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SHORT PROJECT REPORTS

Raising awareness about social exclusion in schools through experiential learning

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Abstract

Social exclusion has a myriad of negative effects on students' psychological and social well-being. One way to combat such negative effects is to raise awareness about social exclusion in schools. Here, we describe and evaluate a training program that was carried out across schools in The Netherlands. The program relies on basic experiential learning principles and a well-established social exclusion paradigm to make participants experience and discuss social exclusion. We had two goals in the current paper: (1) discussing previous work supporting the feasibility of such programs and (2) presenting a secondary analysis of the data generated by the program. The analyses are based on 14,065 participants (ages 12–19) and a subset of those who evaluated the program later ($n = 386$). Our review of the literature supports the feasibility of the program. The results of the secondary data analyses indicate that participants found the program insightful, talked to others about the program, and applied the knowledge gained from the program to their own lives. Taken together, this provides a proof of concept for the evaluated training program.

Keywords Social exclusion · Training program · Experiential learning · Awareness · The Netherlands

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1 Raising awareness about social exclusion in schools through experiential learning

Being socially excluded influences individuals negatively and children are no exception (e.g., Elenbaas & Killen, 2016; Gilman et al., 2013). It impacts students' social life and school adjustment negatively (Buhs & Ladd, 2001) and is a risk factor for psychological distress (Beeri & Lev-Wiesel, 2012). One way to ameliorate the negative impact of experiences like social exclusion in schools is through raising awareness about the issue (e.g., Harrist & Bradley, 2003; Leff et al., 2010). Here we present a training program based on experiential learning which aims to raise awareness about social exclusion. We discuss the theoretical background (i.e., experiential learning: Kolb, 2014) and the material selections of the training to showcase the feasibility of such programs. Next, we present a secondary analysis of data generated within the program for providing proof-of-concept for the effectiveness and the feasibility of a social exclusion training program. By taking these steps, we intend to make a case for social exclusion awareness programs in educational contexts.

1.1 Why raise awareness about social exclusion?

Being excluded has a negative influence on individuals' cognitive (Baumeister et al., 2002; Hawes et al., 2012; Wölfer & Scheithauer, 2013), emotional (e.g., Hoglund et al., 2008; Leary, 2015; Prinstein & Aikins, 2004; Wölfer & Scheithauer, 2013), and social life (e.g., Buhs & Ladd, 2001; Hoglund et al., 2008; Ladd, 2006). Some of these effects can also have long lasting consequences for the targets (i.e., persons that are excluded) such as depression during later childhood (Platt et al., 2013; Qualter et al., 2010), young adulthood (Lev-Wiesel et al., 2006) or later in life (Riva et al., 2017; Rudert et al., 2021). Moreover, children who are excluded or rejected during school years are more likely to engage in juvenile and adult criminality (Parker & Asher, 1987), engage in substance abuse in adolescence, and drop out of school (McDougall et al., 2001). These studies highlight how social exclusion can have immediate and lasting negative effects on children in multiple aspects of their life.

Another reason concerns the subtle and ambiguous nature of social exclusion experiences which, in turn, can make it hard to recognize and deal with social exclusion (Robinson & Schabram, 2017; Robinson et al., 2013). More importantly, this subtlety may lead people to underestimate the adversity caused by social exclusion (e.g., O'Reilly et al., 2014). Therefore, we argue that raising awareness about social exclusion and helping is a crucial part of efforts aiming to mitigate or prevent the negativity of social exclusion.

1.2 Experiential learning

Lewis and Williams (1994, p. 5) describe experiential learning as "learning from experience or learning by doing." Briefly, participants in an experiential learning

program would build their knowledge through experiencing and reflecting on an experience, and in turn, this knowledge would be used to guide future actions surrounding the experience in question (Kolb, 2014; Lewis & Williams, 1994). Experiential learning programs are used in various contexts such as workplaces (e.g., Baker et al., 2005; Heath et al., 2021) or schools (e.g., Healey & Jenkins, 2000; Konak et al., 2014) to facilitate learning.

