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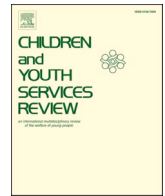
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Changing the classroom climate to lower the threshold for child abuse and neglect self-disclosure: A non-randomized cluster controlled trial

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ABSTRACT

Background: In view of the serious consequences of chronic child abuse and neglect (CAN), facilitating children's self-disclosure is important, as the self-disclosure may stop the abuse and initiate emotional support.

Objective: This study examined whether self-disclosure of CAN, specifically recognizing CAN and being able to talk about it (referred to here as talkability), improved by a classroom-based intervention to tackle CAN.

Participants and setting: A total of 757 children aged 10-12 years and 53 teachers from Dutch primary schools participated both at pretest and posttest.

Methods: The intervention consisted of an educational program comprising four lessons on CAN, using various methods including videos and group discussions. This study used a quasi-experimental design (i.e., non-randomized cluster-controlled trial) to test the effects of the intervention (pre-/posttest). Children's recognition of CAN was assessed using vignettes on physical abuse, emotional abuse and neglect. Talkability was assessed by children's self-reports. Multilevel logistic regression was used to test whether the intervention improved recognition and talkability. In addition, we tested whether these outcomes were moderated and mediated by social background, child and teacher characteristics.

Results: Compared to children in the control condition, those in the intervention condition reported significantly higher percentages of CAN recognition and talking about CAN outside school hours.

Conclusion: This study shows that participating in a series of lessons about CAN is effective in increasing both recognition and talkability of CAN in primary school children of predominantly low-educated parents. This study supports the social ecology perspective that disclosure might be viewed as a person-in-environment interaction.

1. Introduction

Of the many problems maltreated children face, two issues are whether there is somebody to turn to, and whether the maltreatment will stop. These two issues may converge in the act and concept of self-disclosure (Wills & Cleary, 1996). However, most children probably do not disclose their abuse during childhood or at the time they are exposed to the maltreatment (Finkelhor, Turner, Shattuck, & Hamby, 2013; Gonzalez, Waterman, Kelly, McCord, & Oliveri, 1993; Russell & Bolen,

2000; Schellingerhout & Ramakers, 2017). This implies that we need to improve our understanding of the way children can disclose their current abuse (Simmel, Postmus, & Lee, 2012), and explore whether this includes modifiable factors.

Recognition of child abuse and neglect (CAN) by children themselves may be relevant as well in the disclosure and reporting process. The capacity to recognize or detect CAN is generally considered to be a prerequisite of reporting and eventually stopping it (e.g., Dubowitz & Bennett, 2007; Lemaigre, Taylor, & Gittoes, 2017). However, in practice

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this capacity to recognize CAN appears to be mainly restricted to adult bystanders only, whether professional or nonprofessional, and their potential to report allegations of CAN to child protective services (e.g., Gilbert et al., 2009). Children, both in their role as potential peer bystanders and as potential victims, may also facilitate the disclosure process by recognizing their own or another child's experience as a form of CAN. Furthermore, it is to be expected that other factors also affect the recognition of CAN. These include the attributions of perceived guilt or tendency to blame a child in case of CAN; the perceived severity of the CAN; their opinion about whether children think that the abuse or neglect is allowed for whatever reason; simple denial; the subjective inclination to reject the uncomfortable truth that CAN may be happening near you (Alaggia, 2010; Chan, Lam, & Shae, 2011; Collin-Vézina, De La Sablonnière-Griffin, Palmer, & Milne, 2015; Reitsema & Grietens, 2016). This latter tendency is closely related to the "not in my backyard" (NIMBY) notion (Dear, 1992). Taken together, this study examined whether and how these facilitating and hindering factors are associated with the recognition of CAN among children.

In addition, for a better understanding of the concept of disclosure, some theoretical notions need to be addressed concerning the content, process and context of disclosure. Regarding the content of disclosure, it needs to be noted that the majority of CAN disclosure studies have been limited to only one form of CAN, i.e., child sexual abuse. This limitation has been challenged over decades by several authors (e.g., Wurtele, 1990; Chaffin, Wherry, Newlin, Crutchfield, & Dykman, 1997). We therefore decided to include other forms of CAN in our study, such as physical abuse, emotional abuse and neglect.

Notions regarding the process and context of disclosure were expressed in their earliest forms in the work of Jourard and his group (Jourard, 1971). They regarded disclosure of personal information as social behavior (Goodman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003; Jourard, 1971; Rotenberg, 1995). In their many experiments, they showed that the process of disclosing personal information was to a large extent determined by reciprocity. For example, if low disclosers were paired with other low disclosers, the extent and intimacy of disclosure of personal information was low. However, pairing low disclosers with high disclosers led to an increase in the extent and intimacy of disclosing personal information.

These and other experiments show that social factors may overrule personality factors on disclosure. Indeed, researchers have recently acknowledged the social-interactive nature of disclosure with regard to child sexual abuse (McElvaney, Greene, & Hogan, 2012; Reitsema & Grietens, 2016). Self-disclosure should be considered as being imbedded in dialogue (Lahtinen, Laitila, Korkman, & Ellonen, 2018; Reitsema & Grietens, 2016), or it could be said that "knowledge construction has shifted to (...) person-in-environment explanations" (Alaggia, Collin-Vézina, & Lateef, 2019, p.277). This ecological perspective (Bronfenbrenner, 1979) assumes that a better understanding of CAN disclosure can be achieved by incorporating the potential influence and assessment of the social context (DeVoe & Faller, 1999; Goodman-Brown et al., 2003; Sas, Cunningham, Hurley, Dick, & Farnsworth, 1995). If disclosure is regarded as a process of social behavior taking place in a social context, others may inhibit or facilitate these behaviors, for example through the presence of social norms (Ajzen & Fishbein, 1980). Following social-cognitive theory, when social norms with regard to a certain behavior, such as the disclosure of CAN, are perceived as positive, these social norms may facilitate the cognitions preceding the behavior of an involved person (Ajzen & Fishbein, 1980). In fact, this assumption underlies several self-defense programs aiming to prevent child sexual abuse by talking about it (e.g., Finkelhor, 2009). These programs have been shown effective in increasing disclosures of child sexual abuse (Walsh, Zwi, Woolfenden, & Shlonsky, 2015).

In this article, we use the word 'talkability' to refer to whether abuse can be talked about. If a subject is perceived as something that can be talked about, for example in a community or social settings such as a classroom, this may affect children's cognitive appraisal of others'

tolerance of the disclosure of child abuse, which is considered crucial to the decision to disclose (Goodman-Brown et al., 2003). For example, previous research indicates that children are less likely to disclose when they think they will not be believed (Alaggia et al., 2019; Collin-Vézina et al., 2015; Morrison, Bruce, & Wilson, 2018), while children are more likely to disclose when they think they will be believed (Morrison et al., 2018). Therefore, talkability in social settings may lower the threshold for disclosure if the issue is perceived as talkable by the persons suffering the abuse. In addition, the act of disclosure can be conceptualized as a social support strategy (Wills & Cleary, 1996). Finally, when it comes to what hinders and what facilitates children's disclosure, studies have repeatedly shown that peers are important or even the most favored persons to confide in ("disclosees") for maltreated children when it comes to disclosing CAN (Arata, 1998; NJR Panel, 2013) while teachers are good candidates to disclose to as well (Allnock & Miller, 2013; Malloy, Brubacher, & Lamb, 2013).

