools. One or two school still need to be recruited to get sufficient respondents. The data will be collected in September and October 2018.

The project team agreed that it is useful to continue with data collection in Scotland and the Netherlands as this will allow to check results from these two countries against results presented in this report to increase the cross-cultural reliability and validity of the user requirements analysis. We do not anticipate the addition of Scottish and Dutch data to alter significantly the main conclusions arising from the user requirements analysis as presented in this report. The requirements that have arisen from this user requirements analysis chime remarkably well with the results of previous theoretical and empirical studies and, therefore, we are confident that we have captured all the important determinants of defending behaviours in prejudice-based bullying situations, however the addition of Scottish and Dutch data would add further reliability and validity to our findings as the sample would double.

Findings

Literature Review

Most previous research on bystander behaviour in bullying situations has examined the individual differences between active (i.e. defenders) and passive bystanders. These studies have found that defenders differ in important ways from passive bystanders.

In a study involving 347 teenagers (141 boys, 206 girls), from 3 schools in a middle-sized Swedish tow, Thornberg and Jungert (2013) found that defenders of victims had a higher sense of self-efficacy and moral sensitivity and a lower sense of moral disengagement compared to students who engaged in pro-bullying behaviours (e.g. reinforcers of those who bullied). Differences have also been found between active and passive bystanders in terms of empathy and pro-victim attitudes, with defenders scoring higher on measures of empathy and adopting significantly more pro-victim attitudes (Gini et al. 2008, Pozzoli et al. 2012).

Differences in self-efficacy between those that defend and those that do not have been consistently found in the literature (see Pronk et al. 2013, Gini et al. 2008). Pronk et al. (2013) for example found that defenders had a higher sense of self-efficacy compared to outsiders especially when they recommended using a direct intervention such as confronting the victim alone or with a friend. Differences in self-efficacy were less pronounced when indirect interventions were used such as supporting the victim or warning the teacher. This suggests that it might be easier to train children

to use indirect intervention when they witness bullying. The study also found that intervention was more likely when the victim was a friend than a neutral victim.

Another study conducted with 462 Italian students from four middle schools found that defenders have better problem-solving coping skills and tend to perceive higher peer pressure for intervention (Pozzolli and Gini, 2010). Passive bystanders, on the other hand, were more likely to report using distancing coping strategies. In bullying situations where participants did not perceive there was high peer pressure to intervene, those with a higher sense of personal responsibility were more likely to report defending behaviour.

The role of peer norms on bystander behaviour in bullying situations has also been highlighted in other studies that show that peer pressure to intervene is positively associated with provictim attitudes toward bullying, personal responsibility and approach coping, and negatively associated with passive behavior (Pozzoli and Gini, 2013). Parental pressure also seems to have a similar positive effect on bystander behaviour in bullying situations in both primary and secondary school (Pozzoli and Gini, 2013). On the other hand, teacher pressure does not seem to be correlated to defending behaviour in bullying situations in either primary or secondary school (Pozzoli et al., 2012).

Most studies find significant gender differences in defending behaviour. More specifically, girls are more likely to defend peers when they are bullied compared to boys mainly because they tend to score higher on moral sensitivity and empathy that are strong determinants of defending behaviour (Gini et al. 2008, Thornberg and Jungert, 2013).

Some studies have also investigated determinants of bystander behaviour in prejudice-based bullying situations. For example, Abbott and Cameron (2014) found that British adolescents aged between 11 and 13 who had higher intergroup contact were more likely to behave assertively in an intergroup name calling situation mainly because they showed higher empathy and cultural openness and less in-group bias. In a recent study, quality cross-group friendship was associated with a reduced likelihood of aggressive bystander intentions among older adolescents and lower ignoring intentions among girls (Palmer and Abbott, 2018).

In another study that gathered qualitative views from primary school in Canada, Aboud and Joong (2008) found that children were anything but apathetic. The self-descriptions reveal a mixture of aroused excitement and sadness, especially among the older children, who were more likely to either encourage or try to stop the harm. These conflicting feelings mean that intervening was not straightforward: while one friend might propose intervening, the other would generally raise the possibility that it would provoke the bully to turn on them. Considering how to respond to a name-calling episode evoked conflicting rather than apathetic reactions in bystanders. The conflicting reactions aroused in bystanders may best be conceptualized as an approach avoidance conflict in which strong approach and avoidance tendencies result in immobility and the outward appearance of apathy. Aboud and Joong (2008) suggested that an anti-bullying programme should aim to achieve that a social norm is created among students to speak up on behalf of tormented individuals.

There are significant age differences in how children respond to prejudice-based bullying situations. For example, Aboud and Joong (2008) found that among third-graders bystanders were less likely to intervene, victims were more likely to respond aggressively, and an adult was more likely involved. Sixth-graders summoned an adult monitor only when the fight became physical, presumably because at this age children want to take responsibility for resolving peer conflicts. They commonly directed their comments to the name caller rather than the victim, but they were nonconfrontational. Sixth-graders seemed to have some insight into bullies and were more confident and articulate in their interventions. Furthermore, Aboud and Joong (2008) found that third-graders were more likely to recall social convention reasons for defending the victim in an intergroup name calling situation whereas sixth graders were more likely to recall psychological and (slightly less so) moral reasons. Also, third graders were more influenced by adult models and sixth graders more influenced by peer models (Aboud and Miller, 2007).

