

Last reviewed: January 2021

Intervention website: <https://www.rockandwater.org.uk/>

GUIDEBOOK INTERVENTION INFORMATION SHEET

Rock and Water

Please note that in the ‘Intervention summary’ table below, ‘child age’, ‘level of need’, and ‘race and ethnicities’ information is **as evaluated in studies**. Information in other fields describes the intervention as **offered/supported by the intervention provider**.

Intervention summary	
Description	Rock and Water is a social and emotional learning intervention for young people aged 7 to 17 years. It is delivered by trained teachers, youth workers, or social workers to groups of children for a period of 10 weeks, and aims to improve physical, mental, and emotional resilience.
Evidence rating	2+
Cost rating	1
Child outcomes	<ul style="list-style-type: none">• Supporting children’s mental health and wellbeing<ul style="list-style-type: none">- Improved self-efficacy- Improved self-esteem- Reduced depression.• Preventing crime, violence and antisocial behaviour<ul style="list-style-type: none">- Improved self-regulation- Reduced antisocial behaviour.
Child age (population characteristic)	7 to 17 years
Level of need (population characteristic)	Universal

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Intervention summary	
Race and ethnicities (population characteristic)	Not reported
Type (model characteristic)	Group
Setting (model characteristic)	<ul style="list-style-type: none">• Primary school• Secondary school.
Workforce (model characteristic)	Teacher, youth worker, or social worker
UK available?	Yes
UK tested?	No

Model description

Rock and Water is a social and emotional learning intervention for children and young people aged 7 to 17 years. It aims to improve skills such as self-regulation, communication, and empathy. It can be delivered in a variety of settings, such as schools or youth clubs, by teachers, youth workers, or social workers.

It is typically taught over 6 to 10 sessions, during which the skills of physical, social, and mental resilience are practised and then considered in relation to daily situations. Video scenarios also facilitate discussion, and homework assignments are given to further reflect and transfer the learning to real-life situations. Specific topics covered include: mental strength, body language, empathic feeling, setting boundaries, bullying, breath strength, life goals, dealing with a threatening group, body awareness, intuition and listening, sexuality and sexual violence, and emotional control. Participants are taught self-regulation skills such as grounding, centring, effective breathing, verbal and non-verbal communication, self-reflection, and empathy.

The intervention cultivates mental and social skills by starting with physical action and experience. The emphasis on kinaesthetic learning patterns are practised through a series of exercises and games, some of which are martial arts based, and evoke a physical and psychological response.

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Participants learn about responding to life with either a ‘rock’ or a ‘water’ attitude. For instance, ‘rock’ represents a strong and uncompromising attitude, while ‘water’ symbolises flexibility, communication, and cooperation. The intervention teaches the consequences, both positive and negative, of responding to situations with either a ‘rock’ or ‘water’ attitude.

Target population

Age of child	7 to 17 years
Target population	This intervention is a universal intervention targeting participating school students

Please note that the information in this section on target population is as **offered/supported by the intervention provider**.



Theory of change

Why		Who	How	What		
Science-based assumption	Science-based assumption	Science-based assumption	Intervention	Short-term outcomes	Medium-term outcomes	Long-term outcomes
Lack of self-regulation and resilience can increase the risk of antisocial and violent behaviours in times of conflict, as well as sexual aggressive behaviour.	A greater understanding of acceptable and safe behaviours, and improved communication skills can increase the ability to develop and sustain relationships into adulthood.	All children and young people, who may be at risk of poor relational outcomes and antisocial behaviour.	Children and young people are taught self-regulation skills, such as grounding, centring, effective breathing, verbal and non-verbal communication, self-reflection, and empathy.	<ul style="list-style-type: none"> • Improved understanding of acceptable and safe behaviours • Improved self-regulation. 	<ul style="list-style-type: none"> • Improved communication skills • Improved self-reflection and empathy. 	<ul style="list-style-type: none"> • Improved ability to develop and sustain relationships into adulthood • Reduced risk of violent or aggressive behaviour • Reduced risk of aggressive sexual behaviour.