Based on the abovementioned reciprocity of the disclosure process (e.g., Jourard, 1971) and on cognitive behavioral theory (Ajzen & Fishbein, 1980), the perception of the social norm and the behavioral intention may therefore play a role in the talkability and the disclosure process. In addition, support-seeking coping skills could be expected to affect talkability (Wills & Cleary, 1996). Furthermore, if children are guided in developing their communication skills on the subject of CAN by a professional, it can be expected that the results will depend on the extent to which this professional feels comfortable talking about CAN (Flaherty & Sege, 2005).

1.1. The current study

To gain insight into the processes of recognition and talking about CAN among children, this study examined whether two conditions of disclosure (i.e., CAN recognition and talkability) can be improved by a school-based intervention on CAN. Our first research question is: 'Can a class-based intervention on CAN improve children's ability to recognize CAN?'. Our second research question is: 'Is a class-based intervention on CAN effective in increasing the talkability of CAN among children after school?'. In both research questions, we also examined whether aforementioned relevant child characteristics (including their perception of the social environment, attributions, behavioral intention) and teacher characteristics (years of experience, their professional norms, and their communications skills on the subject of CAN with parents and medical youth care services) moderate CAN recognition and talkability. In addition, we examined whether the recognition of CAN by children was mediated with the tendency to blame a child in case of CAN, the perceived severity of CAN, and the subjective inclination to reject the uncomfortable truth that CAN may be happening near you as a child. Likewise, we examined whether the talkability of CAN was mediated with the children's perception of the social norm on talking about CAN, and support-seeking coping skills in stressful situations.

2. Methods

2.1. Design, procedure and sample

As previous studies have shown (Sedlak et al., 2010; Van Berkel, Prevoo, Linting, Pannebakker, & Alink, 2020) that children from families with lower educational background show higher rates of child abuse and neglect than children from families with higher educational background, selection was based on the educational level of the parents of children in primary schools. To include a sample of children at higher than average risk for CAN 999 of the 6986 primary schools in the Netherlands were selected, based on the relatively low educational level of the parents of children in these schools.

A random selection of these 999 schools was contacted, and the recruitment procedure ended as soon as 35 schools had agreed to participate. In the end, twenty-one of these schools were included in this

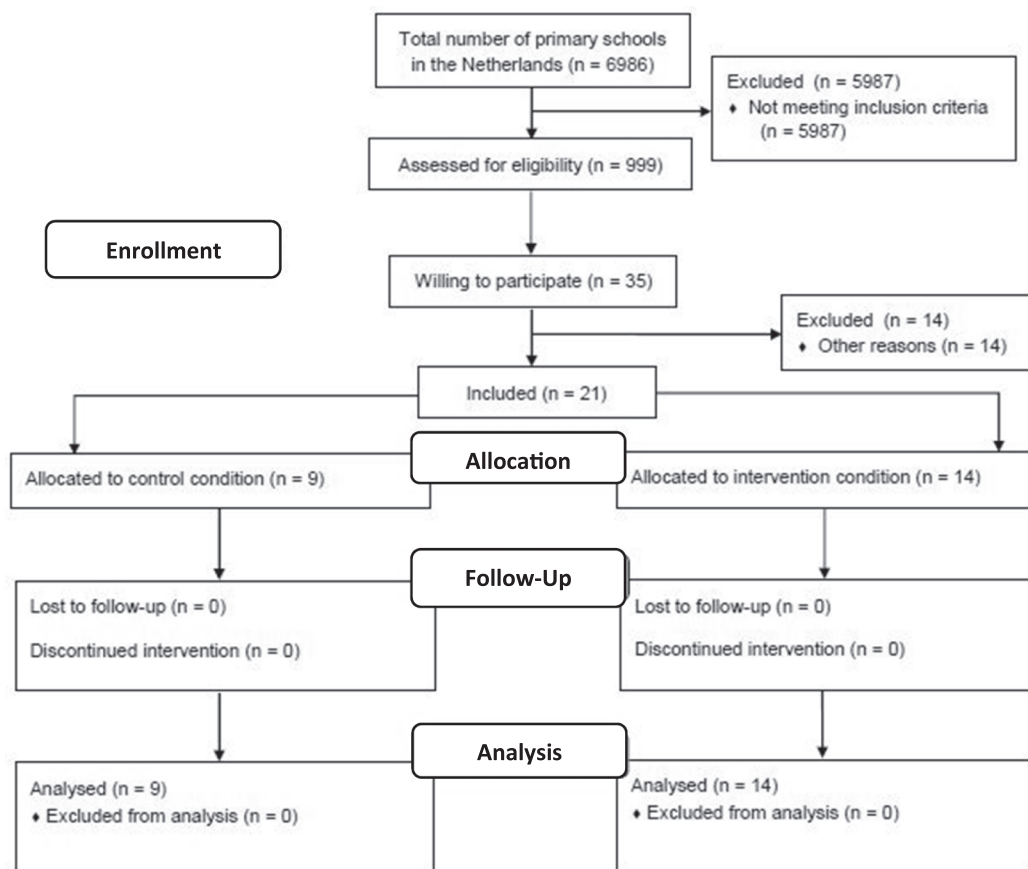


Fig. 1. Flowchart study design. Note: The 14 school that were excluded for other reasons were originally selected for additional comparative analysis. However, these analyses are beyond the scope of this manuscript.

study, including 864 students in fourth, fifth or sixth grade (children's age approximately 10–12 years, on average 11.3 years at pretest (SD = 1.0) in March 2013). At the time of recruitment, many of the recruited teachers were inclined to use the intervention program, but were undecided whether to actually adopt and teach it in the scheduled intervention period. Therefore, allocation to the experimental and control conditions was done by the research team at the post-test assessment in June 2013, based on the teachers' report about whether or not the program had been used between the pre- and posttest. In this non-randomized cluster controlled trial, 864 students were enrolled in the pretest assessment, 477 (55%) students divided over 31 classes who participated in the experimental condition and 387 (45%) students divided over 22 classes who participated in the control condition. Of these students, 757 (88%) were also post-tested, 414 (87%) in the experimental condition and 343 (89%) in the control condition.

Schools decided on student participation, including informing and asking for passive consent of the parents, that is, students participated if their parents did not refuse participation after being informed, and if the students themselves gave their consent. Under the Dutch Medical Research Involving Human Subjects Act, the present study did not require formal approval by an ethics committee (see Fig. 1).

2.2. The intervention

The intervention consisted of an educational program comprising a preparatory lesson and four lessons on CAN, as well as a flyer to inform parents, a poster in the classroom, and curriculum information for the teacher. Teachers were instructed to prepare themselves well, in view of the sensitive nature of the subject and possible reactions of the students, and to become aware of their own personal responses to the subject. This

instruction included information to ensure that they knew who to turn to for assistance, within and outside their schools. In addition, they were informed on how to act (i.e., reporting code and referral of children) in case of an allegation of child maltreatment. Finally, several reading materials were provided for teachers to prepare themselves (e.g. <https://kindermishandeling.hetklokhuis.nl/voor-scholen/mogelijke-reacties/>). At the time of the intervention, the Netherlands was regarded as being family-oriented, and had a voluntary (i.e. non-mandatory) reporting system (Gilbert, 1997).