Other studies have found that compared to third graders, sixth graders witnessed more bullying and felt more bothered about it, but fewer tried to intervene (10% compared to 22% for third graders) (Aboud and Miller, 2007; Palmer et al., 2015). However, Palmer et al. (2015) found that only when the victim was an ingroup member and the aggressor an outgroup member did participants become more likely with age to report prosocial bystander intentions due to increased ingroup identification.

Finally, Palmer et al. (2015) found that in situations of intergroup name calling children are less likely to intervene if they do not perceive the incident to be serious enough.

Survey findings

This section presents the results of the determinant analyses from the survey data. We will first explain the operationalization of the dependent variables. Then, we will provide information on the psychometric properties of the independent scales. Finally, we will present the results of the CIBERplots. Prior to analysis, data was checked on non-fitting data points (i.e., typos in the data entry).

Participants

	Slovakia	Greece	Total	
	(<i>n</i> = 261)	(<i>n</i> = 289)	(<i>n</i> = 550)	
Gender (% female)	49.4%	49.0%	51.0%	
Age (mean ± SD)	10.80 ± 0.73	11.27 ± 0.66	11.05 ± 0.74	
Ethnicity				
White	77.8%	90.6%	84.5%	
Latino	3.4%	0%	1.6%	
Roma	14.9%	9.4%	12.0%	
Black	0.4%	0%	0.2%	
Asian	0.8%	0%	0.4%	
Mixed	2.7%	0%	1.3%	
Religion				
Christian	73.2%	96.1%	85.2%	
Muslim	0%	2.5%	1.3%	
Hindu	0.8%	0%	0.4%	
Buddhist	0.4%	0%	0.2%	
Jewish	10.7%	0%	5.1%	
None	14.9%	0.7%	7.5%	
Other	0%	0.7%	0.4%	

Table 1 shows the characteristics of the sample size in total and by country

Dependent measures operationalized: Prejudice-based bullying roles

Q9 (bullying), Q10 (victimization) and Q10A (defending) measured children's experience with different prejudice-based bullying (PBB) roles (See Appendix 'Pupil Questionnaire' for the specific questions). Each question consisted of several items asking about bullying based on 'skin color', 'religion', 'home country', 'weight', 'additional needs', and 'other' with scales ranging from '1' (Never) to '5' (Almost Always). For the analyses, we decided to leave out the 'other option' since most answers did not relate to prejudice-based bullying. Any score of 3 or higher in the questions above was coded as having experience and no score of 3 or higher was scored as having no experience.



Figure 1. Sample and sampling distribution of experiences with prejudice-based bullying (EXP_BUL)

Figure 1 through 3 show the sample and sampling distribution of the outcomes. You can see that all three behaviors are highly skewed. Most children have no experience with PBB bullying, defending or victimization.

The percentages of *experience* in the whole sample are³:

³ Note: The sample size for the bullying and victimisation outcomes is lower than the total of 550. This is attributable to Greece having difficulties with taking the questionnaire. The researchers experienced that some students, especially minority children, found it difficult to understand and complete the questionnaire on their own. For this reason, in some classes, some teachers would read the questionnaire aloud and explain some of the questions to the class. Some minority children could not keep the pace of the teacher, so they omitted some questions. While children had a time limit of one full hour (60 minutes), this duration was not enough for all of them. Another explanation might be a lack of motivation. Since they were not obliged to answer all the questions, they skipped some questions. Finally, it is important to note that some children might have found it had to answer sensitive questions in a mixed group setting. This will be important to consider for the next wave of data collection.



Figure 2. Sample and sampling distribution of experiences with prejudice-based defending (EXP_DEF)

- Bullying: 16.1% (n=434)
- Defending: 44.1% (n=261)
- Victimization: 22.9% (n=459)

Prejudice-based bullying and victimisation was slightly higher in Greece than in Slovakia (17.9% vs. 14.9% and 20.7% vs. 25.8% respectively).

While the data is highly skewed, the sampling distribution shows the data following a normal curve (right panels of figures 1-3 show the sampling distribution). This is calculated based on 1000 samples of our study sample. With these results, we can continue using the data without transformations. Consequence is that the maximum achievable correlation will be somewhat lower.



The data on defending is only based on siovakian data because this question was added to the questionnaire after data collection heigeneedate anglieged stribution of experiences with prejudice-based victimization (EXP_VIC)

Reliability of the independent scales

In Table 2 the reliability of the different concepts measured is presented.