Implementation requirements

Who is eligible?	Children aged 7 to 17.
How is it delivered?	Rock and Water is delivered in 6 to 10 sessions of 1 to 1.5 hours' duration each by one practitioner, to groups of children and young people.
What happens during the intervention?	<ul style="list-style-type: none"> • During the sessions, a series of physical exercises, games and role-plays are facilitated which evoke physical and psychological responses in the participants. • These experiences are immediately reflected upon individually, in pairs and in group discussions. • Video scenarios help further discussions and homework assignments are given to further reflect and transfer the learning to real-life situations. • Specific topics covered include: mental strength, body language, empathic feeling, setting boundaries, bullying, breath strength, life goals, dealing with a threatening group, body awareness, intuition and listening, sexuality and sexual violence, and emotional control.
Who can deliver it?	The practitioner who delivers this intervention is a trained teacher, youth worker, or social worker.
What are the training requirements?	The practitioners have 24 hours of intervention training. Booster training of practitioners is not required.
How are practitioners supervised?	Supervision is not required.
What are the systems for maintaining fidelity?	<p>Intervention fidelity is maintained through the following processes:</p> <ul style="list-style-type: none"> • Training manual • Other printed material • Other online material • Video or DVD training • Practitioner forum for sharing best practice.
Is there a licensing requirement?	No



Implementation requirements (Cont.)

*Contact details	<p>Contact person: Scott Neely</p> <p>Organisation: Rock and Water</p> <p>Email address: Scott@rockandwater.org.uk</p> <p>Websites: https://www.rockandwater.org.uk/</p> <p>*Please note that this information may not be up to date. In this case, please visit the listed intervention website for up to date contact details.</p>
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Evidence summary

Rock and Water's most rigorous evidence comes from one randomised controlled trial and one quasi-experimental design study both conducted in the Netherlands, consistent with Foundations' Level 2+ evidence strength threshold.

These studies identified statistically significant improvements in self-efficacy, self-esteem, self-regulation, and reductions in depressive feelings, physical victimisation, bullying, and sexually aggressive coercive strategies.

Rock and Water has preliminary evidence of improving a child outcome, but we cannot be confident that the intervention caused the improvement.

Search and review

	Number of studies
Identified in search	2
Studies reviewed	2
Meeting the L2 threshold	2
Meeting the L3 threshold	0
Contributing to the L4 threshold	0



	Number of studies
Ineligible	0

Individual study summary: Study 1

Study 1	
Study design	Cluster RCT
Country	Netherlands
Sample characteristics	1,203 children aged 7 to 14 years across 17 schools
Race, ethnicities, and nationalities	Not reported
Population risk factors	<ul style="list-style-type: none"> • Participants had an increased risk of bullying involvement; participants included some with experience of victimisation or relational aggression • 33% of the sample had parents who had divorced.
Timing	<ul style="list-style-type: none"> • Baseline • Post-intervention.
Child outcomes	<ul style="list-style-type: none"> • Increased self-esteem (Child report) • Decreased depressive feelings (Child report) • Reduced other forms of bullying (i.e. forms of bullying that do not fit into verbal, physical, cyber & property bullying categories) (Child report) • Decreased physical victimisation (Child report).
Other outcomes	None
Study Rating	2+
Citation	Reitz, E., Mertens, E., van Londen, M. & Deković, M. (2019) Changes in social safety, feelings of competence, and depressive feelings of primary school children who have participated in the intervention program Rock and Water: A comparison study. <i>Tijdschrift Klinische Psychologie</i> . 49 (1), 38–57.



Brief summary

Population characteristics

This study was conducted in the Netherlands with a sample of 1,203 pupils across 17 schools. The pupils ranged from 7 to 14 years old with a median age of 10.08 years. 48.6% of the sample were girls.

33% of the children in the sample had parents who had divorced. 7% were described as having been born in a 'non-western' region.

Study design

The study used a cluster randomised controlled trial (RCT) design involving 1,203 children aged 7 to 14 years from 17 schools in the Netherlands. Schools were randomly assigned to either the intervention or control group by an independent notary, with a two-thirds probability of assignment to the intervention group. Eleven schools were assigned to the Rock and Water group, and six schools to the control group.

Baseline differences included a higher proportion of children with a 'birth region non-Western' in the control group. These differences, along with gender, were statistically controlled for in the analyses.

Schools in the control group were offered a 50% discount on training teachers as well as free student exercise books, and Rock and Water keyrings and certificates, after the study ended.

Measurement

Assessment took place at baseline and post-intervention.

- **Child report** measures included the Bullying and Victimization questionnaire, using the Global Self-Esteem Scale of the Self-Perception Profile for Children, the Social Acceptance Scale of Harter's Self Perception Profile for Children, the Major Depression Disorder Scale.

Study retention

At baseline, data was collected from 1,168 participants, with 680 in the intervention group and 488 in the control group. At post-intervention, data were collected from 1,203 participants, representing 104% (708) of the intervention group and 101% (495) of the control group. Randomisation occurred at the school level rather than the individual level, which allowed for increases in participant composition over time. The increase in sample size at post-intervention was due to 28 intervention group participants and 7 control group participants who were absent at baseline but participated at post-intervention. Meanwhile, 16 participants in the intervention group and 20 in the control group were lost to follow-up.