1.2.1 Tackling social issues with experiential learning

Scholars have used experiential learning to raise awareness about social issues (Heath et al., 2021). For example, an experiential learning program was more effective in increasing the recognition of subtle everyday sexism as harmful than providing information about sexism (Cundiff et al., 2014; Zawadzki et al., 2012). Similarly, another program was able to raise awareness about cyberbullying by implementing an experiential learning program focused on cyberbullying (Chen, 2018). Another example showed that a videogame-like experiential learning program increased peer intervention against bullying in some of the participants (Vannini et al., 2011). These examples show that experiential learning programs can be used to effectively raise awareness about (e.g., Cundiff et al., 2014) or instill desired behaviors (e.g., Vannini et al., 2011) in response to social issues. Besides testing the effectiveness of programs, at times scholars also conceptually discuss newly developed experiential learning programs and advocate for their use to tackle social issues (e.g., Heath et al., 2021). Our approach in the current contribution falls between these two approaches. First, following Heath et al. (2021), we set out to illustrate how a tool to experience social exclusion can be used to raise awareness about social exclusion. Second, by analyzing how people evaluate the program we seek to provide a proof of concept of the effectiveness of the program.

1.3 An online ball-tossing game as the experience

Experiential learning programs aim to facilitate learning through experience. In the current program participants experienced social exclusion by being excluded from an online ball-tossing game (see Fig. 1). Versions of this online ball tossing game are widely used in social psychological research on social exclusion (e.g., van Beest & Williams, 2006; van Beest et al., 2011; Williams et al., 2000) and the most popular one is called Cyberball (Williams & Jarvis, 2006). A meta-analysis of 120 studies using Cyberball suggest that this paradigm is an effective way to induce feelings of exclusion across a wide range of outcomes and sampling aspects (such age and gender, $|d| > 1.4$ Hartgerink et al., 2015). Moreover, prior research on experiential learning has already shown that it is possible to implement mobile technologies and simulations to simulate the targeted experience (Hall et al., 2009; Lai et al., 2007; Leggette, 2012; Vannini et al., 2011). Hence, we think that the use of a well-established online ball-tossing game is an effective technique to induce feelings of exclusion in participants in training or intervention programs aiming to raise awareness about social exclusion via experiential learning.

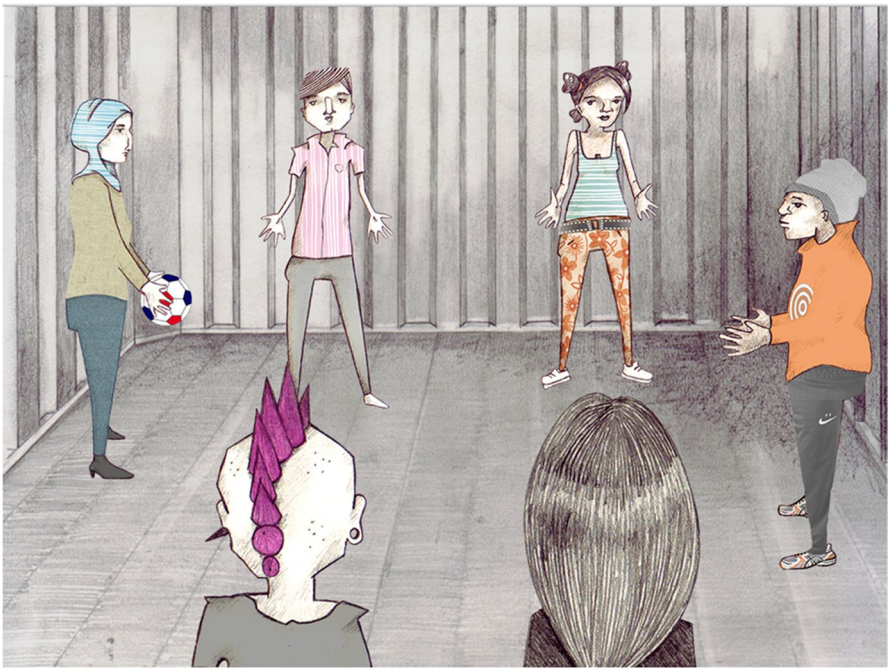

Fig. 1 A visual from the version of the online ball tossing game used in the program

