

The impact of working with core qualities on primary school pupils' wellbeing

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Aim: *This study examines the effects of an intervention aimed at making the primary school pupils aware of their core qualities and promoting their use of these qualities.*

Method/Rationale: *This article reports on a quasi-experimental study among 1346 pupils from 17 primary schools, based on insights from positive psychology.*

Findings: *By using a questionnaire several effects on the pupils' well-being were found, both in the short-term (immediately after the intervention), and in the longer-term (three months after the intervention).*

Limitations: *The data collection is about subjective self-reports of pupils and not about objective observations. A further limitation of the study might be that the pupils could only work with one core quality for four weeks. It is also somewhat unnatural when pupils discover various core qualities in themselves and yet are only allowed to specifically use one core quality and describe examples of its use.*

Conclusions: *We can conclude that working with core qualities had a positive impact on the primary school pupil's wellbeing. The study yields interesting directions for further research. In particular, future research may study the effect of long-term interventions that involve several core qualities.*

Keywords: *wellbeing; character strengths; positive psychology; core qualities; happiness; core reflection*

IN RECENT YEARS, there has been a growing attention to and increasing knowledge of the socio-emotional development of pupils (Dowling, 2014; White & Murray, 2015). Research shows that social and emotional learning (SEL) programmes lead to improved social and emotional skills, attitudes, behaviour and academic performance (Durlak et al., 2011). The present article describes an intervention promoting one aspect of the socio-emotional development of pupils, namely their (subjective) wellbeing, i.e. their perception of their own wellbeing (Diener & Ryan, 2009). According to Huppert and Johnson (2010) we define subjective wellbeing as '...the combination of feeling good and functioning well. Feeling good includes positive emotions such as happiness, contentment, interest and affection. Functioning well includes a sense of autonomy or self-determination (i.e. the ability to make choices), competence and self-efficacy (i.e. capability in undertaking daily activities), resilience in the face of

challenge or adversity which involves the awareness and management of thoughts and feelings, and positive relationships, which encompasses empathy and kindness' (p.264).

One research tradition focusing on the promotion of wellbeing is positive psychology (Gable & Haidt, 2005). In positive psychology the assumption is that in order to foster growth and help people flourish we should not only focus on what is wrong with them, but also on what goes well (Seligman, 2002a, 2011). Within this tradition, remarkable effects on wellbeing of relatively short interventions have been demonstrated (Seligman et al., 2005).

Many interventions in the tradition of positive psychology attempt to increase wellbeing by making people aware of their character strengths, and by stimulating them to consciously use these character strengths (Seligman, 2002a; Seligman et al., 2005). Character strengths are those personality characteristics that have value from a moral viewpoint (Park et al., 2004), such as curi-

osity, optimism or social intelligence. These character strengths have a positive effect on people's behaviour. Relevant character strengths, such as optimism, help in coping with negative events (Luthans et al., 2007). Character strengths form the basis for optimal lifelong development (Park & Peterson, 2009) and are associated with desired outcomes such as school success, leadership, tolerance, appreciation of diversity, kindness, altruism, and the ability to postpone gratification (Park, 2004).

Research on adults has shown that the recognition and use of character strengths improves their wellbeing and diminishes depression (Fredrickson, 2001, 2013; Seligman, 2011; Seligman et al., 2005, 2009). Seligman et al. (2005), for example, developed an intervention in which people became aware of their most important character strength by filling out a questionnaire, and in which they subsequently were given the assignment to use one of those strengths three times a day during one week, in various settings. This relatively minor intervention turned out to have a positive effect on wellbeing and depression, an effect that was still present four months after the intervention. The idea behind this intervention is that working with character strengths generates positive emotions that increase wellbeing. These positive emotions also broaden the range of possible thoughts and actions in people, and hence increase their potential to think and act adequately (Frederickson, 2013).

Hardly any research has as yet been done on the effect of awareness and use of character strengths on the wellbeing of children at the primary school age. An exploratory study of Ruit and Korthagen (2013), building on the experiment of Seligman et al. (2005) as previously described, showed that pupils (aged 6–12) became aware of their character strengths by means of a short intervention and proved able to use these character strengths again and independently in various settings. The study showed that this led to positive emotions in the pupils. During this study pupils were asked to use one core quality during one week. The pupils in the first control group

were asked to write something down at the end of their school day that they remembered from their past. A second control group was only asked to fill in the questionnaire on wellbeing, just as the other groups did.

