

RESEARCH ARTICLE

A Social Gradient in the Effects of the Skills for Life Program on Self-Efficacy and Mental Wellbeing of Adolescent Students

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ABSTRACT

BACKGROUND: The goal of the current study was to evaluate the effects of the Social Emotional Learning program Skills 4 Life on mental health and its risk factors self-esteem, self-efficacy, and social interaction skills in students of secondary schools.

METHODS: A cluster randomized controlled study was conducted, including 38 schools (66 classes; grades 7 to 9) for secondary education, with a 1 year and 20 months follow-up (teachers and students reports).

RESULTS: The intervention was effective in improving self-efficacy, depressive symptoms, and teacher-reported psychological problem behavior, all after 20 months. Stratified analyses showed effects in mainly lower educational level students.

CONCLUSION: The Skills 4 Life curriculum is effective in improving the mental health and self-efficacy among adolescents, especially for adolescents from lower educational level, a group that is most prone to ill mental health.

Keywords: adolescent; mental health; prevention; school program; effect evaluation.

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The social and emotional development of adolescents affects their health and wellbeing at young age but also in later life. Beneficial social networks and support of good quality, positive self-esteem, high self-efficacy, pro-social behavior, and favorable social skills have a positive influence on adolescents' mental health.¹⁻³ Unfortunately, a considerable part of young people experience mental health problems. The prevalence of mental disorders in adolescents ranges from 8% to 57% around the world.⁴ The average

age for the onset of depression is 15 years. Adolescent depression is associated with negative long-term functional and psychiatric outcomes, such as problems in school, work, interpersonal relations, and substance abuse. Moreover, early depression frequently is persistent and recurring.⁵ The prevalence of externalizing problem behavior among adolescents, such as aggression, violence, and drug use, is about 20% in the Netherlands, and more common in adolescents with a low socioeconomic position (32%).⁶ Psychological

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problem behavior in adolescence is also related to several problems in adulthood.^{7,8}

Social and Emotional Learning programs are developed worldwide to stimulate social and emotional development of children and adolescents. Research shows that such programs can be effective in enhancing general psychological wellbeing, self-esteem, emotional skills and academic achievement, and in preventing depression and problem behavior.⁹⁻¹¹ However, most of this research is based on a wide range of studies on short-term effects, with only a few studies on long-term effects.¹² A meta-analysis showed that long-term effects of school-based universal social-emotional interventions are disappointing, especially on mental health.¹³ Therefore, there is an urgent need for social-emotional interventions that have a long-term effect on mental health among adolescents. Additionally, insight is needed in the effects in adolescents from low socioeconomic backgrounds, because they are more likely to develop mental health problems. Research has shown that risk factors for mental health problems, such as decreased self-esteem and less social skills, can be found more often in adolescents from low socioeconomic backgrounds than their peers from higher socioeconomic groups.^{6,14-16}

The Dutch Skills 4 Life (S4L) school curriculum targets the improvement of self-esteem, self-efficacy, social awareness, social skills, and mental health of secondary school students.¹⁷ The target group consists of students in grades 7-9 of Dutch secondary education, 13-16 years of age. S4L is presented to students from a broad range of educational levels, from lower vocational to university preparatory education. In a small-scale evaluation study, S4L showed promising short-term effects on perceived self-efficacy, self-esteem, relationships with classmates, and experienced stress in social situations.¹⁸

The aim of the current study is to gain insight into the long-term effectiveness of the Skills 4 Life curriculum on the social emotional development, psychological problem behavior, and depressive symptoms of secondary school students, with an emphasis on students from lower educational levels. The following research questions are addressed: What is the effect of the S4L curriculum on psychological behavioral problems, depressive feelings, social skills, self-esteem, and self-efficacy of secondary-school students? What effects can be found in subgroups of students following lower or higher education, representing divergent socioeconomic groups? We hypothesize that students exposed to the S4L curriculum experience better self-esteem, self-efficacy, and social interaction, as well as fewer depressive symptoms and less psychological behavioral problems. Previous studies have shown that interventions are more likely to be effective among higher educational levels, compared to lower

educational levels.¹⁹ Therefore, we will specifically look at the effects of the intervention in this subgroup.