The preparatory lesson focused on personal moments of happiness that children had experienced together with parents or caregivers. The first lesson dealt with neglect, the second with physical abuse, and the third with seeking help, while in the final lesson the children were invited to develop a logo representing the slogan "Child maltreatment: you can do something about it" (in Dutch: "*Kindermishandeling, je kunt er wat aan doen*"), for which they could win a prize. All lessons were interactive in nature, and teachers asked their students repeatedly how they would feel if they were in the same situation as the child shown in the program material. The lessons included video clips, and teachers may also have used a Dutch television program which encouraged children to communicate about this subject of CAN. This television program was broadcast in the same period as the school-based intervention in April 2013, so students' exposure to the television program was not strictly restricted to the experimental condition.

2.3. Measurements

2.3.1. CAN recognition and talkability

To assess whether students were able to recognize CAN, we used vignettes depicting emotional abuse and physical abuse, which were

Table 1
Child and teacher characteristics in the control and intervention condition.

		Intervention	Control	Total	p-value
Sex	Boy	228 (48%)	189 (50%)	417 (49%)	0.884
	Girl	244 (52%)	192 (50%)	436 (51%)	
Age		11.4 (1.0)	11.2 (1.0)	11.3 (1.0)	0.058
Grade	Grade 4	126 (27%)	124 (33%)	250 (29%)	0.002
	Grade 5	135 (28%)	129 (34%)	264 (31%)	0.041
	Grade 6	212 (45%)	125 (33%)	337 (40%)	0.000
Ethnicity	Native	239 (51%)	273 (73%)	512 (61%)	0.000
	Western migrant	53 (11%)	42 (11%)	95 (11%)	0.000
	Non-Western migrant	175 (38%)	57 (15%)	232 (28%)	0.000
Level of parental education	High	257 (60%)	193 (63%)	450 (61%)	0.699
	Medium	61 (14%)	94 (30%)	155 (21%)	0.000
	Low	113 (26%)	22 (7%)	135 (18%)	0.000
CAN	Emotional abuse	156 (33%)	111 (29%)	267 (31%)	0.246
	Physical abuse	150 (32%)	131 (34%)	281 (33%)	0.339
	Neglect	169 (35%)	140 (37%)	309 (36%)	0.854
Teacher's sex	Female	25 (47%)	14 (26%)	39 (74%)	0.166
	Male	6 (11%)	8 (15%)	14 (26%)	
Experience (yrs)		10.9 (9,2)	13.3 (11,1)	53 (100%)	0.265

slightly adapted from those used in an earlier Dutch study (Hoefnagels, 2001), as well as vignettes focusing on neglect, which were developed especially for this research project. Each of these vignettes told a story on paper featuring a child “approximately your age” in an adverse situation. This child could be either a girl or boy to test whether children’s recognition response depended on the gender of the child in the story (cf. Kean & Dukes, 1991). The stories in the vignettes were subjected to expert review and piloted for face value among children of the same age as those included in the study. Since children’s opinions on CAN may depend on the type of abuse or neglect, each child was administered a vignette regarding one form of abuse (emotional or physical abuse) or neglect only, at both measurements. However, the exact story in the vignettes differed for each measurement (there were three different versions of each vignette). CAN recognition was assessed with the following question: “Do you recognize this as child maltreatment?” (Yes, Maybe, or No). In addition, CAN talkability was assessed using the question “Did you talk about child maltreatment after school in the last month?” (Yes or No).

2.3.2. Behavioral intentions, social norms, attributions and NIMBY

The student’s behavioral intention to disclose possible abuse or neglect was assessed in case the student was the boy or girl in the vignette, in two ways: “If you were Bas, would you seek for help, respectively ... would you tell to your teacher?” (Yes, No, Maybe). In order to assess the child’s perception of the teachers potential to believe the child was asked: “Suppose somebody like Bas is in your class. He tells your teacher his secret. Do you think your teacher believes him?” (Yes, No, Maybe). For the purpose of the present study, the “Maybe” category in this and subsequent variables was merged with either the “yes” or the “no” category. Answering categories of these particular three variables were recoded in such a way that 0 = no/maybe and 1 = yes.

The assessment of the students’ perception of the social norm regarding talking about CAN was introduced as follows. “The following question is about the opinion of other children. Maybe you’re not sure what other children think. That doesn’t matter. We would like to know *what you think* that these children think. Do you think that peers agree that this is something you can talk about?” (Yes, No, Maybe). For this variable, this was recoded in such a way that 0 = no/maybe and 1 = yes. The attribution of blame was examined by the question: “Is Samira the one who’s to blame for her father being so angry?” (Yes, No, Maybe), and recoded in such a way that 0 = no and 1 = maybe/yes. The children’s opinion about the admissibility of the abuse or neglect was examined in the case of emotional abuse by the question: “Is Bas’ father allowed to insult him?” (Yes, No, Maybe); or in the case of physical abuse: “Is Samira’s father allowed to smack her?” (Yes, No, Maybe); and

in the case of neglect: “Jesse helps himself when he falls, and often cares for his brothers. Is Jesse’s mother allowed to let him do all this?” (Yes, No, Maybe). Answering categories of these three variables were recoded in such a way that 0 = no and 1 = maybe/yes. Finally, the NIMBY notion was assessed with a 4-item Likert-type scale, referring to the vignette which showed Samira being smacked, using the question: “Can you imagine something like this really happening (1) to children in your neighborhood, (2) in your street, (3) at your school, (4) in your classroom?” The response categories were Yes, Maybe, and No. After these values had been summed, the reliability of this 4-item scale was acceptable (Cronbach’s $\alpha = 0.74$).

2.3.3. Social support

To examine the children’s tendency to seek social support, the respondents completed two subscales of the Dutch translation of the Children’s Coping Strategies Checklist (Ayers & Sandler, 1999; De Boo, 2005). They were asked to rate the extent to which they used support-seeking coping skills in stressful situations, on two 4-item Likert-type subscales, regarding support for actions (e.g., “You talked to someone who could help you figure out what to do”; Cronbach’s $\alpha = 0.71$) and support for feelings (e.g., “You talked about your feelings to someone who really understood”; Cronbach’s $\alpha = 0.76$).

2.3.4. Social desirability

To control for socially desirable responses, we used the Social Anxiety Scale for Children (Dekking, 1977). Seven of the nine items were used, as two of the items can be confusing for students of this age (personal communication, Linden, 2013). Each dichotomous item (True, Not True) consisted of a socially desirable or undesirable self-referent statement (e.g., “I always behave decently”, and “I have once said something about somebody that wasn’t nice”). Each socially desirable answer given was coded as 1 (range 0–7; Cronbach’s $\alpha = 0.60$).

2.3.5. Teachers’ experience, professional role, perception, and intervention duration

The teacher questionnaire informed about teachers’ sex, years of experience, and class composition (single-grade or multi-grade classes). Specific questions assessed the teachers’ experience with CAN, in terms of their perception of their own influence when it came to preventing actual maltreatment of children in their class (0–100%). In addition, teachers were asked whether they had, in the last two months, suspected maltreatment of a child in their class (yes–no), and as a proxy of their communications skills, talked to a parent about suspected child maltreatment (yes–no) or been in contact with youth medical services about suspected child maltreatment (yes–no), or had been confided in by

Table 2
Results recognition of CAN by multilevel logistic regression analysis examining the relationship with each predictor separately.