1.4 Secondary data analysis

The social exclusion training program was developed by a Dutch non-profit organization (https://www.criticalmass.nl) as part of a larger project named *Friend & Foe*.[1] We obtained two data sets from this organization. One contains data from the ball-tossing game and how participants felt after the game (henceforth referred to as the game dataset). The second contains the evaluation of the training program and the trainers (henceforth referred to as the evaluation dataset). We first present findings from the game dataset that speaks to how participants felt after exclusion. Next, we present data from the evaluation dataset to provide a proof-of-concept for the effectiveness of the program in several domains (for anonymized versions of data sets and analysis scripts see: https://osf.io/bhrwx/?view_only=81390db5e5be419cb99a967cea645a86).

[1] More information can be found in the Supplementary Materials link, Sect. 1.

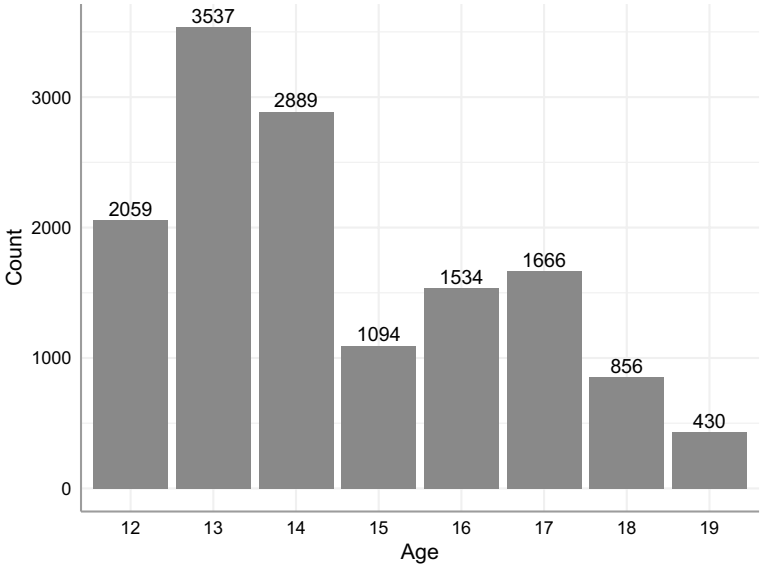

Fig. 2 Distribution of participants of the training program by age. The numbers above each bar indicate the number of participants for that age in the final sample

2 Methods

2.1 Participants

The game dataset consisted of 18,855 participants at various ages (from 10 to 70+). We took several steps to clean the data (see Sect. 2 in Supplementary Materials link for more details). The final game dataset consisted of 14,065 participants (6775 male, 7243 female, and 47 unidentified). Participants ranged from 12 to 19 years old ($M = 14.50$, $SD = 1.98$). See Fig. 2 for a detailed breakdown of age groups.

The evaluation dataset consisted of a smaller group of participants ($N = 384$; 238 female, 146 male) who were asked to evaluate various aspects of the training program. No age information was available, yet the school year data suggested that the participants in the evaluation data were likely between the ages of 12 and 15.

2.2 Procedure

The *Friend & Foe* project of *Critical Mass* visited high schools and placed five containers in the school yards.[2] One of these containers hosted the social exclusion program that we are discussing in the current paper. Participants entered the exclusion container in small groups (3–6 persons) and sat around a hexagon shaped table (See

[2] Currently they are using an updated version of the ball-tossing game that can run on tablets and they mostly run this program in classroom environments, reducing costs and increasing accessibility.