METHODS

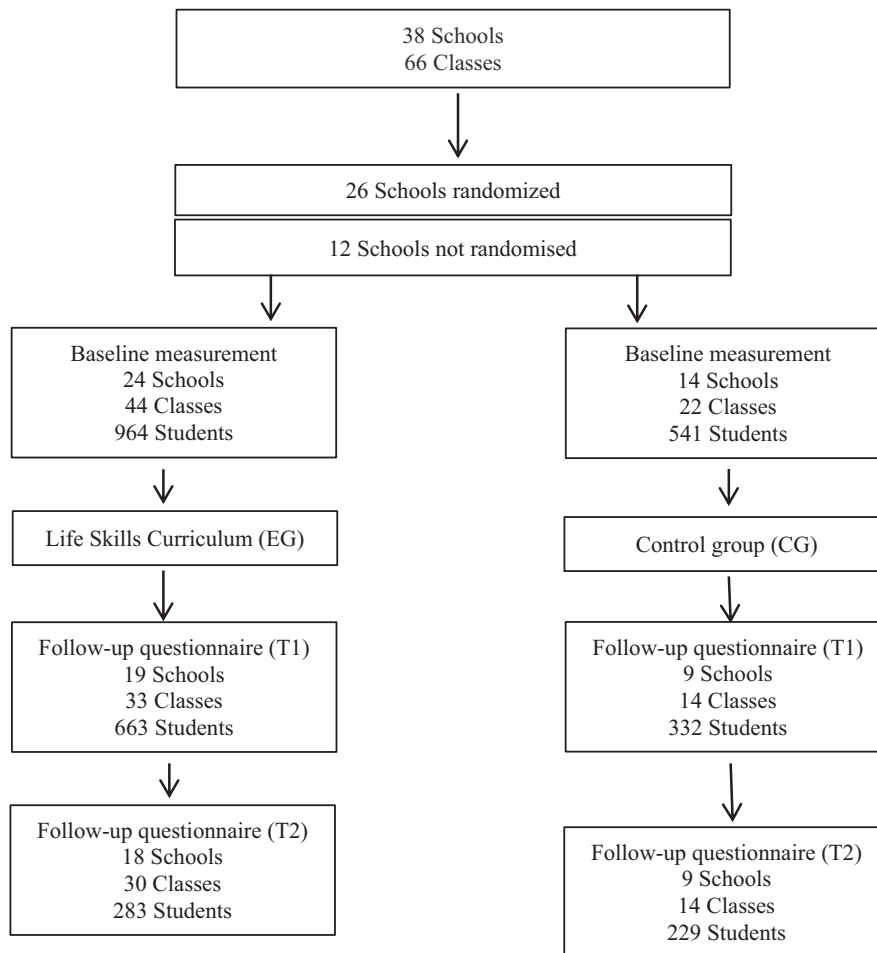
Participants

Overall, 38 schools agreed to participate in the study and were eligible for randomization (Figure 1). However, the randomization procedure was not completed successfully. Although schools were initially recruited under the condition that they were prepared to participate either in the experimental or control condition, 11 schools had a strong preference to receive the S4L curriculum, and 2 schools wanted to participate only in the control condition. In total we were able to randomize 26 schools. For statistical power reasons, we decided to include the schools that were not randomized. In total, there were 24 schools with 44 classes in the experimental group, and 14 schools with 22 classes in the control group. At 20 months follow-up (T2) 18 schools with 30 classes were left in the experimental group and 9 schools with 14 classes in the control group. Reasons for drop out were changes in the schools and teachers, and not being able to meet the study requirements and data collection just before the summer holidays, making it difficult to retrieve the data. Dropout was more likely among boys ($\chi^2(1) = 25.34$, $p < .01$), students in the control condition ($\chi^2(1) = 91.53$, $p < .01$) and those not living in a large city ($< 100,000$ inhabitants; $\chi^2(1) = 15.55$, $p < .01$). There was no difference in dropout between the students from randomized and nonrandomized schools. However, nonrandomized schools had more lower educational classes ($\chi^2(1) = 31.76$, $p < .01$), were more often from an urban environment ($\chi^2(1) = 27.35$, $p < .01$) and included more grade 7 classes ($\chi^2(1) = 9.19$, $p < .01$) than the randomized schools. Therefore, the analyses were controlled for these characteristics.