Variables	B Coefficient	OR	CI (95%)	P
Condition				
Emotional abuse vs. neglect	0.632	1.88	(1.23,2.88)	0.004
Physical abuse vs neglect	1.104	3.01	(1.83,4.98)	0.000
Physical vs emotional abuse	0.471	1.60	(0.96,2.66)	0.069
Vignettes				
Vignette 1	0.219	1.24	(0.73,2.12)	0.418
Vignette 2	0.351	1.42	(0.85,2.39)	0.185
Vignette 3	0.132	1.14	(0.66,1.98)	0.640
Gender in vignette boys vs girl	0.385	1.47	(1.02,2.12)	0.039
Sex of child boy vs girl	0.080	1.08	(0.75,1.56)	0.663
Age of child	0.018	1.02	(0.82,1.26)	0.866
Level of parental education				
medium vs high	-0.002	1.0	(0.61,1.62)	0.993
medium vs low	-0.531	0.59	(0.28,1.21)	0.151
low vs high	0.529	1.70	(0.92, 3.14)	0.092
Ethnicity				
NA vs NWM	0.435	1.54	(0.96,2.48)	0.072
WM vs NA	-0.704	0.49	(0.27,0.89)	0.018
WM vs NWM	-0.269	0.76	(0.40,1.45)	0.410
Support-seeking coping: actions	0.086	1.09	(0.78,1.52)	0.614
Support-seeking coping: feelings	0.067	1.07	(0.80,1.43)	0.651
Social desirability response style	-0.096	0.91	(0.81,1.02)	0.115
NIMBY	0.079	0.92	(0.85,1.00)	0.051
Child is to blame no vs yes	0.315	1.37	(0.89,2.10)	0.147
Child: abuse/neglect is allowed no vs yes	-0.515	0.60	(0.39,0.91)	0.018
Would teacher believe the child? no vs yes	-0.181	0.83	(0.56,1.25)	0.384
Would you tell the teacher? no vs yes	-0.094	0.91	(0.62, 1.33)	0.626
Intention to seek help no vs yes	0.511	0.60	(0.39, 0.93)	0.022
You know somebody like the child no vs yes	-0.016	0.98	(0.69, 1.50)	0.937
Would you tell? no vs yes	-0.091	0.91	(0.63, 1.32)	0.630
Perception of social norm about talking about CAN no vs yes	0.059	1.06	(0.73,1.55)	0.757
Perceived severity	0.343	1.41	(1.16,1.71)	0.001
Recognition CAN at T0 no vs yes	1.754	5.78	(3.98,8.37)	0.000
Teacher variables				
Sex of teacher (female vs male)	0.069	1.07	(0.62,1.86)	0.803
Experience (years)	-0.001	1.00	(0.98, 1.02)	0.948
Influence	0.003	1.00	(0.99,1.01)	0.497
Professional norm	0.139	1.15	(0.73,1.81)	0.543
Suspicion of CAN no vs yes	-0.027	0.97	(0.60,1.58)	0.913
Contacted medical youth care service no vs yes	-0.175	0.84	(0.51, 1.37)	0.476
Contacted parents no vs yes	-0.511	0.60	(0.37, 0.96)	0.036

Notes: CAN = child abuse & neglect; NWM = non-Western migrant; WM = Western migrant; NA = Native; continuous variables are grand-mean centered; all variables are controlled for intervention status and recognition of CAN at pretest T0.

a child (yes–no). Teachers in the intervention condition also reported the average duration of the intervention sessions (in minutes). In addition, teachers were asked about their perceived professional role with regard to CAN. This was examined using seven items with a 5-point Likert-type scale that ranged from “I totally agree” to “I totally disagree”. Two examples of the items were: “I regard it as part of my professional duties to detect child maltreatment”; “I am familiar with the steps in the reporting code on child maltreatment”. The internal consistency of this scale was acceptable (Cronbach’s $\alpha = 0.71$).

2.4. Data analysis

2.4.1. Descriptives

Baseline differences in demographic characteristics were examined for the children in the control and intervention groups, including their social desirability responses, using chi-squared tests for dichotomous variables and one-way analysis of variance (ANOVA) for interval variables (see Table 1). Children in the two groups differed significantly with regard to grade (more children in the highest grade in the experimental condition; $p < 0.002$), ethnicity (more non-Western migrant children in the experimental condition; $p < 0.001$), educational level of

parents (children in the experimental condition having parents with a lower level of education; $p < 0.001$), and social desirability response style (higher scores for children in the experimental condition; $p < 0.001$). To control for these baseline differences, these variables were included as covariates in the analyses. In addition, in order to test whether the three different versions of each type of abuse presented in the vignettes were comparable, children’s recognition of CAN was tested using chi-squared tests. The results showed that the three vignettes in both the physical and emotional abuse conditions did not differ ($p > 0.05$), but one of the vignettes depicting neglect was less often recognized as depicting neglect than the other two ($p < 0.05$).

2.4.2. Testing the research questions

Our study yielded hierarchical data of children nested within classes nested within schools. As nested data violate the assumption of independence, and as we had predictors at two different levels (i.e. child level and teacher level, including experimental condition), multilevel analyses were warranted (Hox, Moerbeek, & Schoot, 2018). To assess the effect of the intervention on both CAN recognition and talkability at posttest, hierarchical logistic models were estimated using HLM 6.08 (Raudenbush, Bryk, & Congdon, 2004). We first tested whether

Table 3
Final model of the multilevel logistic regression analysis of factors predicting CAN recognition.

Predictors	Beta	OR	CI (95%)	p
Recognition CAN at T0	1.357	3.89	(2.39, 6.32)	0.000
Intervention condition	1.146	3.14	(1.82, 5.45)	0.000
Emotional abuse vs. neglect	0.735	2.08	(1.26, 3.44)	0.005
Physical abuse vs neglect	1.064	2.90	(1.63, 5.16)	0.001
Ethnicity (NA vs NWM)	0.661	1.94	(1.08, 3.46)	0.026
Ethnicity (WM vs NA)	-0.157	0.85	(0.40, 1.84)	0.688
Intention to seek help	0.511	0.60	(0.36, 0.99)	0.047
Reported parental contacts	0.750	2.12	(1.21, 3.72)	0.011

Notes: continuous variables are grand-mean centered, all variables are controlled for intervention status and CAN recognition at pretest T0.

CAN = child abuse & neglect; EM = emotional abuse; PH = physical abuse; NE = neglect.

NWM = non-Western migrant; WM = Western migrant; NA = native.

analyzing a two-level model or a three-level model was most appropriate to answer the research questions. For this, we ran three-level intercept-only models (i.e. null models) for both outcomes separately (i.e., CAN recognition and CAN talkability). Intraclass correlations for logistic hierarchical models were calculated, using the formula developed by Snijders and Bosker (1999). For CAN recognition, the percentage of

variance at the class level was 4.6% ($\chi^2(26) = 39.26, p = 0.046$) and at the school level 0.8% ($\chi^2(18) = 18.70; p = 0.411$). For CAN talkability, this was 6.9% at the class level ($\chi^2(26) = 37.07, p = 0.074$) and 3.9% at the school level ($\chi^2(18) = 31.63, p = 0.024$). For reasons of consistency, all models were tested assuming a three-level structure.

