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Data Article

Psychometric data of a questionnaire to measure cyberbullying bystander behavior and its behavioral determinants among adolescents

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ABSTRACT

.This paper describes the items, scale validity and scale reliability of a self-report questionnaire that measures bystander behavior in cyberbullying incidents among adolescents, and its behavioral determinants. Determinants included behavioral intention, behavioral attitudes, moral disengagement attitudes, outcome expectations, self-efficacy, subjective norm and social skills. Questions also assessed (cyber-)bullying involvement. Validity and reliability information is based on a sample of 238 adolescents (M age=13.52 years, SD=0.57). Construct validity was assessed using Confirmatory Factor Analysis (CFA) or Exploratory Factor Analysis (EFA) in Mplus7 software. Reliability (Cronbach Alpha, α) was assessed in SPSS, version 22. Data and questionnaire are included in this article. Further information can be found in DeSmet et al. (2018) [1].

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Subject area	Psychology
More specific subject area Type of data	Cyberbullying Table, text file
How data was acquired	Survey
Data format	Raw, Analyzed
Experimental factors	/
Experimental features	/
Data source location	Flanders, Belgium
Data accessibility	Data and questionnaire are provided within this article

Specifications table

Value of the data

- To our knowledge, this is the first validated questionnaire assessing cyberbullying bystander behavior and its modifiable behavioral determinants based on behavior change theories.
- These data could be useful for researchers to further explore what drives bystander behavior, e.g. in other settings and cultures.
- The questionnaire can be used to evaluate effects on behavior and its determinants of interventions that target bystander behavior and social dynamics of cyberbullying.
- We invite researchers to re-use and further improve on the scale.

1. Data

This paper contains psychometric data on a self-report questionnaire for adolescents used to measure their bystander behavior and behavioral determinants in cyberbullying, calculated in a sample of 238 adolescents whose descriptive statistics are provided in Table 1. This is to our knowledge the first validated questionnaire to measure this, and can also be used to assess effects of interventions aiming to change cyberbullying prevalence and its harm by reducing the social reinforcement witnesses give to bullies or victims. Different factor models were tested and fitting indices were computed to find the best fitting solution for each scale. Best fitting solutions per scale and the items they are composed of are shown (Table 2). Data and questionnaire are in supplementary files.

2. Experimental design, materials and methods

Participants in the sample were 8th graders (13–14 year olds) recruited from two schools in Flanders, Belgium. Parents were informed by the school and provided passive consent, youngsters

Table 1	
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Participant characteristics.

Characteristics	Baseline sample $n=238$
Age Gender (female) Cyberbullying victimization (% at least 2–3 times/ month in past 6 months)	M=13.52 ± 0.57 61.1% 3.5%
Cyberbullying perpetration (% at least 2–3 times/ month in past 6 months) Cyberbullying bystanding (% at least 2–3 times/month	1.7% 27.4%
in past 6 months)	

Table 2
Psychometric properties of behavior and determinant scales.