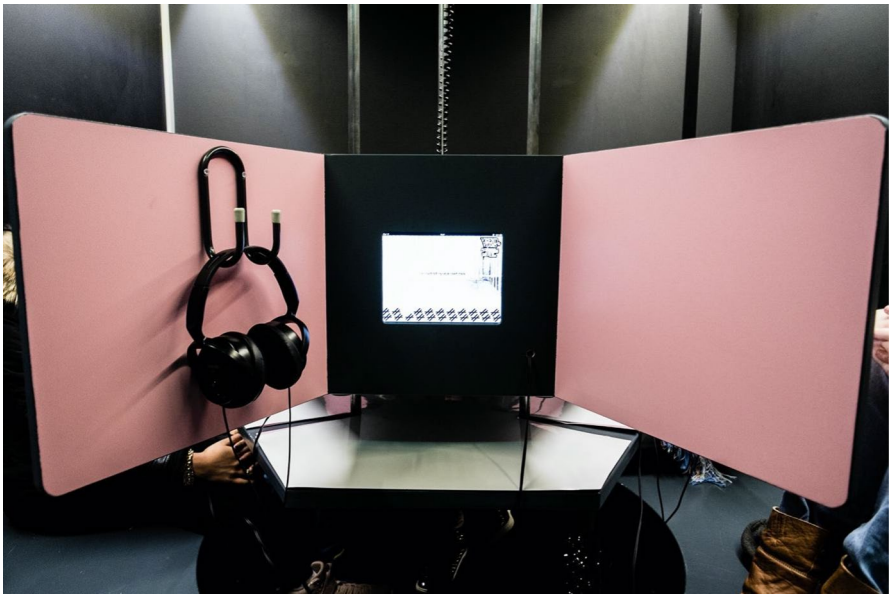

Fig. 3 A photo from the inside of the social exclusion containers

Fig. 3 for a photo of from the inside of the said containers) which were designed to reduce interaction amongst the participants during the experience stage. After taking their seat at the table, participants first indicated their age, gender, and choice of avatar for the game (3 male and 3 female avatars with diverse appearances). Next, all participants played the online ball-tossing game as a simulation of social exclusion.[3] This serves as the concrete experience and forms the basis for following discussions during the training. Next, participants filled out a questionnaire to start reflecting on their experience during the ball-tossing game and engage in a discussion session led by a facilitator. For the discussion session, the platform with the screen and panels ascended enabling participants to see each other again. This discussion was focused on stimulating thinking about the experience in depth and to help form a new perspective on social exclusion. A crucial part of this discussion was that participants also discussed how they would react in the future if they were socially excluded or observed someone being excluded. This final stage ensured that the participants leave the discussion by having a plan as to how they could implement this knowledge into their lives.

[3] See Sect. 3 in Supplementary Materials link for a discussion on the focus on social exclusion and not social inclusion as an experience in the training program.

2.3 Materials

2.3.1 Online ball-tossing game

The online ball-tossing game is an adapted version of Cyberball (Williams & Jarvis, 2006) that is particularly designed for this program (See Fig. 1). While participants were led to believe that they were playing the game with their peers, they were all excluded from the ball-tossing game (i.e., getting the ball a few times in the beginning and none after).

2.3.2 Reflection after the game

Similar to previous work (e.g., Abrams et al., 2011), the program used a shortened version of the Need Threat Questionnaire (Williams, 2009) to measure the immediate effects of social exclusion. This measure assesses four separate psychological needs that are suggested to be impacted by social exclusion, namely, the need for belonging, meaningful existence, self-esteem, and control. In the current project participants indicated how they felt during the game by answering to one item per need (e.g., "I had the feeling that I was belonging during the game," full set of items are in the Supplementary Materials link, Sect. 6.1). We combined these items into an overall index of need threat ($\alpha = 0.69$). Higher numbers indicate more need threat. Feelings of anger following the game were also measured with a single item, "I felt angry during the game." The questions were presented individually in random order (1 = *totally disagree,* 4 = *neutral,* 7 = *totally agree*).