Intervention

Skills for Life as an approach to promote social and mental health and prevent emotional and behavioral problems in youth was first mentioned in a co-publication of the World Health Organization (WHO) and the International Association for Suicide Prevention in 1989.²⁰ In 1992, the Netherlands Scientific Council for Government Policy published a study in which the development of universal school programs for Skills for Life education were called for.²¹ Four years later that call was taken up by the City Council of Rotterdam, where a special unit was set up to develop and evaluate such a program for secondary education schools. On the basis of international scientific literature on social skills programs and with the participation of panels of youngsters, parents, and teachers

Figure 1. Participant Flow-Chart in the Skills 4 Life Curriculum Evaluation Study



a lesson program was conceived, piloted, amended, and evaluated during the period 1997 to 2004.²² The program is essentially a cognitive-behavioral intervention, derived from Rational-Emotive Therapy (RET) and Social Learning Theory^{23,24} consisting of 26 parts or modules. It is structured according to the approach advocated by Botvin et al.^{25,26} So, first general skills are taught; then theme or problem-specific skills, such as on prosocial behavior and friendships, cooperation, conflict resolution, substance (ab)use, aggression, bullying, sexuality, and suicidality are taught. The program is delivered by teachers, who receive a 3-day training and follow-up with booster sessions.¹⁷

Students in the experimental group received the S4L curriculum from their teachers. Teachers in the experimental group were trained during a 3-day training course at the beginning of the first study year. Furthermore, the teachers used an instruction manual and the students received a workbook.

Research shows the application of RET-principles in educational interventions increases cognitive

self-control, rationality and leads to decreased maladaptive and increased adaptive emotions and behavior in problem situations.² Students learned from each other in the setting of the school class through the social modeling and vicarious learning techniques from Bandura's Social Learning Theory. The S4L curriculum consisted of 17 weekly classes of an hour in the first year. The first 4 lessons of the S4L curriculum were to familiarize students with its underlying principles. These involved raising students' awareness of their own thoughts, feelings, and behavior, and also of the options for alternative lines of thoughts, and correcting faulty, irrational reasoning. The lessons also addressed general skills such as interpersonal problem solving skills, emotion regulation skills, and critical thinking. The remainder of the lessons focused on abilities for specific problem situations, such as giving and seeking help, dealing with bullying, and setting and respecting boundaries, applied to 6 themes: substance abuse, gambling, conflicts, gossip, bullying, and sexuality. Each session ended with a "behavioral commitment for the week."

During the second year, 9 lessons were conducted and the teachers were trained again for those lessons. These lessons addressed 3 themes: “dealing with emotional problems and suicidal tendencies,” “dealing with aggression,” and “presenting yourself.” In all cases, a combination of methods was used, including information transfer, instruction, discussion, modeling, behavioral rehearsal, feedback, role-plays, video-presentations, social reinforcement, and extended practice.

Instrumentation

Students from grades 7 to 9 (age 13-16 years) participated by filling out paper and pencil questionnaires at baseline (T0), 1-year follow-up (T1), and 20 months follow-up (T2). This was supervised by the school teacher who gave the S4L lessons. The teachers also filled out questionnaires on each of the participating students at the 3 time-points. The student questionnaire was pre-tested among students of lower educational levels, to assess the feasibility of administering the elaborate questionnaires.

Student self-report. *Self-esteem* was measured with the Dutch version of the Rosenberg Self-Esteem Scale (RSE; 30 items).^{27,28} A higher score indicates a higher self-esteem. Cronbach’s α was 0.85 at baseline. Students completed the frequency questions of the Scale for Interpersonal Behavior for Adolescents (SIG-A)²⁹ to give an indication of the frequency of their interpersonal or *social interaction*. A higher score indicates more frequent favorable social interaction. Reliability of this scale was 0.93 at baseline. *Self-efficacy* was measured with the 10-items Generalized Self-Efficacy Scale (GSES)³⁰⁻³² at T0, T1, and T2. A higher score indicates a stronger belief in self-efficacy. Reliability of this scale was 0.87 at baseline.