Behavioral intention (1-5 Likert scale) CFI=0.95; Normed $\chi^2 = 1.82, p < 0.01; RMSEA=0.059; SRMR=0.042Crombach \alpha Botated factorItems (name in rawa=0.60 Rotated factorat \alpha (1/4, 8/3) M \pm SD * Factor 1 'nega-the baviorintention' * Factor 2 'positivebehaviorintention' \alpha = 0.60item bystanderbehaviorintention' \alpha = 0.60item (1/2, 0, 8/3)Also send hurful mes-ogges to victim (0/5,08/4)' 0.74(1.6 \pm 0.50it (1/2, 0, 8/3)Also send hurful mes-ogges to victim (0/5,08/4)' 1.16 \pm 0.50it (1/2, 0, 8/3)Also send hurful mes-ogges to victim (0/5,08/4)' 1.28 \pm 0.74(0.74 1.38 \pm 0.74(0.75 1.38 \pm 0.74(0.74 1.38 \pm 0.74(0.74 1.38 \pm 0.74(0.74 1.38 \pm 0.74(0.75 1.38 \pm 0.74(0.75 1.38 \pm 0.74(0.74 1.38 \pm 0.74(0.75 1.38 \pm 1.04(0.75 1.38 \pm 0.74(0.74 1.38 \pm 0.74(0.74 1.38 \pm 0.74(0.75 1.38 \pm 0.74(0$	Scale	Model fit				
(1-5 Likert scale) Subscale Crombach α tems (name in raw data file, questionnaire) Notated factor M \pm 50 * Ractor 1 mega- tive bystander $\alpha = 0.60$ Send it to others to laugh (2, QB.1) 0.76 1.16 ± 0.50 * Actor 2 'positive $\alpha = 0.74$ Show the bully (1 flought (2, QB.1) 0.74 2.8 ± 0.74 bystander beha- vior intention' $\alpha = 0.74$ QB_7 0.74 2.8 ± 0.74 QB_7 0.74 2.38 ± 1.04 QB_7 0.74 2.38 ± 1.04 QB_7 0.74 3.88 ± 1.04 QB_7 0.74 0.74 3.88 ± 1.04 QB_7 0.77 3.65 ± 1.20 for heig (V3, QB.2)* 0.77 0.74 3.85 ± 1.20 $for heig (V3, QB.2)*$ 0.45 1.97 ± 1.19 for heig (V3, QB.2)* 0.76 0.47 0.55 0.33 ± 1.123 $(V7, QB, 0.03)*$ 0.45 1.97 ± 1.19 for heig (V3, QB.2)*<	Behavioral intention	CFI=0.95; Normed λ	$r^2 = 1.82, p < 0.01;$	RMSEA=0.059; SRMR=0.0	42	
* Pactor 1 mega- behavior intention' $a = 0.60$ tive (bystander behavior intention' Send it to others to langh (V2, 08.1) Also send hurftul mes- sages to victim (y5, 08.7) 1.6 ± 0.50 tive (y10, 02, 08.1) Also send hurftul mes- sages to victim (y5, 08.7) 1.72 ± 0.80 it was fining (y2, 08.1) Also send hurftul mes- sages to victim (y6, 08.7) 0.74 4.21 ± 1.08 (08.7) * Factor 2 'positive bystander beha- vior intention' $a = 0.74$ bystander beha- vior intention' $a = 0.74$ (08.7) 0.74 3.88 ± 1.04 (08.7) (Gaster info (y11, 08.10) 0.56 3.13 ± 1.17 (V7, 08.6) 0.49 3.33 ± 1.23 (V7, 08.6) Scale Behavioral attitudes (1-7 semanic diff- ferential scale) Model fit (F1=0.92: Normed $z^2 = 1.99$, $p < 0.001$: RMSEA = 0.065; SRMR = 0.058 $Ads dres nor to join in0.49 3.33 \pm 1.23(V7, 08.6) Subscale(1-7 semanic diff-ferential scale) Subscale(1-7 semanic diff-ferential scale) Factor 1a = 0.85$ Items (name in raw data file, questioner) (V4, 0.83 (0.03) $Ads 22 \pm 1.55$ Bad (negative) (V1, 0.033 (0.03) $Ads 22 \pm 1.55$ Bad (negative) (V1, 0.01) $Ads 20.13$ $Branke (V17, 09.4) -0.75 (0.04) 5.33 \pm 1.11Do train (negative) (V2,0.07 (0.04) 5.33 \pm 1.11Do train (negative) (V2,0.07 (0.04) 5.33 \pm 1.11Do train (N2, 00.2) 0.85 (0.03) 2.16 \pm 1.610.011 * Factor 2 'Atti-tudes towardsgetting the buly itis not cor' a = 0.84Do train (negative) (V2,0.07 (0.$	(1-5 Likert scale)	Subscale	Cronbach α	Items (name in raw data file, questionnaire)	Rotated factor loading	$M\pm SD$
behavior intention' Show the bully thought 0.71 1.32 \pm 0.80 it was funny (22, 081) it was funny (22, 081) 0.38 1.28 \pm 0.74 sages to victim (y5, 08, 4)' 0.38 1.28 \pm 0.74 bystander beha- vior intention' 0.67 (0.07) 0.74 4.21 \pm 1.08 bystander beha- vior intention' 0.67 (0.07) 0.74 3.88 \pm 1.04 Cile victim advice (v10, 0.74 3.88 \pm 1.04 0.87.7 Cile victim advice (v10, 0.74 3.88 \pm 1.04 Gather info (v11, 08, 10) 0.56 3.13 \pm 1.17 Tell the bully its not 0.51 3.64 \pm 1.20 for help (y3, 08, 2)' 0.51 3.64 \pm 1.20 Junny (y6, 08, 5) Junny (y6, 08, 5) for help (y3, 08, 2)' 0.045 1.97 \pm 1.19 (y13, 08, 12)' 0.47 3.65 \pm 1.20 for help (y3, 08, 2)' 0.041 0.47 3.65 \pm 1.20 Jor 4.100 Junny (y6, 08, 5) for help (y3, 08, 2)' 0.041 Cf=-0.92 Normal (regative) -0.045 Saddardized (1-7 semantic differential scale) Crolloar to Reliability Items (name in raw 200, 100, 105, 00.31 2.25 \pm 1.		* Factor 1 'nega- tive bystander	a=0.60	Send it to others to laugh at (v4. 08.3)	0.76	1.16 ± 0.50
Scale Model fit (1-7) semantic differential scale) Model fit (Ferential scale) Comport victim (y8, (0,7) 0.38 (0,7) 1.28 \pm 0.74 (0,7) Scale bystander beha- vior intention' $a=0.74$ Comfort victim (y8, (0,7) 0.74 4.21 \pm 1.08 (0,7) Scale bystander beha- vior intention' $a=0.74$ Comfort victim (y8, (0,7) 0.74 4.21 \pm 1.08 (0,7) Scale Comfort victim (y8, (0,7) 0.66 3.13 \pm 1.17 Tell the bulk its not 0.51 3.64 \pm 1.20 for help (y3, 08.2)' 0.49 3.85 \pm 1.20 for help (y3, 08.2)' Do nothing (negative) 0.44 3.65 \pm 1.20 for help (y3, 08.2)' 0.47 3.65 \pm 1.20 for help (y3, 08.2)' Scale Cronbach α Reliability '* Factor 1 terms (name in raw ca=0.35 Standardized stimate (SE) M \pm SD and (negative) (y16, 00.2) -0.75 (0.04) 5.83 ± 1.61 for 0.03 6.25 ± 1.55 for 0.03 6.25 ± 1.55 for 0.03 6.25 ± 1.55 for 0.03 6.25 ± 1.55 for 0.03 6.26 ± 1.06 for 0.04 7.41 ± 1.48 g0.10 '* Factor 2 'Atti- tudes towards giv- ing someone advice' $a=0.36$ Friendly (y10, 0102) -0.75 (0.04) 5.33 ± 1.11 Nof fan (negative) (y22, 0.67 (0.04) 5.33 ± 1.11 Nof fan (negative) (y22, 0.67 (0.04) 5.33 ± 1.11 Nof fan (negative) (y22, 0.67		behavior intention'		Show the bully I thought it was funny (v2, 081)	0.71	$\textbf{1.32} \pm \textbf{0.80}$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		incluion		Also send hurtful mes- sages to victim (y5, 08.4)*	0.38	1.28 ± 0.74