All continuous variables in the models were grand-mean centered to aid in the interpretation of the parameters (Hox, 2012). In view of the large number of predictors, all predictors were analyzed separately, controlling for intervention status (yes-no) and the pre-test (T0) of the outcome measure (yes-no). Third, predictors with at least suggestive differences ($p < 0.10$) in initial comparisons were entered into a multivariate logistic regression model to identify factors independently associated with the posttest outcome measure. In addition, the results of the multivariate logistic regression model were controlled for children's age, SES, ethnicity and socially desirable responses.

To test whether child-related factors played a mediational role in the relationship between the intervention and CAN outcome, mediation analyses were conducted using Mplus version 8.2 (Muthén & Muthén, 2018). To account for the hierarchical structure of the data, the standard errors of the estimated coefficients were adjusted using the cluster sampling module in Mplus (Muthén & Satorra, 1995). Model fit was assessed using the Chi Square value, Root Mean Square Error of Approximation (RMSEA), and Comparative Fit Index (CFI). Model fit was considered adequate for a non-significant chi square value, a

Table 4
Results talkability of CAN by multilevel logistic regression analysis examining each predictor separately.

Variable	B Coefficient	OR	CI (95%)	P
Condition				
Emotional abuse vs neglect	0.131	1.14	(0.70,1.85)	0.597
Physical abuse vs neglect	0.273	1.31	(0.80,2.15)	0.277
Physical abuse vs emot. abuse	0.142	1.15	(0.72,1.84)	0.553
Vignettes				
Vignette 1	0.101	1.11	(0.60,2.03)	0.744
Vignette 2	0.430	1.54	(0.84,2.82)	0.165
Vignette 3	0.329	1.39	(0.80,2.43)	0.248
Gender child in vignette (boy vs girl)	-0.244	0.78	(0.52,1.17)	0.233
Sex of child (boy vs girl)	-0.400	0.67	(0.45,1.01)	0.053
Age of child	0.190	1.21	(0.95,1.53)	0.118
SES				
High vs low	0.202	1.22	(0.66,2.28)	0.524
Medium vs high	-0.115	0.89	(0.56,1.42)	0.683
Medium vs low	0.087	1.09	(0.51,2.32)	0.823
Ethnicity				
WM vs NA	0.189	1.21	(0.65,2.24)	0.549
WM vs NWM	0.538	1.71	(0.85,3.45)	0.133
NA vs NWM	0.349	1.42	(0.83,2.42)	0.202
Support-seeking coping: actions	0.357	1.43	(1.00,2.04)	0.048
Support-seeking coping: feelings	0.394	1.48	(1.09,2.02)	0.014
Social desirability response style	-0.048	0.95	(0.83,1.09)	0.484
NIMBY	-0.047	0.95	(0.87,1.04)	0.295
Child is to blame (no vs yes)	-0.168	0.85	(0.53,1.34)	0.475
Child thinks the abuse or neglect is allowed (no vs yes)	-0.556	0.57	(0.35,0.95)	0.031
Would teacher believe the child? (no vs yes)	0.315	1.37	(0.87,2.15)	0.171
Would you tell the teacher? (no vs yes)	0.464	1.59	(1.04,2.42)	0.031
Intention to seek help (no vs yes)	0.261	1.30	(0.78,2.11)	0.293
Do you know somebody like the child? (no vs yes)	0.162	1.18	(0.77,1.78)	0.447
Would you tell? (no vs yes)	0.333	1.40	(0.92,2.12)	0.119
Perception of social norm about talking (no vs yes)	0.662	1.94	(1.30,2.90)	0.002
Perceived severity	0.106	1.11	(0.91,1.38)	0.331
Talkability CAN at T0 (no vs yes)	1.616	5.03	(2.97,8.51)	0.000
Teacher variables				
Sex of teacher (female vs male)	0.156	1.17	(0.62,2.18)	0.620
Experience (years)	0.003	1.00	(0.98,1.03)	0.814
Influence	0.002	1.00	(0.99,1.01)	0.656
Professional norm	-0.149	0.86	(0.52,1.43)	0.559
Allegations of CAN (no vs yes)	0.069	1.07	(0.62,1.85)	0.798
Contacted medical youth care service (no vs yes)	-0.498	0.61	(0.35,1.05)	0.073
Contacted parents (no vs yes)	0.099	1.10	(0.68,1.79)	0.732

Notes: CAN = child abuse & neglect; NA = native, WM = Western Migrant, NWM = Non-Western Migrant; continuous variables are grand-mean centered, and controlled for intervention status and the pretest (T0) outcome measure assessing the talkability of CAN.

Table 5
Final model of the multilevel logistic analyses of variables that predicted talking about abuse & neglect by children.

Predictors	Beta	OR	CI (95%)	p
Talkability CAN at T0	1.357	3.89	(2.13, 7.10)	0.000
Intervention condition	0.966	2.63	(1.45, 4.75)	0.002
Support-seeking coping: feelings	0.521	1.68	(1.17, 2.42)	0.006
Perception of the social norm regarding talking	0.773	2.17	(1.37, 3.42)	0.001
Reported contact with medical youth care service	0.581	1.79	(0.99, 3.23)	0.053

Notes: continuous variables are grand-mean centered, and controlling for intervention status and the pretest (T0) outcome measure.

RMSEA value below 0.06, or a CFI value above 0.90. First, we tested whether the effect of the intervention on CAN recognition, was mediated by NIMBY, perceived blame and perceived severity at post-test, in three different mediational models in which we also corrected for pre-test measures of the mediating variables. Second, we tested whether the effect of the intervention on CAN talkability was mediated by perception of the social norm, support for action and support for feelings at post-test, in three different mediational models in which we also corrected for pre-test measures of the mediating variables. Statistical significance was set at $p < 0.05$ and all tests were two-tailed.

3. Results

3.1. Effect of the intervention on CAN recognition

The results regarding the first research question (i.e. whether a class-based intervention on CAN would improve the children’s ability to recognize CAN) can be found in Tables 2 and 3. Our results showed that, after controlling for baseline characteristics including social desirability, the intervention did improve CAN recognition. Table 2 shows the initial logistic regression model for separate analysis of each predictor and Table 3 shows the final multivariate logistic regression models for significant predictors of the outcome variable.