Based on these studies the hypothesis underlying the present study is that an intervention focusing on awareness and the use of character strengths increases the wellbeing of primary school pupils. Hence, we developed and applied an intervention once again building on the experiment of Seligman et al. (2005), and we studied the effect of this intervention on the wellbeing of primary school pupils. The following research question was central to our study: What is the effect of the intervention on the wellbeing of primary pupils aged 7–12?

The intervention

The intervention in this study is based on the core reflection approach (Korthagen et al., 2013). Within this approach, character strengths are named core qualities – a term we will use in the present article. With the core reflection approach, as used in primary, secondary and higher education, people learn to recognise their core qualities and use them consciously as a basis for personal growth. Attention is paid to thinking, as well as to feeling and wanting when using these core qualities (characteristic questions are for example: 'How does this core quality feel for you?', 'Where do you want to use it?'). The approach thus follows a holistic perspective (White & Murray, 2015) by giving balanced attention to cognitive, affective and motivational aspects in the pupil (Korthagen et al., 2013).

The activities in the intervention were chosen on the basis of the former studies by Seligman et al. (2005) and Ruit and Korthagen (2013). The intervention aims not only at making pupils aware of their core qualities, but also at stimulating their use of these core qualities. Also important is that when a teacher solely names a core quality ('you are creative') without making reference to a concrete situation in which the

core quality is being used, this can lead to emotionally negative consequences (Brummelman et al., 2014). Especially, according to Brummelman et al. (2014), when children have low self-esteem, they might become afraid that they will not be able to live up to the expectation. Another possible objection to simply naming the core quality is that pupils might develop a fixed mindset with respect to such a core quality (Dweck, 2006). This means they might think their core quality is a fixed characteristic that cannot be further developed. The combination of mentioning the use of core qualities with a reference to concrete actions shown by the pupils is necessary for pupils to see that they will be able to further develop their core qualities. If people believe that they can further develop their capacities, Dweck (2006) speaks of a growth mindset.

The intervention, which aims to make primary school pupils (aged 7-12) aware of and use self-selected core qualities, covered a period of four weeks. This is longer than in the experiment of Seligman et al. (2005). Based on the experience of our previous exploratory study (Ruit & Korthagen, 2013), we expected a four-week period to be long enough for the intervention to have an effect on the pupils and short enough to prevent a reduction of motivation. The choice of working with pupils starting in grade 3 (aged 7) is based on neurophysiological evidence. Pupils who are six years or older are capable of 'mentalising' (Frith & Frith, 2003). Deben-Mager (2005) defines mentalising, according to Fonagy (2002), as the ability to think about thinking itself, to think about ideas, wishes, fantasies, and about the mental states of others. Normally, developed children of that age have a completely explicit concept of mental states, and they are able to explain and predict the behaviour of others. Another reason for the choice to investigate pupils starting from grade 3 is that previous research by Ruit and Korthagen (2013) has shown that pupils in grade 2 (aged 6) have difficulty giving examples of the use of their core qualities.

Prior to our study, a pilot study was done in which seven teachers tested the questionnaires and the various intervention activities. This yielded information important to us in developing the final intervention activities and for the materials to be used. Below we mention several instances of how changes were incorporated into the intervention, based on the pilot study.

The materials used

In the intervention, the following materials were used. The materials were developed by us, based on the sources mentioned below:

- (i) A translation of the Children's Strengths Survey developed by Dahlsgaard (described by Seligman, 2002b) was used to help the pupils discover their most important core quality. An example of an item in this questionnaire is the statement: 'In the past month, I have helped the neighbours or my parents without first having been asked' (core quality kindness). The items were scored on a five-point Likert scale (1 = true for me all the time, 5 = never true for me). The list of questions contains 24 core qualities such as honesty, courage, creativity, kindness, teamwork and optimism. Previous research (Ruit & Korthagen, 2013) and the pilot study indicated that four of the core qualities (having perspective, discernment, leadership, and forgiving) are hardly ever or never chosen. Presumably, the pupils found the content of these core qualities too difficult to grasp and/or to apply – which would explain why they were hardly chosen. We have therefore not included these four core qualities in the list of questions used. As a result, we worked with 20 core qualities.
- (ii) *The core qualities dictionary for pupils* – In this document, the concept of core quality is clarified, and an explanation, with examples, is given for each core quality. These examples are derived from statements by pupils from a previous study conducted by Ruit and Korthagen (2013). The following is an example:

Creativity – You are clever and come up with practical and creative solutions for problems. You have good ideas. For example:

- When other kids found the game boring, I came up with something new so they found it interesting again.
 - When lying in bed at night, I think up games to play with my friends the next day.
- (iii) *A handbook for the teachers* – This document contains information about what to tell parents and pupils about the project. It also contains explanations and instructions with texts to be read aloud when administering the questionnaire.
- (iv) *A handbook for introducing the activities* – which describes how the various activities of the intervention are to be carried out.