Scale	M (SD)	N items	N items Scale range	
Bullying roles (in general)				
Bullying in general	1.52 (0.59)	4	1-5	.67
Defending in general	3.36 (1.14)	4	1-5	.84
Victimization in general	1.78 (0.79)	4	1-5	.71
Standing by in general	1.99 (0.93)	4	1-5	.78
Expected stigma by association	1.83 (0.95)	6	1-5	.90
Perceived teacher norm	3.39 (1.37)	1	1-5	NA
Perceived peer norm	3.08 (1.38)	1	1-5	NA
Moral disengagement				
Cognitive restructuring	2.09 (0.70)	6	1-5	.65
Minimizing one's agentive role	2.40 (0.98)	3	1-5	.62
Distorting the consequence	1.79 (0.84)	2	1-5	.50
Blaming the victim	2.11 (0.91)	3	1-5	.66
Self-efficacy to defend	3.36 (1.06)	2	1-5	.72
Perceived personal responsibility	2.73 (1.22)	1	1-5	NA
Pluralistic ignorance	-0.21 (0.71)	2*	-5 - 5	Self (.72)
Ingroup bias	0.58 (0.89)	2*	-5 - 5	Ingroup (.86)
Intergroup contact	2.63 (0.79)	5	1-5	.66

* Computed by subtracting of two scales from each other.

Some notes on the concepts measured:

- In general, the Greek and Slovakian data showed similar results concerning factor and reliability analyses. The Greek data had more missing items, resulting in somewhat lesser reliability in computing scales. However, because of the similar pattern, we decided to merge the data for these analyse.
- Bullying roles describe experiences with different bullying roles in general. Thus, it is different with the outcomes measures in that it does not ask about prejudice-based bullying specifically. Scales used for measuring bullying roles and prejudice-based bullying roles are different scales.
- There could not be calculated meaningful scales for the questions concerning *perceived teacher norm* and *perceived peer norm*. Therefore, we decided to use the first item of each scale, asking whether the teacher or peers have stopped the bullying before.

- Concerning moral disengagement: We calculated the original scales as indicated by the author.
 However, the scales in general showed not too strong reliability. It was difficult to draw new scales from the factor analyses. Data from both countries showed slightly different results.
- It was not possible to calculate a mean for perceived personal responsibility. Therefore, we used the first item (RESPON01) for the analyses: 'Helping classmates who are repeatedly teased, hit or left out is my responsibility'.
- Pluralistic ignorance and ingroup bias are calculated by subtracting scores of two subscales.
 - For pluralistic ignorance, children were asked about how they perceived and how they think other perceived particular bullying situations. A score greater than 1 reflects higher pluralistic ignorance (a score of 0 reflects no pluralistic ignorance).
 - For ingroup bias, children were asked about how much they liked children from specific groups. Factor analyses showed a clear distinction between in and outgroup member. The subscales were subtracted from each other. A score higher than 0 indicated stronger ingroup bias (a score of 0 indicates no bias).

Results: Correlations

In determining the best determinants to address in an intervention, one has to look at the:

- Association: How strongly is the determinant related to the behavior we want to address?
 Obviously, you do not want to address determinants that are weakly associated with the behavior.
 (Table 3)
- *Relevance and Changeability*: Even if a determinant is relevant and has a high association, one has to judge whether this determinant can be addressed in an intervention.

Table 3 and Figure 4 show the correlations of the determinants with their outcomes. Significant associations are highlighted in yellow.

Table 3. Correlations

	Experience with prejudice based bullying		Experience with prejudice based defending		Experience with prejudice based victimization	
Bullying roles (in general)	•	٢		٢	•	Ρ
Bullying in general	<mark>.40</mark>	<mark>.000</mark>	.04	.489	<mark>.202</mark>	<mark>.000</mark>
Defending in general	<mark>11</mark>	<mark>.018</mark>	<mark>.24</mark>	<mark>.000</mark>	.009	.846
Victimization in general	<mark>.12</mark>	<mark>.012</mark>	<mark>.17</mark>	<mark>.005</mark>	<mark>.304</mark>	<mark>.000</mark>
Standing by in general	<mark>.10</mark>	<mark>.046</mark>	<mark>14</mark>	<mark>.023</mark>	.00	.972
Expected stigma by association	<mark>.48</mark>	<mark>.000</mark>	<mark>.31</mark>	<mark>.000</mark>	<mark>.31</mark>	<mark>.000</mark>
Perceived teacher norm	06	.250	.12	.064	05	.317
Perceived peer norm	03	.594	<mark>.17</mark>	<mark>.006</mark>	02	.655
Moral disengagement						
Cognitive restructuring	<mark>.20</mark>	<mark>.000</mark>	.08	.223	<mark>.13</mark>	<mark>.006</mark>
Minimizing one's agentive role	<mark>.11</mark>	<mark>.016</mark>	<mark>.15</mark>	<mark>.016</mark>	<mark>.18</mark>	<mark>.000</mark>
Distorting the consequence	<mark>.25</mark>	<mark>.000</mark>	.09	.131	<mark>.14</mark>	<mark>.003</mark>
Blaming the victim	<mark>.28</mark>	<mark>.000</mark>	.01	.851	<mark>.19</mark>	<mark>.000</mark>
Self-efficacy to defend	03	.610	<mark>.14</mark>	<mark>.022</mark>	<mark>.10</mark>	<mark>.027</mark>
Perceived personal responsibility	04	.479	.10	.104	05	.258
Pluralistic ignorance	10	.050	07	.252	03	.591
Ingroup bias	.07	.133	11	.090	00	.971
Intergroup contact	<mark>.16</mark>	<mark>.001</mark>	<mark>.16</mark>	<mark>.010</mark>	<mark>.15</mark>	<mark>.002</mark>