2.3.3 Discussion after the game

The discussion section after the game focused on discussing the experience of the participants and how they would react if they were excluded in the future. Some exemplary statements were presented to prompt a conversation such as *"Try not to think about it" "Stick up for yourself" "Ask why you were excluded"* (for a full list of items see the Supplementary Materials link, Sect. 6.2). *Critical Mass* did not gather any data during the discussion; thus, we cannot discuss this section any further.

2.3.4 Evaluation of the program

After several weeks, a smaller group of participants also evaluated the training program ($N = 384$). Participants indicated across 12 items whether they gained new insights from the social exclusion training, whether they evaluated the program positively and whether they applied the acquired knowledge in their everyday life (1 = *completely disagree,* 5 = *completely agree,* full list of items in Table 1).[4] In

[4] These 12 items were part of a larger questionnaire about the overall project. Here we only report the relevant items and more information about the questionnaire can be found in the Sect. 4 of Supplementary Materials link.

Table 1 Factor loadings from the EFA with evaluation items

	Factor 1	Factor 2	Factor 3
New insights about social exclusion			
1. I got to think about social exclusion	-.01	**.85**	.01
2. I have gained insights into the effect of being socially excluded	.00	**.87**	-.01
3. I have gained insights into my own role in situations where people get socially excluded	.01	**.80**	.03
Perception of the discussion session			
1. The discussion session was useful	**.82**	-.08	.06
2. The discussion session was nice	**.87**	.08	-.05
3. The discussion session was interesting	**.76**	-.04	.09
4. The discussion session was nonsensical (R)	**.46**	.08	-.09
5. The facilitator made me think	**.40**	.23	-.03
Experimenting with new knowledge			
1. In the discussion session we discussed the environment in our class	-.06	.02	**.84**
2. In the discussion session we further reflected on prejudice	.06	-.03	**.63**
3. In the discussion session we made (new) agreements about how we treat each other	.04	.00	**.79**
4. In the discussion session we shared our experiences in the containers	.24	.26	**.43**

The factor loadings higher than .30 are shown in bold

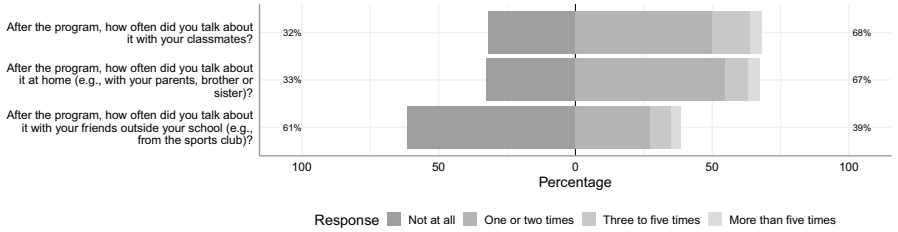

Fig. 4 Percentage of responses to questions assessing to whom participants talked about the program**.** The bars are centered around the point between "not at all" and "one or two times". Percentages of people who talked about the program with others at least "one or two times" are depicted on the right-hand side of the figure

addition, participants also indicated whether they talked about the program with others (3 items, 1 = *not at all,* 4 = *more than five times,* full list of items in Fig. 4), and whether they behaved differently after participating in the program. Full set of items (and their original versions) can be found in the Supplementary Materials link (Sect. 6.3).

3 Results

3.1 Preliminary findings on the training program

3.1.1 How did participants feel after playing the game?

Participants reflected on their experience of being excluded by answering questions tapping into their need fulfillment and anger. We offer a secondary analysis of these answers. We present the descriptive statistics alongside a comparison of the mean values to the midpoint of the scale for need threat values similar to previous work (e.g., Sleegers et al., 2016).[5] The results revealed that participants felt more need threat ($M = 4.58$, $SD = 1.35$) than the midpoint of the used scale (4), $t(14{,}064) = 51.15$, $p < .001$, $d = 0.43$ [0.38, 0.50].