Scale Behavioral attitudes (1-7 semantic differential scale) Model fit (Fi=0.92; Normed χ^2 =1.99, $p < 0.001$; RMSEA=0.065; SRMR=0.058 M ± 50 (97, 08, 6) Show or report to adults (1-7 semantic differential scale) Model fit (Fi=0.92; Normed χ^2 =1.99, $p < 0.001$; RMSEA=0.065; SRMR=0.058 M ± 50 (97, 08, 6) Show or report to adults (1-7 semantic differential scale) M del fit (Fi=0.92; Normed χ^2 =1.99, $p < 0.001$; RMSEA=0.065; SRMR=0.058 M ± 50 (97, 08, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10		* Factor 2 'positive bystander beha-	a=0.74	Comfort victim (y8, 08.7)	0.74	$\textbf{4.21} \pm \textbf{1.08}$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		vior intention'		Give victim advice (y10, 08.9)	0.74	$\textbf{3.88} \pm \textbf{1.04}$
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				Gather info (y11, Q8.10)	0.56	3.13 ± 1.17
Ask others not 0 join in 0.49 3.93 \pm 1.23 Ask others not 0 join in 0.49 3.93 \pm 1.23 (y7, Q8.6) Show or report to dults 0.47 3.65 \pm 1.20 for help (y3, Q8.2)* Do nothing (negative) -0.45 1.97 \pm 1.19 (y13, Q8.12)* CFI=0.92; Normed χ^2 =1.99, $p < 0.001; RMSEA=0.065; SRMR=0.058 M \pm SD Behavioral attitudes(1-7 semantic dif-ferential scale) Subscale Cronbach \alphaReliability Items (name in rawdata file, questionnaire) Standardized M \pm SD * Factor 1 \alpha = 0.85 Bad (negative) (y14,0.83 (0.03) 6.25 \pm 1.55 0.83 (0.03) 6.25 \pm 1.55 * Attitudes towardscomforting' 0.91 Brave (y17, Q9.4) -0.75 (0.04) 5.83 \pm 1.61 advice' Bad (negative) (y18,0.74 (0.04) 1.85 \pm 1.38 0.74 (0.04) 1.85 \pm 1.38 advice' Brave (y21, Q10.4) -0.73 (0.04) 5.93 \pm 1.11 Not fun (negative) (y22,0.67 (0.04) 2.74 \pm 1.48 Q10.3) Bad (negative) (y22,0.12) -0.85 (0.03) 2.16 \pm 1.61 udes towards Q11.1) Not fun (negative) (y24,0.69 (0.04) 3.40 \pm 1.74 Q11.3) Brave (y25, Q11$				Tell the bully it's not funny (v6, 08,5)	0.51	$\textbf{3.64} \pm \textbf{1.20}$
Scale Model fit CFI=0.92; Normed χ^2 =1.99, $p < 0.001$; RMSEA=0.065; SRMR=0.058 M \pm SD Scale Model fit CFI=0.92; Normed χ^2 =1.99, $p < 0.001$; RMSEA=0.065; SRMR=0.058 M \pm SD Scale Subscale Cronbach α Items (name in raw Standardized M \pm SD '' Factor 1 $\alpha = 0.85$ Priendly (y15, Q9.2) -0.88 (0.03) 6.25 ± 1.55 '' Factor 2 'Atti- $\alpha = 0.80$ Priendly (y16, Q9.2) -0.75 (0.04) 5.33 ± 1.61 '' Factor 2 'Atti- $\alpha = 0.80$ Priendly (y17, Q9.4) -0.75 (0.04) 5.33 ± 1.61 advice' Brave (y17, Q9.4) -0.75 (0.04) 5.33 ± 1.61 0.74 (0.04) 1.95 ± 1.38 advice' Brave (y21, Q10.4) -0.73 (0.04) 5.93 ± 1.11 0.74 (0.04) 1.95 ± 1.38 '' Factor 3 'Atti- $\alpha = 0.84$ Bad (negative) (y22, 0.67 (0.04) 2.74 ± 1.48 '' Factor 4 'Atti- $\alpha = 0.70$ Brave (y22, Q11.2) -0.85 (0.03) 5.70 ± 1.48 '' Factor 5 'Atti- $\alpha = 0.36$ Not fun (negative) (y24, 0.61 (0.06) 3.60 ± 1.86 '' Factor 5 'Atti- $\alpha = 0.36$ Not fun (negat				Ask others not to join in $(v7, 08.6)$	0.49	$\textbf{3.93} \pm \textbf{1.23}$
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				Show or report to adults for help (y3, Q8.2)*	0.47	$\textbf{3.65} \pm \textbf{1.20}$
Scale Behavioral attitudes (1-7 semantic dif ferential scale)Model ft $CFI=0.92$; Normed $\chi^2 = 1.99$, $p < 0.001$; RMSEA=0.065; SRMR=0.058M \pm SD estimate (SE) $-0.88 (0.03)$ M \pm SD estimate (SE) $-0.88 (0.04)$ M \pm SD estimate (SE) $-0.88 (0.03)$ M \pm SD estimate (SE) $-0.88 (0.04)$ M \pm SD estimate (SE) $-0.88 (0.03)$ M \pm SD estimate (SE) $-0.73 (0.04)$ M \pm SD estimat				Do nothing (negative) (y13, Q8.12)*	-0.45	1.97 ± 1.19
Sche Model in Gr1=0.92; Normed $\chi^2 = 1.99, p < 0.001; RMSEA = 0.065; SRMR = 0.058$	Carlo	Madal 64				
Subscale Cronbach α Reliability Items (name in raw data file, questionnaire) Standardized estimate (SE) $M \pm SD$ * Factor 1 'Attitudes towards comforting' $\alpha = 0.85$ Friendly (y15, 09.2) Bad (negative) (y14, 0.83 (0.03) $0.83 (0.03)$ 2.22 ± 1.78 $0.83 (0.03) 6.25 \pm 1.550.83 (0.03) * Factor 2 'Atti-tudes towards giv-ing someoneadvice' \alpha = 0.80 Friendly (y17, 09.4)0.074 (0.04) -0.75 (0.04)0.83 (0.03) 5.83 \pm 1.610.74 (0.04) * Factor 2 'Atti-tudes towards giv-ing someoneadvice' \alpha = 0.80 Friendly (y19, 010.2)0.071 (0.04) -0.75 (0.04)0.74 (0.04) 5.93 \pm 1.110.74 (0.04) * Factor 3 'Atti-tudes towardsreporting toadults' \alpha = 0.84 Bad (negative) (y22,0.67 (0.04) 0.67 (0.04)2.74 \pm 1.48010.3 * Factor 4 'Atti-tudes towardstudes towardsgetting back at thebully' \alpha = 0.70 Bad (negative) (y24,0.69 (0.04) 0.69 (0.04) 3.40 \pm 1.74011.3 * Factor 5 'Atti-tudes towardsgetting back at thebully' \alpha = 0.86 Not fun (negative) (y22,0.90 (0.02) 0.60 \pm 1.750.60 \pm 1.75 * Factor 6 'Atti-tudes towards \alpha = 0.85 Bad (negative) (y34,01.23 -0.62 (0.05) 5.60 \pm 1.400.60 \pm 1.75 $	Scale Behavioral attitudes (1–7 semantic dif- ferential scale)	CFI=0.92; Normed λ	$p^2 = 1.99, p < 0.001$; RMSEA=0.065; SRMR=0.	058	