Students completed the self-report version of the Strengths and Difficulties Questionnaire (SDQ, 25 items)³³ to assess their *psychological problem behavior*. Reliability of this scale was 0.75 at baseline. To measure *depressive symptoms*, students filled out the Beck Depression Inventory (BDI, 22 items).³⁴ Advantages of this scale are its high internal consistency, high content validity, validity in differentiating between depressed and nondepressed subjects, and sensitivity to change.³⁵ A higher score indicates higher level of depressive symptoms. Cronbach’s α was 0.89 for baseline depressive symptoms. Students filled out questions on the demographic characteristics sex, age, and area code.

Teacher reports. Psychological problem behavior of each participating student was assessed at baseline (T0), 1-year follow-up (T1), and 20 months follow-up (T2). Teachers completed the 25-item Dutch teachers’ version of the SDQ³⁴ on each of the participating students in order to evaluate the teachers’ assessment

of psychological problem behavior of the individual students. The teacher’s version of the SDQ is a brief behavioral screening questionnaire that can be completed in 5 minutes.

Procedure

A clustered randomized controlled trial using an intervention group and a control group with a follow-up of 20 months, was conducted to study the effects of the S4L curriculum. Data were collected during 2 consecutive school years. In both the intervention and in the control group 3 measurements took place; a baseline measurement at the start of the first year (T0), a (short-term) follow-up measurement at the end of the first year (T1), and a (long-term) follow-up measurement at the end of the second year (T2). The intervention group gave the S4L lessons to their students, while the control group carried out their usual curriculum and had the opportunity to provide their students with S4L lessons after conclusion of the study. Schools were assigned to either the experimental or the control condition. Every school could participate with one or more classes.

Data Analysis

Descriptive analyses were performed to describe and test baseline characteristics of the study groups using *t* tests and chi-square tests. In these analyses, it appeared that depressive symptoms had a skewed distribution. Therefore, a log transformation of the depressive symptoms score was used for the analyses.

Multilevel regression analyses were conducted to obtain effects of the intervention at the end of the first (T1) and second year (T2) of the study. Two levels were included in the analyses: classroom and individual level. As such, outcomes were measured at the individual level, and corrected for influences from a higher level when necessary. Study group (intervention vs control) and moment of measurement were included as the main predictors. Subgroup analyses were conducted to study the effects of lower and higher educational levels separately. *p*-Values were derived from a 2-tailed *t*-distribution. Significance levels employed for an effect were $p < .05$. Notably, the analyses were controlled for factors that were related to differences in drop-out and randomization. The statistical package R³⁶ was used for the analyses.

RESULTS

Characteristics of Participants

Baseline data were collected from 1505 students. At the first follow-up, data of 995 students were available;

Table 1. Characteristics of Participants

	Control Group N = 541		Experimental Group N = 964		p
	N	M (SD)	N	M (SD)	
Age in years	495	14.5 (0.97)	947	14.1 (0.87)	.001
	N	%	N	%	
Sex					
Male	283	53	508	53	ns
Female	256	47	452	47	
Educational level					
Lower education	380	71	529	55	.001
Higher education	156	29	432	45	
Urbanization grade					
< 100,000 inhabitants	350	65	610	63	ns
> 100,000 inhabitants	191	35	354	37	
	N	M (SD)	N	M (SD)	
Self-efficacy (GSES)	443	2.94 (0.56)	867	2.92 (0.55)	ns
Self-esteem (RSE)	442	7.18 (1.96)	870	7.29 (1.85)	ns
Interpersonal behavior (SIG-A)	353	104.19 (20.50)	758	103.13 (21.11)	ns
Psychological problem behavior (SDQ-teacher)	379	8.74 (6.46)	686	8.72 (6.66)	ns
Psychological problem behavior (SDQ-student)	478	10.68 (5.29)	910	10.26 (5.17)	ns
Depressive symptoms (BDI)*	400	1.61 (1.03)	805	1.56 (1.01)	ns

*As the distribution of depressive symptoms was skewed, the natural logarithm of the BDI-depression score (+1) has been analyzed.

and at the second follow-up, data of 512 students (Figure 1).