For feelings of anger, we did not compare the results to the midpoint (4) but instead to the lowest value on the scale (1). The reason is that feelings of anger are typically absent when people are included (i.e., hover around the lowest value of the scale) and comparing anger to the midpoint would thus be an inappropriate test of whether exclusion induces anger (e.g., Rajchert et al., 2017; Svetieva et al., 2016; Zadro et al., 2004). The results revealed that participants felt more anger ($M = 2.53$, $SD = 1.98$) than the lowest value on the scale, $t(14, 064) = 91.35$, $p < .001$, $d = 0.77$ [0.75, 0.79].

[5] Comparison to the midpoint of the scale is a conservative test given that participants feel lower levels of need threat in inclusion and non-social control conditions (around 1.50 out of 5, Dvir et al., 2019).

3.1.2 How did participants evaluate the social exclusion program?

3.1.2.1 Did participants find the program useful and insightful? We ran an exploratory factor analysis (EFA) on the 12 evaluation questions (i.e., the evaluation dataset). Based on the results of a Parallel Analysis we ran a 3-factor EFA. We used the principal axis factoring method with oblique (Oblimin) rotation and conducted the EFA using the fa() function of the R package psych (Revelle, 2021). See Table 1 for the factor solution with factor loadings. The three-factor solution provided good fit, $\chi^2(df = 33, N = 384) = 90.95$, $p < 0.001$, $BIC = -0.105.42$, $CFI = 0.97$, $TLI = 0.95$, $RMSEA = 0.068$, 95% CI (0.048, 0.088). We created separate indexes based on the factor structure. One factor consisted of three items about *new insights about social exclusion* ($\alpha = 0.88$), another factor consisted of five items about *perception of the discussion session* ($\alpha = 0.81$), and the last factor consisted of four items asking about the *experimenting with new knowledge* ($\alpha = 0.83$).

We compared the mean values of evaluation ratings also to the midpoint of the scale (3 = *neutral*). This test showed us if the mean rating on a factor was significantly different from the neutral point on the scale. Mean ratings were higher than the neutral point for *new insights about social exclusion* ($M = 3.45$, $SD = 1.00$), $t(383) = 8.43$, $p < .001$, $d = 0.43$ [0.33, 0.54], for the *perception of the discussion section* ($M = 3.37$, $SD = 0.72$), $t(348) = 9.51$, $p < .001$, $d = 0.51$ [0.40, 0.62], and for *experimenting with new knowledge* ($M = 3.22$, $SD = 0.82$), $t(345) = 5.12$, $p < .001$, $d = 0.28$ [0.17, 0.38].

3.1.2.2 Did participants talk to others about the program? The distribution of responses (see Fig. 4) shows that more than half of the participants talked about the program with their classmates (68%) and with their families (67%) at least one or more times. Moreover, more than one-third of the participants (39%) reported talking about the program to their friends outside of the school.

3.1.2.3 Did participants apply what they learned from the program? Fifty-six participants indicated witnessing an unpleasant situation such as bullying or social exclusion (about 17%) after the program. Of these 56 participants 14 (25%) indicated that they did something they would otherwise not have done before the program.

4 General discussion

The training program we discussed here aimed to raise awareness about antecedents and consequences of social exclusion, and it also aimed to make students aware of the ways in which they can deal with social exclusion in the future. In this manuscript we first aimed to describe the program and its guiding principles. Second, we aimed to present some secondary data analysis as a proof-of-concept for the use of this program in educational settings.