Reliability $a=0.85$ data file, questionnaire)estimate (SE)* Factor 1 'Attitudes towards comforting' $a=0.85$ Friendly (V15, Q9.2) $Q1$ $-0.88 (0.03)$ $Q1$ 2.22 ± 1.78 $Q1$ * Factor 2 'Atti- tudes towards giv- ing someone advice' $a=0.80$ Friendly (V19, Q10.2) $D1$ $-0.75 (0.04)$ $P1 (0.04)5.83 \pm 1.61P1 (0.04)* Factor 3 'Atti-tudes towardsutues towardsing be bully ita=0.84Bad (negative) (V18,Q10.1-0.73 (0.04)P1 (0.04)5.93 \pm 1.11P1 (0.04)* Factor 3 'Atti-tudes towardsa=0.84Bad (negative) (v20,Q10.30.67 (0.04)P1 (0.04)2.74 \pm 1.48Q10.3* Factor 3 'Atti-tudes towardsa=0.84Bad (negative) (v22,Q11.2)0.85 (0.03)P1 (0.04)2.74 \pm 1.48Q10.3* Factor 4 'Atti-tudes towardsa=0.84Bad (negative) (v22,Q11.2)-0.85 (0.03)P1 (0.04)5.71 \pm 1.61Q11.3* Factor 4 'Atti-tudes towardsa=0.86Not fun (negative) (v22,Q12.1)-0.62 (0.06)P1 (0.06)5.60 \pm 1.47P1 (0.06)* Factor 5 'Atti-bully'a=0.86Not fun (negative) (v32,Q13.3)-0.74 (0.04)P1 (0.04)2.05 \pm 1.40P1 (0.13)* Factor 6 'Atti-bully'a=0.85Bad (negative) (v33,Q13.4)-0.62 (0.05)P2 (0.55)2.57 \pm 1.95P3 (0.31)* Factor 6 'Atti-bully'a=0.85Bad (negative) (v34,Q13.2)-0.74 (0.04)P1 (0.04)2.05 \pm 1.40P1 (0.41)* Factor 6 'Atti$,	Subscale	Cronbach α	Items (name in raw	Standardized	$\mathbf{M}\pm\mathbf{SD}$
* Factor 1 $a=0.85$ Friendly (y15, Q9.2) Bad (negative) (y14, Q9.1) $-0.38 (0.03)$ Q9.10 2.22 ± 1.78 Q9.10* Factor 2 'Atti- tudes towards giv- advice' $a=0.80$ Friendly (y19, Q10.2) Brave (y17, Q9.4) $-0.75 (0.04)$ $-0.75 (0.04)5.83 \pm 1.61* Factor 2 'Atti-tudes towards giv-advice'a=0.80Friendly (y19, Q10.2)Brave (y21, Q10.4)-0.73 (0.04)5.93 \pm 1.31-0.73 (0.04)* Factor 3 'Atti-tudes towardsa=0.84Q10.1)Brave (y21, Q10.4)-0.73 (0.04)-0.73 (0.04)2.74 \pm 1.48Q10.3)* Factor 3 'Atti-tudes towardsa=0.84Q11.1)Brave (y22,P11.10)0.85 (0.03)-0.85 (0.03)2.16 \pm 1.612.16 \pm 1.61* Factor 4 'Atti-tudes towardsa=0.70Q12.1)-0.85 (0.03)-0.62 (0.06)5.70 \pm 1.48-0.65 (0.04)* Factor 5 'Atti-tudes towardsa=0.70Q12.1)Bad (negative) (y24,Q12.1)0.62 (0.06)-0.62 (0.06)* Factor 5 'Atti-tudes towardsa=0.86Q12.3)0.90 (0.02)-0.62 (0.06)5.60 \pm 1.47-0.62 (0.06)* Factor 5 'Atti-tudes towardsa=0.86Q13.3)Bad (negative) (y32,Q13.1)0.90 (0.02)-0.74 (0.04)2.05 \pm 1.40-0.62 (0.05)* Factor 6 'Atti-tudes towardsa=0.85-0.83 (0.33 (0.3)0.87 (0.02)$			Reliability	data file, questionnaire)	estimate (SE)	
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Brave (y17, Q9.4) -0.75 (0.04) 5.83 ± 1.61 * Factor 2 'Atti- tudes towards giv- ing someone advice' $a = 0.80$ Friendly (y19, Q10.2) -0.87 (0.03) 6.26 ± 1.06 Bad (negative) (y18, Q10.1) 0.74 (0.04) 1.95 ± 1.38 0.74 (0.04) 1.95 ± 1.38 * Factor 3 'Atti- tudes towards $a = 0.84$ Bad (negative) (y20, Q10.3) 0.67 (0.04) 5.93 ± 1.11 * Factor 3 'Atti- tudes towards $a = 0.84$ Bad (negative) (y22, Q10.3) 0.85 (0.03) 2.16 ± 1.61 * Factor 4 'Atti- tudes towards $a = 0.70$ Brave (y22, Q11.4) -0.65 (0.04) 5.70 ± 1.48 * Factor 4 'Atti- tudes towards $a = 0.70$ Bad (negative) (y24, Q11.3) 0.69 (0.04) 3.40 ± 1.74 * Factor 5 'Atti- tudes towards $a = 0.70$ Bad (negative) (y26, Q12.1) 0.78 (0.06) 2.18 ± 1.77 * Factor 5 'Atti- tudes towards $a = 0.86$ Not fun (negative) (y28, Q13.3) 0.61 (0.06) 3.60 ± 1.86 * Factor 5 'Atti- tudes towards $a = 0.85$ Bad (negative) (y30, Q13.4) 0.87 (0.02) 5.82 ± 1.68 * Factor 6 'Atti- tudes towards $a = 0.85$ Bad (negative) (y34, Q13.4) 0.84 (0.03) 5.73 ± 1.70 * Factor 6 'Atti- tudes towards $a = 0.85$ Bad (negative) (y34, Q13.4) 0.84 (0.03) 5.73 ± 1.70		'Attitudes towards comforting'		Bad (negative) (y14, Q9.1)	0.83 (0.03)	2.22 ± 1.78
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Ing solutionQittiProve (y21, Qi0.4) $-0.73 (0.04)$ 5.93 ± 1.11 advice'Brave (y21, Qi0.4) $-0.73 (0.04)$ 5.93 ± 1.11 Not fun (negative) (y20, $0.67 (0.04)$ 2.74 ± 1.48 Qi0.3)Qi0.3)Qi0.3) 2.16 ± 1.61 tudes towardsQi1.1)reporting toFriendly (y22, $0.85 (0.03)$ 2.16 ± 1.61 adults'Not fun (negative) (y24, $0.69 (0.04)$ 3.40 ± 1.74 Qi1.3)Brave (y25, Qi1.4) $-0.65 (0.04)$ 5.71 ± 1.61 * Factor 4 'Atti- $\alpha = 0.70$ Bad (negative) (y26, $0.78 (0.06)$ 2.18 ± 1.77 tudes towardsQi2.1)Friendly (y27, Qi2.2) $-0.62 (0.06)$ 5.60 ± 1.47 is not cool'Not fun (negative) (y28, $0.61 (0.06)$ 3.60 ± 1.86 Qi2.3)* Factor 5 'Atti- $\alpha = 0.86$ Not fun (negative) (y32, $0.90 (0.02)$ 5.82 ± 1.68 tudes towardsQi3.3)getting back at theBad (negative) (y30, $0.87 (0.02)$ 6.00 ± 1.75 bully'Qi3.1)Friendly (y31, Qi3.2) $-0.74 (0.04)$ 2.05 ± 1.40 * Factor 6 'Atti- $\alpha = 0.85$ Bad (negative) (y34, $0.84 (0.03)$ 5.73 ± 1.70 tudes towardsQi4.1)O.84 (0.03) 5.73 ± 1.70		ing compone		Baa (negative) (y 18,	0.74 (0.04)	1.95 ± 1.38
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		advice'		$Q_{10,1}$ Brave (v21 $Q_{10,4}$)	-0.73(0.04)	5.93 ± 1.11
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		uuvice		Not fun (negative) (v20.	0.67 (0.04)	2.74 ± 1.48
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tudes towards $Q11.1$) reporting to Friendly (y23, Q11.2) -0.85 (0.03) 5.70 ± 1.48 adults' Not fun (negative) (y24, Q11.2) -0.65 (0.04) 3.40 ± 1.74 $Q11.3$ Brave (y25, Q11.4) -0.65 (0.04) 5.71 ± 1.61 * Factor 4 'Atti- $\alpha = 0.70$ Bad (negative) (y26, Q12.2) -0.62 (0.06) 5.60 ± 1.47 tudes towards Q12.1) Friendly (y27, Q12.2) -0.62 (0.06) 5.60 ± 1.47 telling the bully it Friendly (y27, Q12.2) -0.62 (0.06) 5.60 ± 1.47 is not cool' Not fun (negative) (y28, Q11.0) 0.61 (0.06) 3.60 ± 1.86 Q12.3) * Factor 5 'Atti- $\alpha = 0.86$ Not fun (negative) (y32, Q10.02) 5.82 ± 1.68 tudes towards Q13.3) Bad (negative) (y30, Q13.2) 0.90 (0.02) 5.82 ± 1.40 getting back at the Bad (negative) (y31, Q13.2) -0.74 (0.04) 2.05 ± 1.40 Brave (y33, Q13.4) -0.62 (0.05) 2.77 ± 1.95 * Factor 6 'Atti- $\alpha = 0.85$ Bad (negative) (y34, Q13.2) -0.74 (0.04) 2.05 ± 1.40 Brave (y33, Q13.4) -0.62 (0.05)		* Factor 3 'Atti-	$\alpha = 0.84$	Bad (negative) (y22,	0.85 (0.03)	$\textbf{2.16} \pm \textbf{1.61}$