The mean age of the participants was 14.2 years, and 53% were male students (Table 1). The majority of the participants (64%) lived in rural or small urban areas (<100,000 inhabitants). The study groups comprised schools of different educational levels, from grades 7 to 9. The schools teaching to a lower educational level combined vocational training with theoretical education. Those teaching to a higher educational level, provided access to polytechnic and scientific training.

There were 2 statistically significant differences between the intervention and control group at baseline. First, the experimental group was somewhat younger than the control group (14.1 vs 14.5 years). Second, in the intervention group there was a higher percentage of students in the medium or higher educational level (45% vs 29%).

Intervention Effects at 1 Year (T1) and 20 Months (T2) Follow-Up

Although we did not find statistically significant effects of the S4L curriculum on the outcome measures at the end of the first year (T1), multilevel regression analyses showed that among students in the S4L group, self-efficacy increased significantly at 20 months follow-up (T2), compared to students in the control condition (Table 2) (small effect size). Problem behavior of the student, as reported by the teacher, improved also significantly in the intervention

group compared to the control group at 20 months follow-up (small effect size). No statistically significant intervention effects were found for self-reported problem behavior (SDQ student). However, self-reported depressive symptoms decreased significantly more between baseline and 20 months follow-up in the intervention group compared to the control group (small effect size). Self-esteem and positive social interaction did not improve significantly more in S4L students than among control student between baseline and follow-up.

Educational Level Differences

Stratified analyses showed effects on self-efficacy, problem behavior, and depressive symptoms in the lower educational group (Table 3). Self-efficacy improved significantly over time, at T1 and T2, among the intervention students (compared to control group students) in the lower educational group, but not in the higher educational groups. Teacher reported problem behavior and depressive symptoms decreased significantly between baseline and 20 months follow-up among the lower educational intervention students in the experimental group compared to those in the control group, but not among the higher educational intervention students, compared with the corresponding control group. The corresponding effect sizes found were small to medium. For self-reported problem behavior and positive social interaction, no intervention effects over time were found for the low, nor for the higher educational groups.

Table 2. Intervention Effects at 1 Year (T1) and 20 Months (T2) Follow-up

	Condition	T0*	T1	T2	T1 vs T0			T1 vs T0		
		M†	M	M	B‡	p	ES§	B	p	ES
Self-efficacy (GSES)	CG	2.96	2.85	2.91	+0.10	ns	+0.21	+0.14	.03	+0.18
	EG	2.91	2.90	3.00						
Self-esteem (RSE)	CG	7.24	7.31	7.23	-0.02	ns	-0.02	+0.27	ns	+0.16
	EG	7.20	7.26	7.46						
Social interaction (Interpersonal Behavior scale Adolescents, SIG-A)	CG	103.38	105.02	105.95	+1.02	ns	+0.07	+1.67	ns	+0.08
	EG	102.58	105.23	106.81						
Psychological problem behavior (SDQ-teacher)	CG	8.91	7.94	8.98	+0.03	ns	+0.01	-2.08	.001	-0.35
	EG	8.50	7.56	6.49						
Psychological problem behavior (SDQ-student)	CG	10.44	10.46	9.80	+0.07	ns	+0.02	-0.15	ns	0.03
	EG	10.49	10.57	9.99						
Depressive symptoms (BDI)¶	CG	1.61	1.35	1.60	+0.09	ns	+0.05	-0.25	.02	-0.26
	EG	1.60	1.42	1.34						

CG, control group; EG, experimental group.

*Number of respondents at T0, T1 and T2 varies.

†Multivariate corrected means from the multilevel model. Age, sex, educational level and urbanization grade were included as covariates.

‡The unstandardized multivariate intervention effect: the difference in effect between the experimental and control group over time.

§Standardized Effect Size (Hedges' g), based on the multivariate corrected results (0.20 = small; 0.50 = medium; 0.80 = large effect; Cohen, 1988).

¶As the distribution of depressive symptoms was skewed, the natural logarithm of the BDI-depression score (+1) has been analyzed.