Table 3 shows that, after controlling for baseline differences and for the outcome variable at baseline, the intervention was effective, implying that the odds that the exposed children recognized the vignette

as depicting CAN were >3 times higher than those of the non-exposed children, CI [2.39, 6.32]. In addition, children had higher odds of recognizing the story as depicting CAN when the story was about abuse, either physical or emotional, than when it was about neglect. Furthermore, the odds of children of Dutch origin recognizing CAN were twice as high as those of children from a non-native background. More children recognized CAN if there was a perception of greater severity and if there was greater intention to seek help and if another child was in the situation of the depicted child in the vignette. The recognition of CAN by the children was not associated with the following variables: their view on whether the child in the vignette was to blame or not; the child’s opinion about whether the teacher would believe them when the child in the story was one of the students in class; whether another child had ever disclosed a form of abuse to the child; whether the child would tell somebody when what happened in the story should happen to another child; and the perceived social norms regarding talking about CAN. Nor did the gender of the child in the vignettes affect the outcome ($p > 0.05$). In addition, the recognition of CAN by the children was not associated with the following teacher variables: the teachers’ sex, their years of experience, their perception of their influence in addressing CAN, the teachers’ professional norm about CAN, the teachers’ experience with allegations of CAN, nor with the number of the teachers’ previous contacts with medical youth care service. The only teacher variable associated with children’s recognition of CAN was the number of contacts the teacher had had with parents on the subject of CAN in the last year, showing that teachers who had more contacts with parents on this

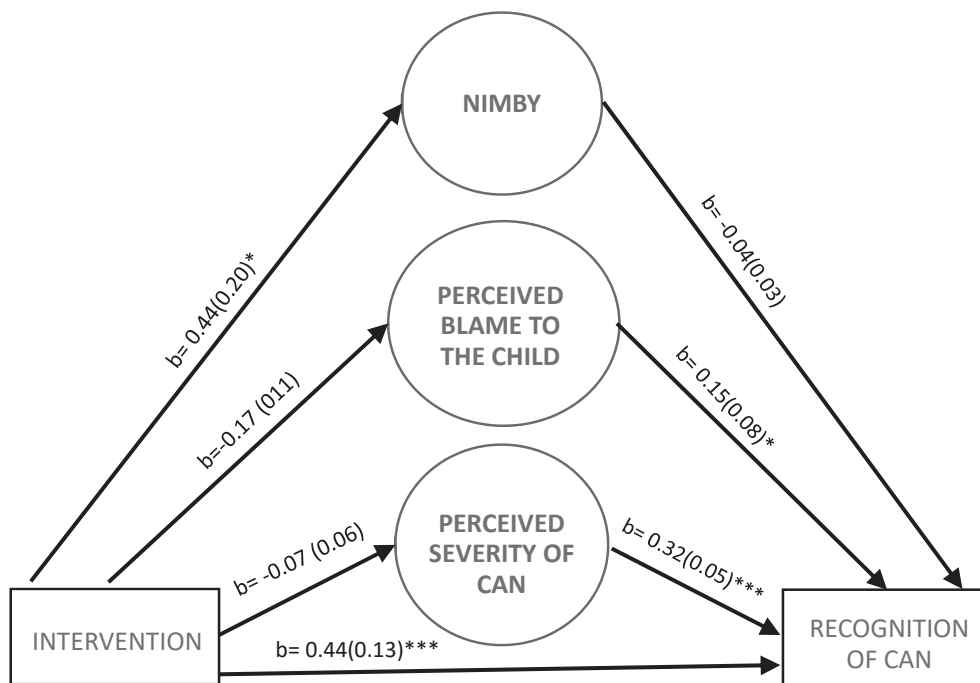


Fig. 2. The mediating roles of NIMBY, the perceived blame to the child, and the perceived severity of child abuse and neglect on the recognition of child abuse and neglect.

Notes: Figure 2 () = SE of b; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; NIMBY: not in my backyard.

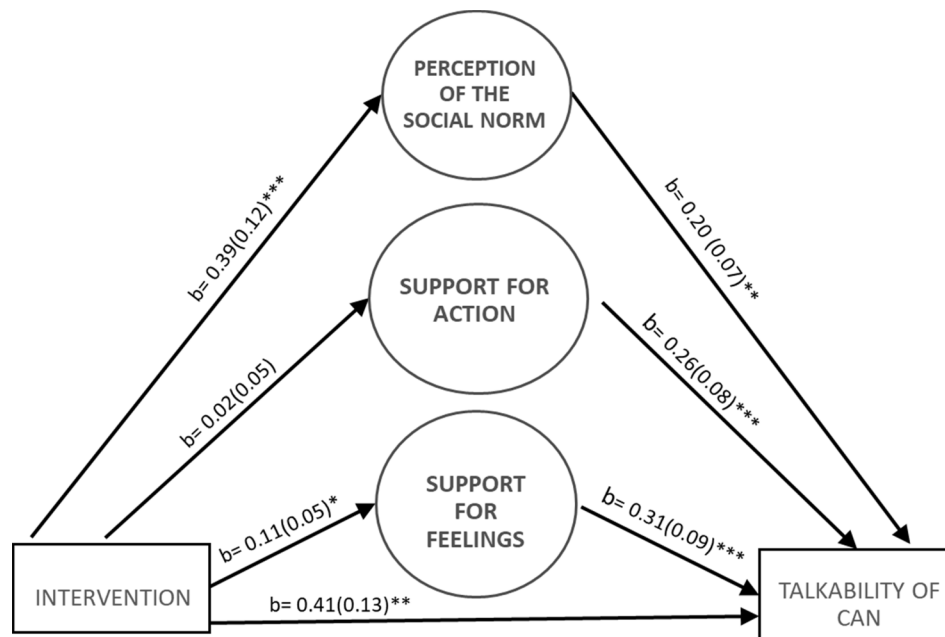


Fig. 3. The mediating roles of the perception of talking about child abuse and neglect and support seeking coping styles on talking about CAN. Notes: Figure 3 () = SE of b; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

subject had students who were more likely to recognize CAN (see Table 3). The analyses further showed that among children in the intervention condition, children's sex, ethnicity and level of parental education did not affect their recognition of CAN (p 's > 0.05 ; not depicted in the Tables). Finally, the intervention duration was not predictive of the outcome ($p > 0.05$; not depicted in the Tables).

3.2. Effect of the intervention on talkability of CAN

The second research question concerned whether a class-based intervention on CAN was effective in increasing the talkability of CAN among children after school. Table 4 presents the findings of the tests of individual predictors, controlling for intervention status and the pretest (T0) measure of CAN talkability.

Table 5 shows that, after controlling for baseline differences and for the outcome variable at baseline, the intervention was effective, implying that the odds that the exposed children would talk about CAN were about 2.6 times higher than those of the non-exposed children, CI [1.45, 4.75]. In addition, the outcome was predicted by two other child variables. The first was the perception of the social norm regarding talking about CAN, the second was the extent to which children reported their use of support-seeking coping skills regarding their feelings. This means that children reporting more support-seeking coping skills regarding their feelings were more likely to talk than children reporting less support-seeking coping skills regarding their feelings. Talking about CAN by children was not predicted by their report of the support-seeking coping skills regarding actions. Amongst other variables, the analyses showed that children did not differ in talkability of CAN based on the demographic variables sex, ethnicity and level of parental education (p 's > 0.05).

With regard to the teacher characteristics, one variable, whether they had had contacts about CAN with the medical youth care service, was marginally significant ($p = 0.053$). This implies that children with teachers who reported to have had more contacts with medical youth care were slightly more likely to talk about CAN after school than children with teachers who had had less contacts with the medical youth care service. The other teacher-related variables, including the intervention duration, were not predictive of the outcome (p 's > 0.05). Finally, we found some tentative evidence to support the assumption

that the talkability of CAN facilitates self-disclosure of CAN. Five teachers who had used the educational program reported that they had been confided in by a child on CAN during the month in which the class took the educational program, as opposed to only one teacher in the control condition.

3.3. Mediation analyses

The mediation analyses concerning the first research question showed no indirect effects via the three putative mediators on the recognition of CAN (see Fig. 2). We therefore consider reporting the model fit values of these models as redundant.