Results

Data-analytic strategy

Repeated measure ANCOVA was used to assess the intervention's effects on the outcomes, with time as a within-subjects variables and condition as a between-subjects variable, controlling for ethnicity and gender. An intent-to-treat approach was used. Multiple imputation was used for missing data due to missing completely at random not being met.

Findings

Youth in the intervention group showed statistically significant improvements in self-esteem and reductions in victimisation (physical), depressive feelings and 'bullying otherwise' (i.e. forms of bullying that do not fit into verbal, physical, cyber & property bullying categories) at post-intervention, compared to the control group.

Limitations

The conclusions which can be drawn from this study are limited by methodological issues pertaining to the treatment and comparison groups not being generated by sufficiently robust methods and evidence of the groups being inequivalent at baseline.

Study 1: Outcomes table

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Child outcomes					
Bullying (verbal)	Bullying and Victimization questionnaire (child report)	d = 0.02	No	1,203	Post-intervention
Bullying (Physical)	Bullying and Victimization questionnaire (child report)	d = 0.04	No	1,203	Post-intervention
Bullying (Relational)	Bullying and Victimization questionnaire (child report)	d = 0.06	No	1,203	Post-intervention



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Bullying (Damage to property)	Bullying and Victimization questionnaire (child report)	$d = 0.01$	No	1,203	Post-intervention
Bullying (Cyber)	Bullying and Victimization questionnaire (child report)	$d = 0.02$	No	1,203	Post-intervention
Bullying (Other)	Bullying and Victimization questionnaire (child report)	$d = 0.13$	Yes	1,203	Post-intervention
Victimisation (Verbal)	Bullying and Victimization questionnaire (child report)	$d = 0.09$	No	1,203	Post-intervention
Victimisation (Physical)	Bullying and Victimization questionnaire (child report)	$d = 0.14$	Yes	1,203	Post-intervention
Victimisation (Relational)	Bullying and Victimization questionnaire (child report)	$d = 0.10$	No	1,203	Post-intervention
Victimisation (Damage to property)	Bullying and Victimization questionnaire (child report)	$d = 0.08$	No	1,203	Post-intervention



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Victimisation (Cyber)	Bullying and Victimization questionnaire (child report)	$d = 0.02$	No	1,203	Post-intervention
Victimisation (Other)	Bullying and Victimization questionnaire (child report)	$d = 0.04$	No	1,203	Post-intervention
Self-regulation	Difficulties in Emotion Regulation Scale (child report)	$d = 0.20$	Yes	1,203	Post-intervention
Global self-esteem	Global self-esteem scale of the Self-Perception Profile for Children (child report)	$d = 0.14$	Yes	1,203	Post-intervention
Social acceptance	Social Acceptance Scale of Harter's Self-Perception Profile for Children (child report)	$d = 0.06$	No	1,203	Post-intervention
Depressive feelings	Major Depression Disorder Scale (child report)	$d = 0.13$	Yes	1,203	Post-intervention



Individual study summary: Study 2

Study 2	
Study design	QED
Country	Netherlands
Sample characteristics	521 boys aged 14 to 17
Race, ethnicities, and nationalities	<ul style="list-style-type: none"> • 64% Dutch • 11% Moroccan or Turkish • 6.2% Surinam or Antillean • 8.5% Other Western nationality • 11% Other non-Western nationality.
Population risk factors	<ul style="list-style-type: none"> • Over 40% of participants reported prior use of coercive sexual behaviours • Half of participants reported perpetrating non-physical sexual aggression.
Timing	<ul style="list-style-type: none"> • Baseline • Post-intervention • 4 to 5 months follow-up.
Child outcomes	<ul style="list-style-type: none"> • Reduced sexual aggression (use of coercive strategies) (Child report) • Improved self-efficacy (Child report) • Improved self-regulation (Child report).
Other outcomes	None
Study Rating	2
Citation	de Graaf, I., de Haas, S., Zaagsma, M. & Wijsen, C. (2015) Effects of Rock and Water: An intervention to prevent sexual aggression. <i>Journal of Sexual Aggression</i> . 22 (1), 1–16.



Brief summary

Population characteristics

This study involved 521 boys across 42 classes in 9 schools in the Netherlands. The boys had a mean age of 15 years.

In terms of race, ethnicity and nationality, 64% were Dutch, 11% Moroccan or Turkish, 6.2% Surinam or Antillean, 8.5% Other Western nationality, and 11% Other non-Western nationality.