Means and importance of determinants of prejudice-based bullying experiences with bullying (R² = [.25; .42]), defending (R² = [.11; .31]) & victimization (R² = [.12; .26])

Figure 4: Results of CIBER plots for general concepts (determinants)

Box 1: How to interpret the CIBER plots

'The anchors of the items are on the side of the left hand panel. The diamonds in the left hand panel show the item means with 99.99% confidence intervals. The fill color of the diamonds is indicative of the item means— the redder the diamonds are, the lower the item means; the greener the diamonds are, the higher the items means (blue denotes means in the middle of the scale). The dots surrounding the diamonds show the item scores of all participants with jitter added to prevent overplotting. The diamonds on the right hand panel show the association strengths (i.e., correlation coefficients with 95% confidence intervals) between individual items and determinants at different levels of psychological aggregation. The fill color of the diamonds is indicative of the association strengths and their direction—the redder the diamonds are, the stronger and more negative the associations are; the greener the diamonds are, the stronger and more negative the diamonds are, the weaker the associations are.' (Crutzen, Peters, & Noijen, 2017)

Crutzen, R., Peters, G.-J. Y., & Noijen, J. (2017). Using Confidence Interval-Based Estimation of Relevance to Select Social-Cognitive Determinants for Behavior Change Interventions. *Frontiers in Public Health*, 5(July), 1–9. https://doi.org/10.3389/fpubh.2017.00165 The determinants that correlate most strongly with experiences with defending were:

- **Expected stigma by association** (r = .31): This is a positive relationship, that makes it difficult to interpret. It means that children that expect that they might get bullied to if they help, more often report that they have defended someone. This association is weak. Also, most children believe that stigma by association is not an issue, making is a less relevant determinant. What is however interesting, is that expected stigma by association is moderately related to prejudice based bullying (r = .38). Thus, it might still be interesting to address expectations of being bullied in an intervention. This can be explained as follows: the more you bully because of prejudice, the more also you fear to be associated with a victim. This means that bullies with prejudice think that association with a victim will isolate them, and endorse a peer norm of exclusion. The intriguing aspect here is that this variable is positively associated with defending and victimization because of prejudice too. In other words, the more you defend a victim the more also you fear to be excluded by peers because of a potential association between you and the victim, and also the more you are a victim, the more you fear to be associated with another victim. So this variable is important but it would be interesting to understand how it plays a role for the different bullying roles: is it playing a role before or after bullying/victimization? And about defending, in spite of this fear of association with a victim, how can a child still overcome it and act as defender? Possibly case studies or interviews rather than focus groups could help with this.
- Defending in general (r = .24): Children who report defending children in general, also report defending children who are bullied based on prejudice. The mean is quite in the middle of the scale, making it a relevant determinant. However, the association is weak. Also, the changeability is low, because it is not known what makes someone a defender (determinants of defending).

Unfortunately, all sub-determinants showed a weak to very weak association with prejudice based defending. The correlations are too weak to effectively change behavior. Possibly, the measure of prejudice-based bullying was too difficult to understand for children. This might be reflected in the relatively weak association between prejudice-based defending and defending in general (r = .24). However, it interesting to note that there was a statistically significant association between prejudice-based defending and intergroup contact, in that the higher the contact you have with out-groups the more likely you are to defend someone from an out-group. There was also a statistically significant association between prejudice-based defending and perceived peer group norms, in that the more children perceived their peers had stopped bullying in the past the more likely they were to report themselves defending others.

We conducted further analyses to explore the determinants that correlated most strongly with experiences of defending in general bullying situations. The determinants that showed a strong association with defending in bullying situations (not motivated by prejudice) were the following:

- Being a bystander (r = -.35). There was a weak-moderate negative association with being a bystander. The mean and distribution of the data show that this might be a relevant determinant. But what determines someone to become a bystander?
- Blaming the victim (*r* = -.27). There was a weak negative association between defending and blaming the victim. This determinant is relevant and changeable.
- Self-efficacy (r = .30). There was a weak negative association between defending and self-efficacy. This determinant is relevant and changeable.

Pupil focus groups findings Experiences of prejudiced-based bullying

Minority group children participating in the focus groups reported bullying victimisation that they perceived to be a direct result of their ethnicity, socio-economic status or another personal characteristic such as being overweight or short.

"The girls told me not to touch their desk because I am a Gypsy." (Roma girl 1, Slovakia)

"Children did not want to hold my hand." (Roma girl 2, Slovakia)

"There are situations in which pupils from other classes shout at me that I am fat." (Slovak girl 1)

"A girl in sixth class is 13 years old and is older than the other children in the class. Also, she is short. She was continually bullied by her classmates for being short and bad at school lessons". (Greek girl 1)

"I have seen an incident in my class and I felt sorry for my classmate. The victim was being teased by the famous and the most intelligent student in class. He was ridiculed for his feminine manners, even though he is a boy". (Greek girl 2)

"Yes, I have witnessed bullying incidents in my old school. An A class pupil from another country was playing at the school playground and two older students attacked him and started beating him, calling him names about his nationality. I entered the fight and stopped them. I also informed my teachers, who dealt with the issue". (Greek girl 3)

"In the class we have a boy who is overweight. He is older than us because he failed. The Roma classmates tease him for being fat. So he is ashamed to eat in the classroom and leaves for the toilet to eat there." (Slovak girl 2)

"I saw somebody in my class get bullied, kind of racist because his name's Hassad and he got bullied because of his name". (Black boy 1, Scotland)

"I heard a story where this girl who is a Muslim - it's not actually somebody that I know but I just heard of - and they said 'Oh are you part of ISIS' and that, and then they took off her hijab - the scarf they put round their heads and she wasn't very happy about it". (Black boy 2, Scotland)

A few children coped with the fear of being victimised by their peers by rejecting their ethnic minority status.