reporting to adults' Friendly (y23, Q11.2) $-0.85 (0.03)$ 5.70 ± 1.48 Adults' No fun (negative) (y24, Q11.3) $0.69 (0.04)$ 3.40 ± 1.74 Brave (y25, Q11.4) $-0.65 (0.04)$ 5.71 ± 1.61 * Factor 4 'Atti- tudes towards $\alpha = 0.70$ Bad (negative) (y26, Q12.1) $0.78 (0.06)$ 2.18 ± 1.77 tudes towards Q12.1) $0.61 (0.06)$ 3.60 ± 1.47 is not cool' Not fun (negative) (y28, Q12.3) $0.61 (0.06)$ 3.60 ± 1.47 * Factor 5 'Atti- tudes towards $\alpha = 0.86$ Not fun (negative) (y28, Q13.3) $0.90 (0.02)$ 5.82 ± 1.68 getting back at the bully' Bad (negative) (y30, Q13.1) $0.87 (0.02)$ 6.00 ± 1.75 * Factor 6 'Atti- tudes towards $\alpha = 0.85$ Bad (negative) (y34, Q13.4) $-0.62 (0.05)$ 2.57 ± 1.95 * Factor 6 'Atti- tudes towards $\alpha = 0.85$ Bad (negative) (y34, Q14.1) $0.84 (0.03)$ 5.73 ± 1.70		tudes towards		Q11.1)		
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* Factor 4 'Atti- tudes towards $\alpha = 0.70$ $Brave (y25, Q11.4)$ $Q12.1)$ $-0.65 (0.04)$ 5.71 ± 1.61 2.18 ± 1.77 1.18 ± 1.77 tudes towards telling the bully it is not cool' $Friendly (y27, Q12.2)$ $Q12.1)$ $-0.62 (0.06)$ 5.60 ± 1.47 3.60 ± 1.86 $Q12.3)$ * Factor 5 'Atti- tudes towards getting back at the bully' $\alpha = 0.86$ Not fun (negative) (y28, $Q13.3$) $0.90 (0.02)$ 5.82 ± 1.68 $Q13.3$ * Factor 6 'Atti- tudes towards getting back at the bully' $Bad (negative) (y30,Q13.1)0.87 (0.02)6.00 \pm 1.75Q13.1)* Factor 6 'Atti-tudes towardsdoing nothing'\alpha = 0.85Bad (negative) (y34,Q14.1)0.84 (0.03)5.75 \pm 1.41$		aduits		Not jun (negative) ($y24$, 0113)	0.69 (0.04)	3.40 ± 1.74
* Factor 4 'Atti- tudes towards telling the bully it is not cool' * Factor 5 'Atti- bully' * Factor 6 'Atti- tudes towards getting back at the bully' * Factor 6 'Atti- function (and the function (and the function (block)) * Factor 6 'Atti- function (block) * Facto				Brave (v25, 011.4)	-0.65 (0.04)	5.71 + 1.61
tudes towards Q12.1) telling the bully it Friendly (y27, Q12.2) $-0.62 (0.06)$ 5.60 ± 1.47 is not cool' Not fun (negative) (y28, 0.61 (0.06) 3.60 ± 1.86 Values towards Q12.3) Not fun (negative) (y28, 0.61 (0.06) 3.60 ± 1.86 getting back at the bully' Bad (negative) (y32, 0.90 (0.02) 5.82 ± 1.68 Ully' Q13.3) $-0.62 (0.06)$ 5.00 ± 1.75 bully' Data (negative) (y30, 0.87 (0.02) 6.00 ± 1.75 bully' Data (negative) (y30, 0.87 (0.02) 6.00 ± 1.75 bully' Data (negative) (y31, Q13.2) $-0.74 (0.04)$ 2.05 ± 1.40 Brave (y33, Q13.4) $-0.62 (0.05)$ 2.57 ± 1.95 * Factor 6 'Atti- $\alpha = 0.85$ Bad (negative) (y34, 0.84 (0.03) 5.73 ± 1.70 tudes towards Q14.1 O.84 (0.03) $5.85 + 1.41$		* Factor 4 'Atti-	<i>α</i> =0.70	Bad (negative) (y26,	0.78 (0.06)	2.18 ± 1.77
tening the bully itPriceduly $(27, (21.2))$ $-0.62 (0.06)$ 5.60 ± 1.47 is not cool'Not fun (negative) $(y28, 0.61 (0.06))$ 3.60 ± 1.86 $y12.3)$ Not fun (negative) $(y28, 0.61 (0.06))$ 3.60 ± 1.86 tudes towards $Q13.3$ Not fun (negative) $(y32, 0.90 (0.02))$ 5.82 ± 1.68 getting back at theBad (negative) $(y30, 0.87 (0.02))$ 6.00 ± 1.75 bully' $Q13.1$ Friendly $(y31, Q13.2)$ $-0.74 (0.04)$ 2.05 ± 1.40 Brave $(y33, Q13.4)$ $-0.62 (0.05)$ 2.57 ± 1.95 * Factor 6 'Atti- $\alpha = 0.85$ Bad (negative) $(y34, 0.84 (0.03))$ 5.73 ± 1.70 tudes towards $Q14.1$ $0.84 (0.03)$ $5.85 + 1.41$		tudes towards		Q12.1) Enimethy (v:27, 012.2)	0.02 (0.00)	F CO + 1 47
is not coor $001 Jan (negative) (y28, 0.01 (0.00))$ 3.00 ± 1.80 012.3 012.3 012.3 * Factor 5 'Atti- $\alpha = 0.86$ Not fun (negative) (y32, 0.90 (0.02)) 5.82 ± 1.68 tudes towards 013.3 013.3 0013.3 0013.3 getting back at the $Bad (negative) (y30, 0.87 (0.02))$ 6.00 ± 1.75 bully' 013.1 0013.1 0013.1 Friendly (y31, Q13.2) $-0.74 (0.04)$ 2.05 ± 1.40 Brave (y33, Q13.4) $-0.62 (0.05)$ 2.57 ± 1.95 * Factor 6 'Atti- $\alpha = 0.85$ $Bad (negative) (y34, 0.84 (0.03)$ 5.73 ± 1.70 tudes towards $Q14.1$ $0.84 (0.03)$ $5.85 + 1.41$		is not cool'		Not fun (pagativa) (v28	-0.62(0.06)	5.60 ± 1.47
* Factor 5 'Atti- tudes towards getting back at the bully' * Factor 6 'Atti- tudes towards $\alpha = 0.85$ bully ($\gamma = 0.86$ $\gamma = 0.85$ $\gamma = 0.84$ $\gamma = 0.85$ $\gamma = 0.85$ $\gamma = 0.84$ $\gamma = 0.85$ $\gamma = 0.84$ $\gamma = 0.84$ $\gamma = 0.85$ $\gamma = 0.85$		13 1101 0001		012.3)	0.01 (0.00)	5.00 ± 1.80
tudes towards Q13.3) getting back at the bully' Bad (negative) (y30, Q13.1) 0.87 (0.02) 6.00 ± 1.75 Friendly (y31, Q13.2) -0.74 (0.04) 2.05 ± 1.40 Brave (y33, Q13.4) -0.62 (0.05) 2.57 ± 1.95 * Factor 6 'Atti- tudes towards a=0.85 Bad (negative) (y34, Q14.1) 0.84 (0.03) 5.73 ± 1.70 0.84 (0.03) 5.85 + 1.41		* Factor 5 'Atti-	a=0.86	Not fun (negative) (y32,	0.90 (0.02)	$\textbf{5.82} \pm \textbf{1.68}$
getting back at the bully' Bad (negative) (y30, (y30, 2013.1) 0.87 (0.02) 6.00 ± 1.75 Friendly (y31, Q13.2) -0.74 (0.04) 2.05 ± 1.40 Brave (y33, Q13.4) -0.62 (0.05) 2.57 ± 1.95 * Factor 6 'Atti- tudes towards doing nothing' Q14.1) 0.84 (0.03) 5.85 + 1.41		tudes towards		Q13.3)	0.07 (0.00)	6.00 + 1.75
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Brave (y33, Q13.4) $-0.62 (0.05)$ 2.57 ± 1.95 * Factor 6 'Atti- $\alpha = 0.85$ Bad (negative) (y34, $0.84 (0.03)$ 5.73 ± 1.70 tudes towards Q14.1) 0.84 (0.03) $5.85 + 1.41$				Friendly (y31, Q13.2)	-0.74 (0.04)	2.05 ± 1.40
ractor 6 'Atti- $\alpha = 0.85$ Bad (negative) (y34, $0.84 (0.03)$ 5.73 ± 1.70 tudes towards Q14.1) doing nothing' $0.84 (0.03)$ $5.85 + 1.41$		*	0.05	Brave (y33, Q13.4)	-0.62 (0.05)	2.57 ± 1.95
doing nothing' 0.84 (0.03) 5.85 + 1.41		ractor 6 'Atti-	$\alpha = 0.85$	ваа (negative) (у34, 0141)	0.84 (0.03)	$5./3 \pm 1./0$
		doing nothing'		(۱.דו.)	0.84 (0.03)	5.85 ± 1.41