However, the mediation analyses concerning the second research question, namely, the talkability, showed a significant and marginal significant indirect effect. The perception of the social norm on talking about CAN showed a significant indirect effect ($b = 0.20$, $SE = 0.07$, $p = 0.003$). This finding implies that the intervention changed children's perception of the social norm on talking about CAN in the sense that they believed peers agreed that this was something you can talk about, and that this changed perception of the social norm was associated with an increased percentage of children talking about CAN. In addition, a child's seeking support for feelings, showed a marginally significant indirect effect ($b = 0.03$, $SE = 0.02$, $p = 0.070$), indicating that the intervention tended to support a coping style of seeking support for feelings, which in turn was positively associated with the likelihood of talking about CAN. Finally, the analyses showed that a child's seeking support for actions did not mediate between the intervention and the talkability of CAN ($p > 0.05$). The results of these models are depicted in Fig. 3.

The model fit for the mediation role of both support seeking coping mediators, for feelings and actions, was satisfactory for all criteria ($\chi^2(2) = 1.28$; $p = 0.527$; $RMSEA = 0$; $CFI = 1$; support seeking coping for actions: $\chi^2(2) = 1.51$; $p = 0.469$; $RMSEA = 0$; $CFI = 1$). The model fit for the mediation role of the perception of the social norm was satisfactory for two of the three criteria ($\chi^2(2) = 6.33$; $p = 0.042$; $RMSEA = 0.05$; $CFI = 0.965$).

4. Discussion

Our findings in a sample from a multi-ethnic population of children aged 10–12 years, of low-educated parents, show that participation in a series of lessons about CAN increased the children's talkability about CAN and their ability to recognize CAN. In other words, these outcomes proved to be modifiable by an intervention. The findings indicate that such interventions can decrease the pervasiveness of the 'culture of silence' by offering lessons in which there is explicit talk about child abuse and neglect.

The recognition of CAN is a prerequisite for adults or professionals to report their allegation to a child-protective agency (Gilbert et al., 2009). This sequence can not a priori be equated to children, because, as we know, this sequence has not been tested among youngsters (Schols, de Ruiter, & Öry, 2013). For instance, children may prefer socio-emotional support functions within their peer group to instrumental support functions, for example because they may desire belongingness, or they may worry about losing control over the information they share (Allnock, 2010). But, children are willingly to help others, especially when they believe there is a high necessity and they know the person who needs help (Sierksma, 2015). As far as we could trace this is the first study that shows that their willingness to help a peer who may suffer from abuse or neglect is predictive of their ability to recognize CAN.

Furthermore, compared to the experts who recognized these vignettes as cases of CAN in the pilot phase of the study, children were less inclined to do so. Our findings suggest that the children used harsh standards in their judgement, as a substantial minority of the children did not consider these vignettes as representing cases of child abuse or neglect. In a similar vein, a quarter of the children reported at pretest that the child in the story was (possibly) the one to blame. Furthermore, comparable percentages of the children reported that the parent in the vignette was allowed to act the way they did. These figures support the view that Dutch advocacy organizations (Defence for Children, and KinderrechtenNU [Child rights Now]) have a long way to go to teach and support children regarding their knowledge and belief in their own rights.

Our findings provide support for the social ecology perspective, which states that the concept of disclosure may best be viewed within a person-in-environment framework (Alaggia et al., 2019). The person factor in this framework was operationalized in our study by considering talking about CAN as behavior, applying a behavioral model to this person factor, and including a determinant of behavior (Ajzen & Fishbein, 1980) in our model. The findings showed that this determinant, the perception of the social norm, did affect the outcome, i.e. talking about CAN. Interestingly, while focusing on the person part of the social ecology perspective, this study shows that a determinant that can be viewed as the most 'social determinant' in this behavioral model predicts and suggests to mediate the talkability of CAN. Of equal importance is to note the distribution of this variable at pretest: almost half of the children (47.1%) were undecided about the question whether their peers would think that this is an issue you can talk about. And one in seven of the children claimed that their peers thought that it is not. These findings illustrate that there is still a substantial threshold in the Netherlands making it difficult for children to express themselves freely on the subject of CAN. Therefore, we recommend that a country like the Netherlands, which claims to defend liberal values such as freedom of speech (e.g., Fineman, 2010) should periodically review this aspect of the social climate among children.

Our study also supports the environmental part of this theoretical perspective. Teachers who were not yet familiar with the new educational program and were using it for the very first time, nevertheless

enabled children in their classes to recognize CAN and talk about it more frequently. Although tentative, five of the teachers reported, as opposed to one in the control condition, that they had been confided in by a child, which may have been a consequence of the program. This is in line with previous studies supporting the important role for teachers in setting the classroom climate (Gest & Rodkin, 2011; Hamm, Farmer, Lambert, & Gravelle, 2014; Mikami, Griggs, Reuland, & Gregory, 2012). In addition, self-reported communication by teachers with others than the children was associated with increased recognition of CAN and (marginally significant) increased talkability by children. Finally, the intraclass correlation coefficient for our multilevel logistic regression analyses showed that the school level also affected the pretest findings, possibly reflecting differences in school cultures regarding children's talking about CAN.

In summary, the contexts of children, either proximal, in classes, or more distal, in schools, or regarding communication with significant other parties by their teachers outside school, all affected, at pretest or posttest, the likelihood of recognizing and talking about CAN by the children themselves. Within a social ecology perspective a self-disclosure of CAN can be considered as a response by a person in context to another person in context. Therefore, it would be interesting to assess the impact of higher system levels on the rate of self-disclosures. More concrete, we recommend to study whether the prevalence and determinants of disclosures of CAN among children are associated with characteristics of national systems. For example, to study whether the prevalence of disclosures among children is associated with the way in which nations have regulated their system addressing CAN, such as by a voluntary or mandatory reporting system (e.g. do mandatory reporting systems emphasize the issue of CAN more than voluntary reporting systems do, possibly due to children who perceive and respond to this emphasis in the former reporting system, therefore facilitating their disclosure rate?). In addition, the prevalence may be associated with the level to which a nation embraces either a family oriented or a child oriented focus (Gilbert, 1997). In similar vein, surveys among (young) adolescents assessing the rates of disclosing children being abused or neglected (e.g. Schellingerhout & Ramakers, 2017) may be related to the child-rights index, in particular in relation to the participation article of the Convention on the rights of the child (United Nations (1989) (1989), 1989; https://treaties.un.org/doc/Treaties/1990/09/19900902%2003-14%20AM/Ch_IV_11p.pdf). The quantified measure assessing relative differences among nations (Arts, Webbink, & Jong, 2021) may serve as a measure a nation is able and willing to respect the voice of the child.

5. Limitations

Several limitations of our study should be noted. First, given the nature of this field experiment, in which we examined the effect of a classroom-based intervention while a television program on the same subject was also being broadcast during the same period, it was not possible to disentangle the effects of the classroom intervention from the possible effects of the television program and of social media, especially as regards talking about CAN. Unlike CAN recognition, which was included only in the classroom intervention, the "talking" objective was addressed in both the television program and the classroom-based intervention. The children in the control condition could thus also have been exposed to the television program, in view of its unrestricted national broadcasting. This may also affected these children's CAN talkability, which is in line with our findings that they were slightly more likely to talk about CAN at posttest than pretest. In order to assess the effects of the classroom-based intervention without the supplementary television exposure would require research excluding

additional television exposure, as well as randomization of schools (Cook & Campbell, 1979).