"She is a Roma, I am just a half-Roma, it does not concern me." (Roma girl 3, Slovakia)

A few children also reported bullying other children because of their ethnicity regardless of whether they belonged to the same ethnic group.

"I will not sit on the chair where M. has sat. She stinks!" (Roma boy 1, Slovakia)

Some children perceived that the victim felt too weak or ashamed of themselves to stand up to the children that were bullying him/her.

In Slovakia, boys were less likely to think that a child can be subject to prejudice-based bullying compared to girls.

Intervening when witnessing prejudiced-based bullying

Most children agreed that they did not always feel confident to intervene when they witnessed a peer being bullied especially out of fear of reprisal.

"The classmates get together and the whole group spreads rumours about one girl who is not there. When I tell them it is not right, they threaten to write something about me to a boy in our class." (Slovak girl 3)

"When I defended a Roma classmate against teasing, my classmates started to spread rumours about me that I am a Roma too." (Slovak girl 4)

Some children felt unable to help the victim out of fear they would be judged by their own friends especially if the victim did not belong to their peer group.

However, some children reported intervening in situations they evaluated as bullying; in these cases they seemed to be driven by a sense of injustice and increased empathy for the victim especially if they had also been victims of bullying in the past.

"When Roma classmates, a boy and a girl, in Year 1 jumped the queue of the smallest Roma classmates (NB – the poorest children in the class), I stopped them and defended those girls because it made them sad and it was unfair. Then, however, they started to threaten me they would call older pupils from another class to beat me on my way home. I was really scared." (Slovak girl 5)

"One of my friends was getting bullied and because I don't like it when people are getting bullied – it hurts me - I started screaming at the person, told them to leave them alone and they backed off for a bit and then they came back. I made sure that my friend stayed away from the person. Like every time they said something bad, I would tell my friend that they shouldn't listen to them because they're just being really nasty, because it's just not nice". (Black girl 1, Scotland)

"Because when we moved from England to Scotland, I found it very hard to fit in. So it kind of happened to me but not as bad as it happened to my friend, so the fact that it happened to someone that I know, that's my friend, that I like, it's just horrible." (Black girl 1, Scotland)

In some cases, children reported more willingness to help the victim when they realised that it is not their fault they are getting bullied or when they realised that the victim was upset and empathised with them.

"In our class, we used to tease a poor girl, saying she stinks. Nobody wanted to hold her hand. Then our teacher told us they did not have a bathroom at home as we do. We have not teased her anymore since then because she is not responsible for that." (Slovak boy 2)

"I went to her because she was sad." (Roma girl 1, Slovakia)

Most common strategies of defending the victim were telling the teacher or their parent, comforting the victim or telling those bullying others that what they are doing is wrong or unfair. Physically attacking the pupil who bullied others was mentioned in a few cases.

"When the children did not want to hold her hand because she is a Gypsy, the two of us became the best friends." (Roma girl 4, Slovakia)

"It depends. If they're fighting you, if they're fighting your friend, you might be physical back but there's no need for it". (Black boy 2, Scotland)

Some Roma pupils in Slovakia said that they would defend only a child who is like them (they would not defend a child who is non-Roma, poorer than them or a child with a behavioural disorder). There were mixed views as to whether it was easier to defend someone that was a friend. Some Greek majority children reported that they would defend someone who did not belong to their peer group 'if it was the right thing to do'.

Using games to learn

Most children (but not all) reported liking playing video games on multiple devices (computer, mobile phone, tablet). Boys tended to like military style games, sports and car games whereas girls preferred games focused on caring for animals and people. Competitive games where the player had control over what was happening were popular. Most children liked the idea of playing an interactive, role-playing game where they are asked to make choices. Children thought a game that is available to play at school should also be made available to play on a mobile phone. A child suggested that the role of defenders should be played by famous superheroes such as Batman or Superman. Another child asked that the game is bright and colourful like the animated cartoons they

watch on TV. A Black child from Scotland noted that the game scenarios should be challenging – "not too childish and not too cheesy either".

Children indicated that a game about bullying should include guidance on how to behave in a bullying situation.

"You could put maybe positive messages that maybe you could use in real life like 'violence is not the answer". (Black girl 1, Scotland)

Teacher focus groups findings

All teachers that took part in the focus group agreed that prejudice-based bullying exists and starts from early on when children are still at nursery. Teachers have had pupils telling them they do not want to sit next to someone who is 'fat' or 'black and dirty' referring to a dark-skinned child or 'dumb' referring to a child with learning difficulties.

Teachers agreed that bullying because of appearance, skill or personality of the child is very common for example children are often bullied for being overweight or for not being good at football.