The preparatory training

The school teams received (each in their own school) a two-day training, given by the first author, which prepared them for the implementation of the intervention activities. As part of this training, the materials and intervention activities were introduced and explained, and the teachers practised the activities with each other, which they then carried out with the pupils afterwards. The teachers first learned to discover their own core qualities and then to recognise them in others and name them. This seemed to require new behaviours from the teachers. They were used to approaching pupils positively and to giving them compliments, but actually naming core qualities – coupled to specific behaviour – required much practice.

The activities of the intervention

The pilot study helped us develop activities that did not absorb too much instruction time. Rather, the activities were designed to be implemented within the context of regular educational activities. The intervention contained the following activities:

- (i) *The pupil chooses a core quality* – At the beginning of the intervention period, each pupil chose a core quality with which to work during a four-week period. The previously mentioned ‘core quality list’ was used for this. The process of choosing one single core quality is described in an instructional text in the handbook, which the teacher reads aloud. Each core quality in the questionnaire can yield a maximum of ten points, depending on the item scores of the pupils. If a pupil had several core qualities with the highest score of ten points, he/she then chose one quality to be used in a new or different way during the four weeks. After each pupil had chosen one core quality, the teacher explained the meaning of each core quality in a discussion with the group; this was done using the core quality dictionary. The pilot study revealed that it was necessary to give pupils the opportunity during the first week of the project to choose another core quality if they had trouble coming up with examples of how they had used the core quality. Only 5 per cent of the pupils made use of this opportunity.
- (ii) *The teacher regularly confirms the chosen core quality in each pupil* – In giving feedback to the pupil, the teacher named (along with the positive behaviour) the core quality the pupil had chosen. In doing so, the teacher mentioned the quality, as shown in authentic situations. To spread attention evenly amongst the group, the teacher recorded – with check marks on a class list – the time and date on which he/she mentioned the core quality. In this way the teacher made sure that he/she mentioned each pupil’s core quality at least twice a week, which before had been proven achievable in practice.
- (iii) *Pupils mention each other’s core qualities* – The teachers organised and stimulated the pupils to mention the core qualities of others. In order to teach this to them, the teachers modelled giving feedback on the quality (see activity ii).

The teachers also used a group activity in which the pupils named the chosen core quality of others and explained how they had seen it demonstrated by the other pupil. This group activity was repeated two or three times during the first two weeks. In the third and fourth weeks, the pupils were encouraged to comment spontaneously on the core qualities of other pupils. The teachers encouraged the pupils and showed their appreciation when they observed pupils complimenting each other on demonstrations of their core qualities. As stated above, the conversations on core qualities paid attention to cognitive, affective and motivational aspects.

(iv) *Group inventory* – After the pupils had chosen their core quality, the core qualities of all the pupils were visually displayed in the classroom. Hence, the pupils knew which core quality each of them had chosen:

- The pupils wrote their core qualities on a coloured card, which they then placed on their table. The card remained displayed during the entire intervention period.
- The pupils wrote their core quality on a piece of paper along with their name. This sheet was then hung up in the classroom. In doing so, the pupils could make their core quality visible in the classroom in various ways.

(v) The pupils use their core quality independently and report on this in their logbooks. The pupils were asked:

- Use the core quality (that you've chosen based on the questionnaire) every day in a different and new way.
- Make a note in your logbook of when and where you used the core quality. Put a little sticker there or make a small drawing.
- At the end of the week, write a little story about how you used the core quality and what you are satisfied about.

When pupils tended to use the same example over and over again, they were encouraged to come with a new example that showed how they used their chosen core quality in a different way.

Method

Design

Quantitative data from 1346 pupils (experimental group: $n = 832$; control group: $n = 514$) from 60 classes in 17 primary schools in the Netherlands were collected, in a quasi-experimental research design (Cohen et al., 2011). The selected schools were part of the network of the educational institution where the first researcher is employed. The schools that were selected were distributed geographically across the country and had been approached with a request to participate in the study on a voluntary basis. The results from the researched group are shown in Table 1.