Table 2 (continued)

Scale	Model fit				
			Not fun (negative) (y36, Q14.3) Friendly (y35, Q14.2) Brave (y37, Q14.4)	-0.81 (0.03) -0.61 (0.05)	2.49 ± 1.60 2.04 ± 1.53
Scale Outcome expecta- tions and self-effi- cacy (1–5 Likert scale)	Model fit CFI=0.97, Normed χ	² =1.39, <i>p</i> =0.06;	RMSEA=0.041; SRMR=0.0	35	
,	Subscale	Cronbach α	Items (name in raw data file, questionnaire)	Rotated factor loading	$M\pm SD$
	* Factor 1 'Out- come expectations of assertive defending'	NA	Standing up for victim ends cyberbullying (y53, Q16.7)	1.53	2.77 ± 1.03
	* Factor 2 'High self-efficacy to comfort or give	<i>α</i> =0.72	Feel well capable of giv- ing victim advice (y57, 016.11)	0.85	$\textbf{3.73} \pm \textbf{0.98}$
	advice'		Feel well capable of comforting the victim (v56, O16,10)	0.74	3.88 ± 1.00
			By comforting or giving advice, I can make sure the victim is less affected (v51, 016.5)	0.51	3.63 ± 1.07
			Standing up for the vic- tim helps the victim	0.44	3.55 ± 1.09
			Reporting to adults ends cyberbullying (y54, 016.8)*	0.39	3.27 ± 1.07
			Know how to end cyberbullying (y55, 016.9)*	0.36	2.92 ± 1.10
			Not laughing can end cyberbullying (y64, 016.18)*	0.24	2.84 ± 1.12
	* Factor 3 'Low self-efficacy to intervene'	<i>α</i> =0.61	Difficult to comfort vic- tim when I think the victim provoked (y59, Q16.13)	0.81	2.84 ± 1.18
			Difficult to comfort the victim when I think it is funny (y58, Q16.12)	0.49	2.02 ± 1.12
			Difficult to comfort vic- tim when I am not sure of bad intentions of bully (y60, 016.14)*	0.44	2.84 ± 1.15
			Cannot do anything to reduce cyberbullying or its harm (y61, Q16.15)*	0.30	2.49 ± 1.03
Scale Subjective norms (1–5 Likert scale)	Model fit CFI=0.95, Normed λ	$p^2 = 1.76, p < 0.05;$	RMSEA=0.057; SRMR=0.0	43	