Work on social exclusion has demonstrated its negativity (Gerber & Wheeler, 2009; Hartgerink et al., 2015). Past literature also suggests that relying on

experiential learning principles can indeed raise awareness about a variety of social issues such as bullying (Vannini et al., 2011) or sexism (Cundiff et al., 2014). We think that these two lines of work highlight two things. First, that experiential learning principles are a great fit for teaching about the subtle and usually underestimated experience of social exclusion. Second, that a well-studied paradigm for inducing the experience of social exclusion can also be utilized as a learning tool.

The results of the secondary analysis concerning need threat and anger revealed similar scores to that of other studies experimentally manipulating social exclusion with similar ball-tossing games (e.g., de Waal-Andrews & van Beest, 2012; Sleegers et al., 2016; van Beest et al., 2011). We think this similarity is important because it provides a way for future versions of this training program to benefit from the extensive research that use similar measures and paradigms as we outlined here (see Hartgerink et al., 2015 for a meta-analysis of 120 studies using a similar ball-tossing game). For example, people who design future programs can enrich their training by studying the work on what aids recovery after being excluded in this ball-tossing game (e.g., Rudert et al., 2017; Zimmerman et al., 2021).[6]

Importantly, we also assessed how a subgroup of participants in the current sample evaluated the program. We created new indexes based on the three-factor structure revealed by the EFA results. The analyses of these indexes suggested that (a) participants gained insights about social exclusion, (b) that they had a positive experience with the program, and (c) they experimented with the newly acquired knowledge (e.g., prejudice). Furthermore, majority of the participants reported talking about the program with their classmates and their family members; and one-third with their friends outside of school. Finally, one-fourth of participants who indicated witnessing an issue discussed in the program indicated behaving differently than they would have before partaking in the program. Taken together, these results serve as the proof of concept by showing how participants not only learned new things but also actively experimented with it by linking it to other phenomena and into their own lives.

4.1 Limitations and future directions

A possible limitation is that we did not test the effectiveness of our program in terms of the ability to reduce the actual occurrence of ostracism. This was beyond the scope of the collaboration that we had with the non-profit organization. We hope, however, that our first step will inspire future researchers or practitioners to test the effectiveness of this program in not only providing students with insight, but also in reducing actual rates of social exclusion in schools.

The training program that we used here relied on an online ball-tossing program which was well-established (Hartgerink et al., 2015) and relatively accessible.

[6] See Sect. 5 in the Supplementary Materials link for a detailed discussion of how various factors of the game (e.g., avatar choice or group size) may influence participants' experience in the game. We believe that this discussion can be useful for researchers who wish to design or use versions of this training program.

Although this ball-tossing game can be administered with large groups of students, it requires computers and internet access. Practitioners and researchers may consider using alternative paradigms to simulate the feelings of social exclusion such as asking individuals to recall a time in which they felt excluded (Chen et al., 2008). Past work suggested that relying on personal memories was effective in experiential learning about cyberbullying (Chen, 2018). Alternatively, users of the program can also rely on role-playing paradigms such as the O-Train (Zadro et al., 2005) which was shown to have some educational utility in teaching about social exclusion (Zadro & Williams, 2006). Such methods may require more time to carry out in the classroom but require less technology access and can increase the equity of training programs by making them more accessible.

5 Conclusion

Social exclusion is a negative experience, yet its innocuous nature may cause it to go under the radar. This may result in unnecessarily long suffering and may have long-lasting negative impacts on the targets of exclusion. One way to ameliorate these negative effects is to raise awareness about social exclusion in schools. To do so, we discussed a brief training program that integrated insights on experiential learning and social exclusion. We provide evidence that such a program can be devised and present evidence showing that participants found the program insightful, talked to others about the program, and applied the knowledge gained from the program. This provides preliminary evidence of the effectiveness of the program. We call researchers and practitioners to design *and* implement programs that combine experimental manipulations of social exclusion and experiential learning principles to combat the seemingly innocuous problem of social exclusion.

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Declarations

Conflict of interest Authors indicate no further conflict of interest.

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