Table 3. Education Level Differences at 1 Year (T1) and 20 Months (T2) Follow-up

	Educational Level	Condition	T0*	T1	T2	T1 vs T0			T1 vs T0		
			M†	M	M	B‡	p	ES§	B	p	ES
Self-efficacy (GSES) [range 1-4; higher scores indicate higher self-efficacy]	Lower	CG	2.92	2.76	2.82	+0.14	.04	+0.29	+0.17	.05	+0.20
		EG	2.89	2.87	2.95						
	Higher	CG	3.08	3.10	3.19	-0.02	ns	-0.04	+0.05	ns	+0.08
		EG	2.91	2.93	3.08						
Self-esteem (RSE) [range 0-10; higher scores indicate higher self-esteem]	Lower	CG	7.04	7.00	7.01	-0.00	ns	-0.00	+0.36	ns	+0.21
		EG	7.17	7.13	7.50						
	Higher	CG	7.84	8.15	7.95	-0.13	ns	-0.10	+0.07	ns	+0.04
		EG	7.20	7.37	7.38						
Interpersonal behavior (SIG-A) [range 34-170; higher scores indicate more favorable social interaction]	Lower	CG	100.25	102.13	100.96	-1.35	ns	-0.10	+2.86	ns	+0.12
		EG	101.93	102.46	105.51						
	Higher	CG	109.96	111.04	114.39	+4.52	ns	+0.36	+0.85	ns	+0.04
		EG	103.02	108.62	108.29						
Psychological problem behavior (SDQ-teacher) [range 0-38; higher scores indicate more psychological problem behavior]	Lower	CG	9.50	8.95	10.27	-0.08	ns	-0.01	-2.68	.001	-0.41
		EG	8.79	8.16	6.87						
	Higher	CG	7.62	5.87	6.74	+0.11	ns	+0.04	-1.32	ns	-0.16
		EG	7.90	6.27	5.71						
Psychological problem behavior (SDQ-student) [range 0-38; higher scores indicate more psychological problem behavior]	Lower	CG	10.77	10.86	10.29	+0.38	ns	+0.11	-0.03	ns	-0.01
		EG	10.53	11.00	10.02						
	Higher	CG	9.40	9.26	8.47	-0.36	ns	-0.11	+0.43	ns	+0.11
		EG	10.52	10.02	10.02						
Depressive symptoms (BDI)¶ [original range 0-63; log-transformed range 0-4.16; higher scores indicate more severe depression]	Lower	CG	1.61	1.38	1.67	-0.18	ns	-0.14	-0.45	.001	-0.41
		EG	1.64	1.22	1.25						
	Higher	CG	1.59	1.05	1.45	+0.58	ns	+0.09	+0.04	ns	+0.05
		EG	1.55	1.58	1.45						

CG, control group; EG, experimental group.

*Number of respondents at T0, T1, and T2 varies.

†Multivariate corrected means from the multilevel model. Age, sex, educational level, and urbanization grade were included as covariates.

‡The unstandardized multivariate intervention effect: the difference in effect between the experimental and control group over time.

§Standardized effect size (Hedges' g), based on the multivariate corrected results (0.20 = small; 0.50 = medium; 0.80 = large effect; Cohen, 1988).

¶As the distribution of depressive symptoms was skewed, the natural logarithm of the BDI-depression score (+1) has been analyzed.

DISCUSSION

The aim of this study was to evaluate the effectiveness of the social emotional learning program Skills 4 Life (S4L) on the mental health of secondary school students and its risk factors self-esteem, self-efficacy and social interaction. It appeared that the curriculum was effective in decreasing long-term depressive symptoms and teacher-reported psychological problem behavior, but not on students' self-reported problem behavior. The curriculum was also effective in significantly improving self-efficacy among students. No effects were found, however, on social interaction and self-esteem. In addition, stratified analyses showed effects on self-efficacy, depressive symptoms and teacher reported psychological problem behavior among the lower educational level groups. Effect sizes in general were small, except for the effect sizes for the improvement of mental health in the lower educational level groups. Medium effect sizes were found for both teacher reported rating of psychological problem behavior using the SDQ and students' self-reported depressive symptoms using the BDI.