All teachers agreed that some pupils are keen to help others when they get bullied, but this is less likely when the child bullying someone else is popular. Teachers have noticed that ethnic minority children (Roma in this case) will help a member of their group who is getting bullied. Also, some students do not want to get involved as they fear being victimised themselves. However, teachers have observed that when a popular or a well-respected child decides to defend a bullied child for example by sitting next to them in class this can send a very powerful message to the other children and can help prevent further bullying.

All teachers acknowledged that the role of teachers in preventing prejudice-based bullying is important as teachers especially in the younger years can act as role models and can send a powerful message for example when they praise the victimised student and/or celebrate their difference. However, teachers emphasised that a teacher's intervention will not be as effective if prejudiced attitudes are not also rejected by parents at home. It is important therefore that there is consistency between what teachers and parents are doing and how they are dealing with prejudiced attitudes.

Teachers agreed that using a digital game as an intervention would be useful although they felt it has to be supplemented by a curriculum and training for teachers. They all agreed that training for teachers can be delivered online as the vast majority of teachers are computer literate. They did however point out that in Greece not all schools have sufficient number of computers to allow all children to play the game individually.

Requirements listing

Based on the preceding analysis the following requirements must be met by the intervention for it to be effective:

- 1. The intervention should aim to reduce stereotypes and outgroup bias (via game and especially intercultural curriculum) by encouraging empathy, perspective taking, and "imagining counter-stereotypic examples" (McBride, 2015).
- 2. The game should provide opportunities for collaborative working with members of minority groups under the conditions identified by Intergroup Contact Theory.
- 3. The intervention should aim to reduce moral disengagement attitudes (via game).
- 4. The intervention should aim to increase bystanders' sense of personal responsibility especially in the context of group norms that do not favour intervention in bullying situations (via game).
- 5. The intervention should aim to increase bystanders' self-efficacy (via game).
- 6. Learning should be experiential and not instructional. Children should be allowed to voice their often-conflicting viewpoints openly in a safe environment.

Conclusion

In order to design a whole-school intervention against prejudice-based bullying in primary school, the GATE-BULL project embarked on a requirements gathering exercise. Four methods were used to gather data for the requirements analysis including a review of previous recent research, a pupil survey, and focus groups with pupils and teachers. The results from the requirements analysis suggested that the intervention should aim to change stereotypes and stigma towards minority groups, moral disengagement attitudes and perceptions of low self-efficacy, especially in the context of peer pressure, in an environment that allows children to work collaboratively with minority groups to achieve a shared goal.

Preliminary results intervention evaluation

Research question

What is the effect of the intervention [videogame, online teacher training, and lesson plan] on determinants of prejudice-based defending and intergroup attitudes in 10-12-year-old children?

Hypotheses

Individual determinants

- H1: Children who were exposed to the intervention report **higher** *intention to defend* in (prejudice-based) bullying situations than children not exposed to the intervention.
- H2: Children who were exposed to the intervention report **lower** *moral disengagement* in (prejudice-based) bullying situations than children not exposed to the intervention. (This outcome is expected given the contribution of scenario 1 and related activity in lesson plan).
- H3: Children who were exposed to the intervention report **higher** *self-efficacy to defend* in (prejudice-based) bullying situations than children not exposed to the intervention. (This outcome is expected given the contribution of scenario 3 and related activity in lesson plan).
- H4: Children who were exposed to the intervention report *improved intergroup attitudes towards four specific stigmatized groups* (Black, Muslim, Roma, over-weight people) than children not exposed to the intervention. Intergroup attitudes will be evaluated in terms of affective prejudice and perceived similarity between self, the ingroup and the outgroups). This outcome is expected to be improved by exposure to the game and especially the separate lesson plan on prejudice).

Group-related determinants

H5: Children who were exposed to the intervention will report *a perception of more positive peer norms* than children not exposed to the intervention (this outcome is expected given the contribution of scenario 2 and related activity in lesson plan).

Study design

Quasi-experimental design: Pre-test/post-test with non-random assignment to intervention or control group. Due to the relatively low numbers of schools per country that would be participating, matching was preferred above randomisation to avoid risk non-comparable samples. Therefore, participating schools were based on:

- 1. Ratio minority/majority group members based on ethnicity (Christian/Non-Christian) and skin colour (white/other)
- 2. Number of respondents in each school

Intervention and control conditions were assigned at school level to prevent contamination between conditions.

Intervention description

Video game

Video game aimed to train children how to act in (prejudice-based) bullying situations. Mild prejudice-based bullying, against ethnic and religious minorities and overweight children, was presented in the scenarios and additional positive role models were provided. Video game consisted of three sessions:

- First session: Moral disengagement
- Second session: Peer norms
- Third session: Self-efficacy

The game was supported by a) an online teacher training course, b) a curriculum intended to embed further the learning outcomes of the game and c) a separate lesson on prejudice. The online teacher training took place one week before implementation of the game and lesson plan. The first three sessions comprised practicing game (15 min) + class related activities (30 min). The fourth session concerned the lesson plan on prejudice. The intervention evaluation consisted of a premeasurement (within one week before the first lesson in given) and a post measurement (within one week after the final session). **The duration of the whole intervention was 5 weeks**.