Over 40% of participants reported prior coercive sexual behaviors, and half experienced non-physical sexual aggression.

Study design

The study used a pragmatic quasi-experimental design with a matched cluster approach to evaluate the intervention's effectiveness. Nine schools were assigned to either the intervention or comparison condition, with the control group continuing regular physical education classes. Six of the schools were randomly assigned in matched clusters, and three were matched without randomisation. The matching variables were education level, ethnicity, school size, and urbanisation.

Four schools were assigned to Rock and Water, four schools to the comparison group, and one school had both Rock and Water and comparison classes. A total of 260 pupils received the intervention, while 261 were assigned to the control group.

Significant differences were found in education level, religiosity, and experience of sexual intercourse, but only education level was controlled for in the regression due to its large effect size.

Measurement

Assessment took place at baseline, post-intervention, and 4–5-month follow-up:

At baseline and follow-up

- **Child report** measures included the Sexual Experience Survey.

At baseline, post-intervention and follow-up

- **Child report** measures included the (sexual) interaction competence scale, the scale 'attitude towards sexual pressure used by men', the self-regulation scale, the General Self-Efficacy Scale, and the Rosenberg Self-Esteem Scale.

Study retention

Post-intervention

99% (518) young people participated in post-intervention assessment, representing 98.5% (256) of intervention participants and 100.4% (262) of control participants. There were more participants in the control group than at baseline, because some pupils were absent at baseline.



4–5-month follow-up

89% (464) young people participated in follow-up assessment, representing 89.6% (233) of intervention participants and 88.5% (231) of control participants.

Results

Data-analytic strategy

Logistic and linear regression analyses were used to assess the intervention's effects on the outcomes. Missing data was handled using predictive mean matching, with imputation applied to post-test and follow-up missing values. An alpha level of 0.01 was used due to multiple comparison.

Findings

Youth in the intervention group showed statistically significant improvements in self-regulation and self-efficacy, as well as reductions in coercive strategies, all at 4–5-month follow-up only.

Limitations

The conclusions which can be drawn from this study are limited by methodological issues pertaining to clustering not being taken into account in analyses.

Study 2: Outcomes table

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Child outcomes					
Sexual aggression (use of verbal manipulation)	Sexual Experience Survey, adapted version (child report)	OR = .49	Yes	455	4–5-month follow-up
Sexual aggression (situation-bounded abuse)	Sexual Experience Survey, adapted version (child report)	Not reported	Yes	455	4–5-month follow-up



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Sexual aggression (sexual coercion)	Sexual Experience Survey, adapted version (child report)	Not reported	No	455	4–5-month follow-up
Nonphysical sexual aggression (direct)	Sexual Experience Survey, adapted version (child report)	Not reported	No	455	4–5-month follow-up
Nonphysical sexual aggression (media-related)	Sexual Experience Survey, adapted version (child report)	Not reported	No	455	4–5-month follow-up
Boys' control over their sexual experiences	Sexual Interaction Competence Scale		No	517	Post-intervention
Boys' control over their sexual experiences	Sexual Interaction Competence Scale		No	455	4–5-month follow-up
Boys' assertiveness over their sexual experiences	Sexual Interaction Competence Scale		No	517	Post-intervention
Boys' assertiveness over their sexual experiences	Sexual Interaction Competence Scale		No	455	4–5-month follow-up



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Self-regulation	Self-regulation scale		No	517	Post-intervention
Self-regulation	Self-regulation scale	$\beta = .25$	Yes	455	4–5-month follow-up
Attitudes towards dating violence	Items from the 'Attitude towards sexual pressure used by men' subscale		No	517	Post-intervention
Attitudes towards dating violence	Items from the 'Attitude towards sexual pressure used by men' subscale		No	455	4–5-month follow-up
Self-efficacy	General Self-Efficacy Scale		No	517	Post-intervention
Self-efficacy	General Self-Efficacy Scale	$\beta = 2.76$	Yes*	455	4–5-month follow-up
Self-esteem	Rosenberg Self-Esteem Scale		No	517	Post-intervention
Self-esteem	Rosenberg Self-Esteem Scale		No	455	4–5-month follow-up
* While self-efficacy scores in the Rock and Water group were stable, they decreased in the comparison group.					

Other studies

No other studies were identified for this intervention.



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Note on provider involvement: This provider has agreed to Foundations' terms of reference (or the Early Intervention Foundation's terms of reference), and the assessment has been conducted and published with the full cooperation of the intervention provider.