The research study was conducted in two conditions:

- *The experimental group* – Teachers did the intervention activities with the pupils.
- *The control group* – The pupils from the control group received a simple placebo assignment, phrased as follows: 'Over the course of four weeks, write down at the end of the school day something you remember from when you were younger.' This placebo assignment is similar to the one used by Seligman et al. (2005) in their experiments with adults.

The teachers explained to the pupils what the purpose of the study and the questionnaire was. To guarantee confidentiality – in the phases of data collection and analysis, as well as in the reporting – precise notes were taken about where and to whom what was reported. Parents could object to the fact that their child's questionnaires were made available for the investigation. In those cases these pupils did not have to complete the questionnaires – which was seldom the case. So, pupils whose parents had objected did participate in the activities, but did not fill out the questionnaire.

Table 1: Numbers of participants, study grade, gender, and age

	N total	N boys	N girls	N schools	N classes	Mean age	SD
Experimental group	832	413	419	9	38	9.6	1.25
Grade 3	179	99	80	8	8	8.0	.51
Grade 4	230	112	118	9	12	8.9	.44
Grade 5	190	90	100	9	9	10.0	.59
Grade 6	233	112	121	9	9	11.0	.53
Control group	514	247	267	8	22	9.9	1.27
Grade 3	127	63	64	4	5	7.9	.51
Grade 4	72	31	41	2	3	9.0	.46
Grade 5	123	58	65	5	6	10.0	.54
Grade 6	192	95	97	7	8	11.0	.43
Total	1346	660	686	17	60	9.7	1.27

Initially, also pupils from special education participated in the study. These pupils had a lot of trouble with completing their logbook and completing the questionnaires. That is why it was decided that the data from these pupils would not be included in the research.

Teachers were supported throughout the entire process by email. A researcher indicated precisely at which moment and in what way the activities, giving the questionnaire and performing the intervention activities, were to be performed. The teachers from the control group also received an instruction about when and in what way they had to give the questionnaire. At the end of the experiment, the control group had the opportunity to carry out the intervention activities.

Data collection

The questionnaire

We used the General Happiness Scale (Lyubomirsky & Lepper, 1999) to measure wellbeing. This questionnaire measured a general level of happiness: (a) how happy a child assesses him- or herself to be; (b)

how happy s/he is compared to other children; (c) how he/she enjoys life (satisfaction); and (d) the child’s emotions. This questionnaire was chosen based on its validity, confidentiality, and its broad distribution. It was developed and validated in 14 studies with a total of 2732 participants. The Subjective Happiness Scale has high internal consistency, a good to excellent reliability and measured the construct of subjective happiness (Lyubomirsky & Lepper, 1999). Since the word ‘wellbeing’ is too difficult for pupils, we used the word ‘happiness’ in our study. The originally English-language questionnaire was translated and adapted to the Dutch school situation and the age of the target group. Next, the questionnaire was tested for comprehensibility and usability by trying it out on 26 pupils. This led to minor adaptations.

The instrument consists of four statements. A seven-point scale is used to indicate the extent to which a statement agrees with one’s own situation. An example of an item is: ‘In general, I think I am: not a very happy

child (1) ... a happy child (7).' The reliability of this questionnaire was sufficient at t_0 ($\alpha = .73$). The questionnaire was administered three times: before the intervention (t_0); directly after the four-week intervention (t_1); and after approximately three months (t_2).