Measurements

See Appendix for full questionnaire. Summary of data collected is described here.

Demographics: Gender, Age, Ethnicity, Religion, Weight status

Covariate: Previous/current experience with witnessing prejudice-based bullying (adapted from Wernick et al., 2013). Example: "How often in the last year have you seen other children say or do something that might hurt children..." (1 = Never, 5 = Very often). In coding the bullying questions targeted outgroup members, the items concerning children "of different ethnicity of skin color than you" and "of different religion than you" were combined in a single variable (Cronbach's $\alpha_{Scotland}$ = .76, $\alpha_{Netherlands}$ =, α_{Greece} = .83, α_{Slovak} = .66).

Covariate: Previous/current experience with prejudice-based defending (adapted from Wernick et al., 2013). Example: "How often in the last year have you stepped in when other children said or did something that might hurt children..." (1 = Never, 5 = Very often). In coding the bullying questions targeted outgroup members, the items concerning children "of different ethnicity of skin color than you" and "of different religion than you" were combined in a single variable (Cronbach's $\alpha_{Scotland}$ = .94, $\alpha_{Netherlands}$ = .88, α_{Greece} = .82, α_{Slovak} = .84).

H1: Intention to defend (adapted from Wernick et al., 2013). Example: "How often would you like to step in when other children say or do something that might hurt children..." (1 = Never, 5 = Very often). In coding the bullying questions targeted outgroup members, the items concerning children "of different ethnicity of skin color than you" and "of different religion than you" were combined in a single variable (Cronbach's $\alpha_{\text{Scotland}} = .97$, $\alpha_{\text{Netherlands}} = .95$, $\alpha_{\text{Greece}} = .93$, $\alpha_{\text{Slovak}} = .92$).

H2: Moral disengagement (Scale by Thornberg & Jungert, 2013). Same questionnaire as used in 01 (Cronbach's $\alpha_{Netherlands} = .81$, $\alpha_{Scotland} = .81$, $\alpha_{Greece} = .63$, $\alpha_{Slovak} = .85$).

H3: Self-efficacy/confidence to defend (adapted from Wernick et al., 2013). Example: "How confident are you that you could successfully step in when other children say or do something that may hurt children..." (1 = Very unconfident, 5 = Very Confident). In coding the bullying questions targeted outgroup members, the items concerning children "of different ethnicity of skin color than you" and "of different religion than you" were combined in a single variable (Cronbach's $\alpha_{Scotland} = .95$, $\alpha_{Netherlands} = .93$, $\alpha_{Greece} = .90$, $\alpha_{Slovak} = .86$).

H4: Attitudes toward target (stigma):

Readiness for social contact (adapted from Berger, Abu-Raiya, Gelkopf, 2015; Teichman et al., 2007). Original scale includes 5 items: meet with, play, study, invite to one's house, be a guest in the other's home (Scale: 1 = Very unhappy, 5 = Very happy). For the current study, only the items 'to play with', 'invite to your house', and 'visit his/her house ...' were used. Questions were asked for 5 different groups (range Cronbach's $\alpha_{Netherlands} = .86-.91$, $\alpha_{Scotland} = .85-.91$, $\alpha_{Greece} = .82-.91$, $\alpha_{Slovak} = .89-.93$).

Intergroup anxiety (adapted from Stephan and Stephan (1985) as reported by Stephan (2014). How much ------ do you feel towards (outgroup) members? Some of the most commonly used affective items are as follows: anxious, comfortable (reverse scored), worried, at ease (reverse scored), awkward, confident (reverse scored), apprehensive, and worried. For the current study, only the items 'comfortable', 'anxious', and 'threatened' were used. The 'comfortable' items loaded insufficient on the other two items and was therefore removed from the scale. Questions were asked for 5 different groups (range Cronbach's $\alpha_{Netherlands} = .86-.91$, $\alpha_{Scotland} = .85-.91$, $\alpha_{Greece} = .82-.91$, $\alpha_{Slovak} = .59-.71$).

H5: Peer norms (adapted from DeSmet et al., 2018). Scale was based on the two items 'Among your friends, how many...' 1) 'would approve of comforting a child...' and 2) 'would defend a child...' '...who has been picked on offline/online because of their ethnicity, skin color, religion, weight?' (Scale: 1=None, 5= All), since the other two did not load sufficiently (Cronbach's $\alpha_{Netherlands} = .78$, $\alpha_{Scotland} = .85$, $\alpha_{Greece} = .81$, $\alpha_{Slovak} = .741$).

Minority and majority group status

The following operationalization has been taken to classify minority and majority group members:

Majority group member: Someone who indicated to have a white skin color AND has a Christian religious background or has indicated to have no religion.

Minority group member: Some who indicated to have a non-white skin color OR someone who indicated to have a religion other than Christian or None.

In the Netherlands, 51.5% belonged to a minority group member. Participants in Scotland and Greece where from White schools. In Scotland, only 5 respondents (2.1%) could be classified as a minority group status member. In Greece, this concerned 2 respondents (1.1%). In Slovakia, 26 respondents (8%) belonged to the minority group. Because the minority groups for Scotland, Greece and Slovakia were too small to conduct subgroup analyses, and would interfere with the interpretation of the results, these were deleted from the data set, leaving the total baseline sample size for Scotland 238, 173 for Greece. The sample size for Slovakia at post-test is 300.