In general, it can be concluded that the Skills 4 Life curriculum was fairly effective in improving long-term mental health and its risk factors self-efficacy. This is a promising result: whereas Social Emotional Learning programs have already proved themselves by the many studies on short-term effects, the results of this study add to the emerging literature on long-term effects of Social Emotional Learning Programs.¹²

The effects appeared to be stronger for students in lower educational levels. Children following lower educational levels more often come from a lower social economic background. Many studies have shown that a lower socioeconomic status is related to more health problems.^{6,14-16} These children have a less optimal starting position when it comes to behavior problems. Our results show that a life skills curriculum may be an effective way to reach these children in schools and to prevent the onset of behavior problems among them. This is in line with the scarce evidence showing differential effects of universal interventions in students of lower or higher levels of socioeconomic status.^{19,37} However, it may also indicate that higher educational level groups have less psychological and mental health problems and improvement therefore is hard to realize, as was also mentioned by Wilson et al.³⁸

Limitations

A strength of this study is its follow-up term of 20 months, allowing us to draw conclusions about the effectiveness of the intervention during a vulnerable period for adolescents' mental health. However, this long-term follow-up led to high dropout between measurements, especially for the

teacher-reported psychological problem behavior. Causes of dropout can be found at program, school, teacher, and student level. For example, because S4L ideally takes 2 school years, the composition of the participating classes changed during those years (as well as their teachers), making it difficult to execute follow-up measurements in all students. A strength of this study is its study design, including randomization of schools. However, a limitation of this study is that the randomization of schools was not fully achieved. Not all schools were willing to be randomized to either one of the study groups. Differences between the randomized and nonrandomized classes, ie, with regard to level of education, urbanization, and grade of the school classes, were controlled for in the analyses.

Conclusion

This study shows that the Dutch Skills 4 Life curriculum is effective in improving the mental health and self-efficacy among adolescents. The program proved to be especially effective in adolescents from lower educational level, a group that is most prone to ill mental health. It is recommended to provide this group with Social Emotional Learning programs as they seem to benefit most.

IMPLICATIONS FOR SCHOOL HEALTH

Because of the strong effects in the lower educational level group, it is recommended to provide schools with Social Emotional Learning programs for their student population who follow vocational training or theoretical training at low level. To attain impact in this target group, further intervention development and change of school policies have to be considered.

- It is advised to make further improvements to the program for the lower vocational level students. The assignments in the program book could be adapted in co-creation with these students, to assure maximum alignment with their needs and capacities. Schools could, eg, use Social Emotional Learning programs to prepare students in their vocational education tracks for work placement training. Dutch government granted funding to further develop the Skills 4 Life curriculum in this direction.
- From the process evaluation of Skills 4 Life it appeared that the students of higher educational school levels found the program easy and not very exciting. This may explain the lack of results in this subgroup. It is recommended to make Social Emotional Learning programs sufficiently challenging for both lower and higher educational school populations.

- School drop-out was relatively high in our study. This may be caused by the large volume of lessons that have to be made part of the curriculum for a school class. We advise to limit the total of lessons but repeat them in other school years.
- The lessons were delivered as an experiment and were not yet integrated in a more comprehensive school policy on behaviors of students and personnel. Schools should introduce Social Emotional Learning lessons in a whole school approach, that facilitates the implementation of the lessons in addition to other school policy measures, such as promotion of mental wellbeing of teachers and thematic activities in the school aimed at stress reduction. Such an approach, including also parents and involving all teachers in the lessons contributes to continued attention at a true support of the Skills 4 Life aims and ideas.
- A 3-day training was required for teachers that included general pedagogic and curriculum-specific pedagogic instructions and self-reflection assignments, given by a skilled and experienced training staff. The comprehensiveness of the required training may impede use of the curriculum by schools, however, we think such training is needed for school teachers to skillfully provide the curriculum in their school class themselves. Skills 4 Life is now experimenting with putting skilled professionals from outside the school in action, especially in school classes that are populated by students with severe behavior or cognitive problems.

Human Subjects Approval Statement

The study was approved by the internal review board of The Netherlands Organization for applied scientific research (TNO; project 011.75115/01.01) and submitted for approval to the Committee Medical Ethics of the Leiden University Medical Center. Medical ethical approval was not required under the Dutch act on Medical Research Involving Human Subjects.

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