A second limitation relates to the causal inference of the effects. First, we made efforts to control for a possible test effect, in that respondents could have been made more aware of the issue at stake by their mere participation in research (Cook & Campbell, 1979). It could be argued that 15–25 min of participation at pretest, by being confronted with a child abuse situation on paper involving an apparent peer (“a child of your age”) may enhance a respondent’s sensibility, which may in part account for a change in attribution or cognition on a subject. However, the results of our control condition regarding the recognition of CAN (i. e. the outcome variable which could be most susceptible to this change), did not suggest the presence of such a test effect, as the difference between pre- and posttest in the control condition was not significant (McNemar Test $p = 0.121$). We view the other outcome variable (talkability) as less indicative in this respect, due to the television and social media exposure between the pre- and posttest. Therefore, we are inclined to rule out the presence of a test effect. Second, causal inference can be challenged because it is not clear how the causal relationship can be understood at a higher system level. For example, the findings we have presented also showed that teachers’ communication on the subject of CAN did matter in the children’s outcomes. These ecological system level factors (Bronfenbrenner, 1979) may serve as an underlying “third factor” and may also have contributed to our findings. Therefore, if children or professionals are to participate in comprehensive programs intended to increase communication about CAN, we recommend the use of person-in environment designs, not only to study the expertise gained by individuals who are informed or educated about the subject, but also to include an assessment of the level of communication in their immediate environments, or any possibly affected system levels. Finally, the design of this study with a single posttest should be kept in mind. This design implies that the (marginally) significant indirect effects of two mediators cannot be causally interpreted, as the posttest “outcome” could also have influenced the posttest “mediator”. In addition, the likelihood that the parameters are biased cannot be excluded (Cain, Zhang, & Bergeman, 2018). Future research including multiple posttest assessments is needed to evaluate the robustness of these findings. Keeping this in mind, however, the finding that the change in perception of the social norm regarding talking about CAN was associated with the change in self-reported behavior in terms of talking about CAN has both theoretical and practical value. This empirical result is in line with social cognitive theory (Ajzen & Fishbein, 1980), in which the perception of the social norm about a behavior serves as a determinant of behavior. In practice, it seems to be generally accepted that tackling and reporting actual CAN requires communication (Gilbert et al., 2009).

A third limitation concerns the psychometric properties of several constructs used in this study. Although we did use a number of validated instruments, no instruments were available for some constructs. For these constructs, we developed new scales and/or used single items. For example, the NIMBY scale proved to be sufficiently reliable, and eight of the nine vignettes were given comparable ratings within their abuse condition (i.e., the three physical abuse vignettes, the three emotional abuse vignettes and two of the neglect vignettes). This means that one of the three vignettes on neglect seemed to present more subtle symptoms of neglect, as it was less often recognized as representing child abuse compared to the other two neglect vignettes (13.5% versus 35.9% and 36.9%). However, it seems unlikely that this caused differences in recognition between the two conditions in the pre- and posttest, as the percentages of children who recognized this vignette as representing neglect did not differ very much between the pre- and posttest or between the two conditions. In addition, to fully capture the construct of the perception of the social norm, which appears not only highly relevant in a field suffering from the effects of silence but also as a determinant of talking about CAN, we recommend developing a reliable multi-item scale to assess the perception of the social norm on talking about CAN. Given the present lack of validated instruments, we

recommend increased efforts to develop instruments relevant for determinants of talking about and recognizing CAN by children across various age groups, and to assess the psychometric properties of these instruments.

6. Conclusion

Given the devastating consequences in particular of chronic CAN (Jonson-Reid, Emery, Drake, & Stahlschmidt, 2010), children could help adults and professionals to stop CAN at a much earlier stage than is currently happening. For example, if children are aware of, or recognize CAN, or even if they hesitate about what constitutes CAN and what does not, they could help adults by realizing that each of their questions may serve as a prompt to start communication (Lemaigre et al., 2017). In our view, it is important to encourage children to talk about it, not only the abused or neglected children themselves, but also the other children who know them, as they may all be regarded by victims as potential persons to confide in (disclosees) and could provide support for their peers (NJR Panel, 2013).

In terms of the full range of relevant components needed to build a knowledge framework, we consider this study to be a first small step toward getting a grip on the modifiability of the disclosure climate on CAN among children. This study provides a piece of this framework, including empirical support for the notion that the social norm on talking about CAN does matter. Notably, approximately half of the children in our study reported at pretest that they did not know whether other children perceived CAN as something you can talk about. Our intervention showed that this perception can shift in a direction which according to experts trying to eradicate CAN is the right one. In terms of theory, our study supports the view that the concept of disclosure of CAN needs to be studied as a process within a social ecology framework, which could benefit the practice of facilitating disclosure of various kinds of abuse and neglect.

CRedit authorship contribution statement

Cees Hoefnagels: Funding acquisition, Conceptualization, Methodology, Supervision. **Simone Onrust:** Validation, Investigation. **Maaike van Rooijen:** Validation. **Harrie Jonkman:** Methodology. **Anna van Spanje-Hennes:** Resources. **Linda D. Breeman:** Methodology, Formal analysis.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix

See Table A1.

Table A1

Additional sample information at pre- and posttest: Dichotomized raw scores of child and teacher predictors.¹

	Pretest	Posttest
Child-related variables		
Recognition CAN		
Yes	456 (54.2%)	519 (65.1%)
No/maybe	385 (45.8%)	278 (34.9%)
Talkability CAN		
no	743 (89.1%)	615 (77.7%)
yes	91 (10.9%)	177 (22.3%)
Intention to seek help		
Yes	620 (74.2%)	558 (68.3%)
No	216 (25.8%)	259 (31.7%)
Perception of the social norm regarding talking		
Yes	320 (38.5%)	392 (48.5%)
No	511 (61.5%)	417 (51.6%)
Perceived blame to the child		
Yes	243 (28.7%)	212 (25.8%)
No	605 (71.3%)	609 (74.2%)
Perceived severity of CAN		
NIMBY	4.25 (1.01)	4.35 (0.90)
Support-seeking coping: action	3.39 (2.32)	3.30 (2.31)
Support-seeking coping: feelings	2.22 (0.65)	2.11 (0.61)
	2.15 (0.58)	2.21 (0.68)
Teacher-related variables		
Reported parental contacts ²		
Yes	15 (23.1%)	9 (11.1%)
No	50 (76.9%)	72 (88.9%)
Reported contact medical youth care service ²		
Yes	17 (25.0%)	7 (8.1%)
No	51 (75.0%)	79 (91.9%)

Notes. ¹ The main outcome and predictor variables from Tables 3 and 5 and examined mediators from Figs. 2 and 3. Reported are frequencies (percentages) or means (standard deviations); NIMBY: Not In My BackYard. ² With regard to the teacher's contacts with medical youth care service and with parents the timespans were different between pre- and posttest. With regard to their contacts with medical youth care service the timespan was five years, and with regard to their contacts with parents it was one year, both at pretest. The timespan of the teacher's contacts at posttest was two months both at pre- and posttest.

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