Analyses

Hypotheses were tested using multiple regression analyses (MRA). Multilevel analyses were not necessary, since the ICC was very low (0-6%). Sample size calculations for multipole regression analyses showed that a sample size of 156 per country was required to test intervention effectiveness (f2= 0.15; corrected α = .05/16 tests = .0038; β = .20, max. number of predictors in model = 6). The total sample size for the final models were 234 for Scotland, 146-151 for the Netherlands, and 132-157 for Greece, and 261-293 for Slovakia. The sample size for the Netherlands and Greece therefore is slightly too small, but it is not expected that this will have an important influence on the results.

Alle models were corrected for the baseline value of the outcome. This did not account for the Slovak data: due to an error, pre- and post-test data could not be linked, and the analyses were only based on the post-test data. The models with *intention to intervene* and *confidence to intervene* as outcome were both corrected for *past experience in defending* and *past witnessing of bullying* as suggested by Wernick, Dessel, et al. (2013). To test whether intervention effectiveness differed between minority and majority group members, moderation analyses with *condition* (0 = control; 1 = intervention) * *group membership* (0=majority; 1 = minority) were conducted (this applied to the Dutch data only).

Preliminary results

Of the tot sample at baseline (n = 578). Mean age was 10.87 years (SD = 0.80). Concerning gender, 48.4% was boy, 51.2% girl, and 0.3% did not wish to say. One-hundred percent of the Scottish, Greek and Slovak sample belonged to the majority group, for the Netherlands, this was 48.5%.

H1: Intention to defend the outgroup and overweight children

No main effects on intention to defend the outgroup were found in each country. In Scotland, an effect to defend overweight children was found (B = 0.43, SE B = 0.17, p = .010, d = 0.25), with the intervention group (M = 3.54, SD = 1.35) at post-test showing higher intention to defend than the control group (M = 3.18, SD = 1.48).

H2: Moral disengagement

In all countries, no postintervention differences in moral disengagement were found between the intervention and control group.

H3: Confidence to defend the outgroup and overweight children

No main effects on confidence to defend the outgroup were found in each country. For the Netherlands, moderator analyses revealed that the minority group in the intervention group (M = 3.67, SD = 0.98) reported a significant higher confidence to defend the outgroup than the control group (M = 3.00, SD = 1.23; B = 0.56, SE B = 0.24, p = .020, d = 0.60). In addition, the minority group in the intervention group (M = 3.85, SD = 0.97) also reported a higher confidence to defend the ingroup than the minority group in the control group (M = 3.10, SD = 1.32; B = 0.24, p = .008, d = 0.65). For all countries, no intervention effects concerning confidence to defend overweight children was found.

H4: Intergroup anxiety and attitudes

In the Netherlands, the intervention group (M = 3.49, SD = 1.06) reported a more positive attitude towards Roma children in comparison to the control group (M = 3.21, SD = 1.18; B = 0.27, SE B = 0.13, p = .033, d = 0.25). Further, the minority group in the intervention group (M = 3.80, SD = 0.84) reported a more positive attitude towards White children in comparison to the control group (M = 3.41, SD = 1.04; B = 0.34, SE B = 0.16, p = .037, d = 0.41). In Greece, the intervention group (M = 3.41, SD = 1.04; B = 0.34, SE B = 0.16, p = .037, d = 0.41).

4.36, SD = 0.77) reported a lower attitude that the control group (M = 4.36, SD = 0.67; B = -0.22, SE B = 0.11, p = .020), which was an unexpected effect. However, the means in both groups were very high (positive attitude) and the effect was very small (d = 0.06). No effects concerning attitude were found in Scotland and Slovakia.

Concerning intergroup anxiety, the majority group in the Netherlands reported a lower anxiety towards Muslim children than the majority group in the control group (B = -0.52, SE B = 0.27, p = .050, d = 0.46). No effects were found in the Scottish, Greek, and Slovakian data.

H5: Peer norm

In the Netherlands, the intervention group (M = 3.45, SD = 1.24) reported a more positive perceived peer norm than the control group (M = 2.95, SD = 1.27; B = 0.35, SE B = 0.18, p = .048, d = 0.40). No effects were found in the Scottish, Greek, and Slovakian data.

Conclusions

There results of the questionnaire data show partial support for the hypotheses, except for hypothesis 2 (moral disengagement). However, most of the effect is found in the Dutch data. Possible reason for this is that the data comes primarily from mixed schools. Possibly, being in a mixed classroom enhances discussion on what it means to be bullied based on one's ethnic background and religion, and creates better understanding for both the majority and minority group.

Differences in implementation between countries could also potentially explain the differences in outcomes.

Possible limitations of questionnaire data and the importance of qualitative data

There could be several reasons for not finding a stronger effect in some countries. For example:

- The items in the questionnaire were perhaps too difficult to understand. Some teachers reported this after the trial.
- The items do not capture the change initiated with the intervention

It is possible that the intervention had some impact, but this could not be captured with the questionnaire. The results from the teacher interviews demonstrate that teachers found the intervention important and useful.

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