Teachers' logbooks

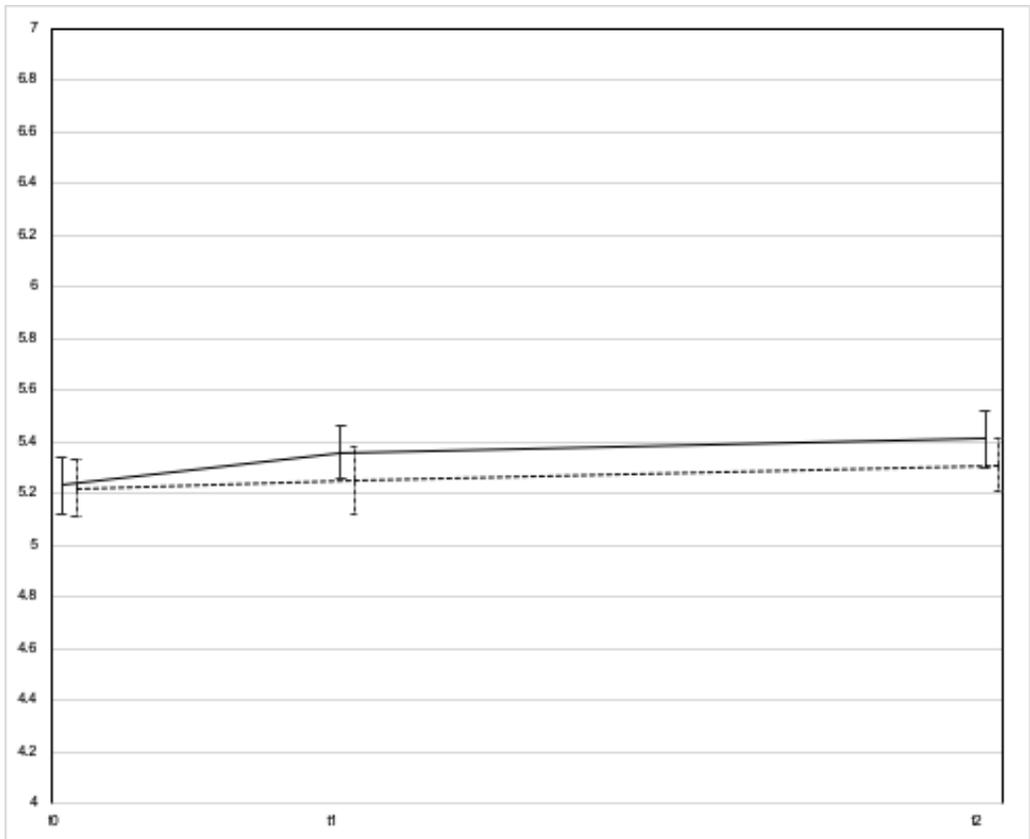
The teachers kept a logbook with when and how they had carried out the questionnaires and described the progress of the executed intervention activities. This clarified whether the teachers had adhered to the execution of the questionnaires and the execution of the intervention activities. The teachers received a logbook three times in a period of four weeks via email.

Data analysis

The questionnaire

The data from the questionnaire (General Happiness Scale) were entered into SPSS (version 20). Descriptive statistics were calculated, consisting of the means of wellbeing (by calculating the mean of the four questions per pupil) for t_0 , t_1 , and t_2 , with their reliability intervals. To measure the effect of the intervention, we started by creating 20 imputation sets, using the 'multiple imputations' procedure in SPSS. In Mplus 7, we estimated the growth model with the procedure 'COMPLEX', which implies that in determining the standard error of the parameters. We took the fact that pupils were embedded in classes into consideration. Along with the influence of

Figure 1: The growth of wellbeing



Solid line = experimental group. Dashed line = control group.
Short vertical lines = 95% confidence intervals (CI).

Table 2: Descriptive data of the scores on wellbeing at t0, t1 and t2

Experimental group (n = 832)							Control group (n = 514)					
					95% CI						95% CI	
Time	N	M	SD	SE	LL	UL	N	M	SD	SE	LL	UL
t0	752	5.23	1.14	.11	5.12	5.34	498	5.22	1.03	.11	5.11	5.34
t1	768	5.36	1.06	.10	5.26	5.47	483	5.25	.94	.13	5.12	5.38
t2	746	5.41	1.10	.11	5.30	5.53	442	5.31	.93	.10	5.21	5.41

SD = standard deviation; SE = standard error; CI = confidence interval; LL = lower limit; UL = upper limit; possible scores are between 1 (least happy) and 7 (most happy)

condition on intercept and growth of well-being, we also took into account as covariates the level of wellbeing at t0, age and gender.

We also studied the interaction effects of condition with age and gender. For this goal, we centred all predictors. By not fixing the regression line at t1, the form of the growth model was not determined in advance (straight or with a curve – see Figure 1). We had no presumptions regarding the uniformity of the growth; for example, whether it would be constant. Non-significant covariates and their interactions were removed one by one, based on their *p*-value.

Teachers’ logbooks

The teachers’ logbooks were analysed regarding:

- (i) have the teachers kept to the descriptions of the activities?
- (ii) have the teachers kept to the requirements in conducting the questionnaires?