Subscale	Cronbach α	Items (name in raw	Rotated factor	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$
* Factor 1 'sub- jective norm to	α=0.62	data file, questionnaire)	loading 0.77	$\textbf{4.27} \pm \textbf{1.01}$

Table 2 (continued)	
-	-

Scale	Model fit					
	show positive bystander behavior'		Friends approve of com- forting victim (y39, Q15.2)			
			Friends would defend victim (v40, 15,3)	0.67	3.99 ± 1.01	
			Friends would approve of joining bully (nega- tive) (v38. O15.1)*	-0.43	1.35 ± 0.75	
			Teachers approve of giv- ing victim advice (y43, 015.6)*	0.43	4.09 ± 1.05	
			Pupils in class dis- approve of cyberbullying (y41, Q15.4)*	0.36	4.30 ± 1.10	
Scale Social skills (1–5 Likert scale)	Model fit CFI=0.95, Normed χ	2 =2.21, <i>p</i> < 0.001	1; RMSEA=0.072; SRMR=0.	048		
,	Subscale	Cronbach α Reliability	Items (name in raw data file, questionnaire)	Standardized estimate (SE)	$\textbf{M} \pm \textbf{S}\textbf{D}$	
	* Factor 1 'Inap- propriate social	<i>α</i> =0.80	Deliberately hurt oth- ers (v74, O17.6)	0.81 (0.03)	1.31 ± 0.71	
	skills'		Criticize or nag to bother others (y73, Q17.5)	0.77 (0.04)	1.58 ± 0.91	
			Ridicule others (y75, Q17.7)	0.74 (0.04)	1.50 ± 0.82	
			Fight/hit when angry (y69, Q17.1)	0.59 (0.05)	2.14 ± 1.16	
			Lie to get my way (y72, Q17.4)	0.44 (0.06)	1.94 ± 0.93	
	* Factor 2 'Appro- priate social skills'	<i>α</i> =0.79	Feel good when able to help (y77, Q17.9)	0.75 (0.04)	4.39 ± 0.84	
			Help a friend in pain (y70, Q17.2)	0.69 (0.05)	4.52 ± 0.69	
			Cheer up a friend in pain (v71, 017.3)	0.69 (0.05)	4.42 ± 0.72	
			Ask if I can help (y76, Q17.8)	0.59 (0.05)	3.99 ± 0.8	
			Nice to those who are nice to me (y78, Q17.10)	0.58 (0.05)	4.54 ± 0.75	
Scale Moral disengagement attitudes (1–5 Likost cealo)	Model fit No fitting model based on included 3 items, 1 item retained					
Likert scale)	Subscale		Items (name in raw		$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	
			Youngsters are cyber- bullied because they are different (y47, Q16.1)		3.31 ± 1.29	
Scale Bystander behavior	Model fit No model info available, based on behavioral intention scales					
	Subscale		Items (name in raw data file, questionnaire)		%	
			Send it to others to laugh at (y94, Q7.3)		2.9	

Table 2 (continued)

Scale	Model fit		
	* Subscale 1	Show the bully I thought	9.6
	'Negative bystan-	it was funny (y92, Q7.1)	
	der behavior'	Also send hurtful mes-	4.4
		sages to victim (y95,	
		Q7.4)	
	* Subscale 2 'Posi-	Comfort victim (y98,	61.8
	tive bystander	Q7.7)	
	behavior'	Give victim advice	39.7
		(y100, Q7.9)	
		Gather info (y101, Q7.10)	26.5
		Tell the bully it's not	57.4
		funny (y96, Q7.5)	
		Ask others not to join in	41.2
		(y97, Q7.6)	
		Show or report to adults	20.0
		for help (v93. 07.2)	
		Do nothing (negative)	25.0
		(y103, 07.12)	

Standardized estimate for CFA solutions: STDYX = raw coefficient standardized using both latent variable and observed variable variances. Rotated factor loadings: GEOMIN. NA: not applicable. * items with weak corrected item-total correlation r < 0.40

were requested to provide active informed consent. Informed consent was received for 96% of the adolescents, resulting in a sample of 238 youngsters. Data were collected as part of an intervention [1], baseline data (n=238) were used for psychometric validation. Ethical approval for the study was provided by the Ethics Committee of the Ghent University Hospital.

Validity of the questionnaire was established in several steps. First, scales were based on existing validated scales, or were constructed following guidelines for the design of theory-based questionnaires on behavior and behavioral determinants. This was the case for: 1) the moral disengagement items that were based on a framework by Hymel et al. [5], and adapted after quantitative research [4]; 2) the social skills scale, that was adapted from the MESSY questionnaire, using five items per scale that were highest loading in previous research [6,7]; and 3) for questions on behavior and behavioral determinants which were designed using guidelines from behavior change theories on constructing behavior and behavioral determinant scales [2]. These guidelines include e.g. the recommendation to define the target behavior as context- and time specific as possible; to assess positive and negative evaluations of a behavior on bipolar adjective scales (typically 7-point); to base the formulation of items on formative research with users (see for more information: http://people. umass.edu/aizen/pdf/tpb.measurement.pdf). Second, the specific content of the questions was finetuned with users via qualitative and quantitative research [3,4]. For example, adolescents referred to some bystander behavior as considered 'brave' or 'cowardly'. These bipolar adjectives were hence included in the attitude scales. In these two initial steps, the content validity of the questionnaire was established. The current manuscript describes the construct validation and reliability assessment of the questionnaire, examined via Confirmatory or Exploratory Factor Analysis and Cronbach Alpha internal consistency, as recommended in the guidelines for theory-based questionnaire construction on behavior and behavioral determinants [2]. Construct validity refers to the extent to which the scale reflects the theoretical dimensions of the investigated phenomenon, in this case bystander behavior and behavioral determinants.

Bystander behavior questions were only asked to participants who had witnessed a cyberbullying incident in the past month. Theory-based guidelines [2] recommend to assess the behavior as specifically as possible. Formative research with adolescents also showed it was easier for them to discuss behavior referring to a last incident than when referring to a longer time-frame or to a more general concept of behavior. Adolescents were therefore asked if they responded with a certain bystander behavior to the last incident they had witnessed. Formative research showed several types

of bystander behavior may occur in combination as response to a single cyberbullying incident [3]. Bystander behavior items were dichotomous (yes/no) and were not factor analyzed, instead they were summed according to the same factorial composition as in behavioral intentions. Definitions of behavioral determinants are provided in DeSmet et al. [1]. Scales were constructed on baseline measures and assessed on their construct validity in Confirmatory Factor Analysis (CFA) or Exploratory Factor Analysis (EFA) using Mplus7 software (Muthén & Muthén). Normed χ^2 (acceptable fit scores < 3). CFI (Comparative Fit Index, acceptable fit scores > 0.90). RMSR (Root Mean Square Residual, acceptable fit scores ≤ 0.08) and SMREA (Root Mean Square Error of Approximation, acceptable fit scores ≤ 0.08) were used to assess model fit [8]. Reliability (Cronbach Alpha, α) was assessed in SPSS, version 22. Values of 0.60 or above were considered acceptable given the short scales [9]. Factors were trimmed for items which decreased their internal consistency. If after trimming, the factor did not reach satisfactory validity or reliability, one item was retained with either the highest factor loading or with the highest need for improvement. Table 2 presents scales and their psychometric properties. Validity of the scales on behavioral intention scale, attitudes, outcome expectations and self-efficacy, subjective norms, and social skills was good, reaching or exceeding the levels for acceptable fit scores of the Confirmatory or Exploratory Factor Analysis models. No acceptable scale was found for moral disengagement attitudes, where only one item was retained. Reliability of all multi-item scales had a minimal acceptable Cronbach Alpha of 0.60 or higher. Researchers are invited to further improve on certain scales to increase their reliability from an acceptable to a good level. We have marked items (*) with weak item-to-total correlations of r < 0.40[10], where future research may wish to modify or replace these items to obtain a more reliable scale.

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Transparency document. Supporting information

Supplementary data associated with this article can be found in the online version at http://dx.doi. org/10.1016/j.dib.2018.04.087.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at http://dx.doi. org/10.1016/j.dib.2018.04.087.

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