Findings

Implementation of the intervention activities

The teacher logbooks showed that for the most part the teachers had administered the intervention activities and Children’s strengths survey according to the instructions. Some 93 per cent of the teachers had followed the instructions for the read-aloud text. It’s unclear to what

degree the remaining 7 per cent of the teachers followed the instructions or not. Concerning the General Happiness Scale, 82 per cent followed the instructions for the read-aloud text, and 7 per cent deviated in one way or another from the instructions. With the remaining 11 per cent it is unclear whether they followed the instructions. Some 77 per cent of the teachers indicated that they had followed the instructions of the intervention activities. With 23 per cent of them, it’s unclear whether they had done so precisely. None of the teachers indicated that they had not followed the instructions.

Descriptive data

Table 2 and Figure 1 show the descriptive data of the scores on wellbeing. At the beginning of the intervention period there are no significant differences in wellbeing between both conditions ($M_{t0\text{exp.}} = 5.23; M_{t0\text{contr.}} = 5.22; p = .91$).

Effect of the intervention on the well-being of primary pupils aged 7–12

The results regarding our research question are shown in Table 3. The intervention has an effect on wellbeing. As shown in Table 3, condition explains 2 per cent of the variance in the growth in wellbeing ($p = .027$). A more detailed insight into the growth in well-being is gained by a visual representation of the data from Table 2. Figure 1 shows that the greatest change in wellbeing appears to become manifest directly after the interven-

tion period: between t0 and t1, the lines of the experimental and the control group diverge, while they are running almost parallel between t1 and t2.

Of the covariates, only age proved to have an effect on wellbeing: Older pupils score higher on wellbeing than younger pupils ($p = 0.005$, $\beta = 0.13$). Age, however, did not have an influence on the growth in wellbeing.

Conclusions and discussion

The theoretical significance of this study

Building on an experiment by Seligman et al. (2005), we have developed an intervention in primary education focusing on primary school pupils aged 7–12, which involved becoming aware of and using a core quality during a period of four weeks. Concerning the effect of the intervention on wellbeing (research question 1), we can conclude that in the short-term (directly after the intervention period), as well as in the longer term (after three months), there is a positive effect on the pupils' wellbeing. The effect was strongest directly after the intervention period. The results complement the previously mentioned study by Seligman et al. (2005), in which there was shown to be a similar effect on adults. Seligman found a greater effect, but that was with a research population consisting of people scoring relatively high on depression, who had signed

up for the intervention themselves. On the other hand, Seligman discovered this greater effect using a shorter intervention period, namely one week. The explained variance of 2 per cent found in our research is similar to other studies into the effects of interventions on wellbeing in youths below the age of 18 (Sin & Lyubomirsky, 2009). It is remarkable that it is possible to influence wellbeing through such interventions, especially when realising that wellbeing fluctuates relatively strongly (Ryan et al., 2010), as also became apparent from our study.

The following characteristics of our study and the intervention have possibly contributed to the fact that in this study an effect of the intervention was found, which was not the case in the study of Ruit and Korthagen (2013):

- (i) the intervention took four weeks;
- (ii) various activities were done by the pupils as well as the teachers;
- (iii) all teachers had been prepared for the intervention by a two-day training;
- (iv) the research group as well as the control group consisted of some hundreds of pupils.

Thus, this study concurs with the conclusions of Sin and Lyubomirsky (2009) that with a longer intervention period chances are that the intervention activities are gradually internalised, and that the implementation of

Table 3: Factors influencing the growth in wellbeing

Predictor	b	SE	t	p	β	R ²
Intercept	1.34	.32	4.20	<.001		
Level of wellbeing	-.25	.06	-4.15	<.001	-0.44	.201
Condition	.15	.07	2.21	.027	.15	.022

b = Unstandardised regression coefficient; *SE* = standard error *p* = double-sided p-value; β = standardized regression coefficient; *R*² = explained variance. The total variance in the growth in wellbeing explained by the model is 22%.

¹ If added as sole predictor.

² Additional explained variance if added to a model with intercept wellbeing as predictor. Covariates had no influence on the growth in wellbeing, and are therefore not included in the table.

various intervention activities is more effective than the use of just one activity.

Our study contributes to earlier research by Seligman et al. (2005) because it was focused on children.

Limitations

The following critical remarks can be made in relation with this study. First, the data were collected with the help of questionnaires and logbooks written by the pupils from their own perceptions. Hence, it is about subjective self-reports of pupils and not about objective observations.

A further limitation of the study might be that the pupils could only work with one core quality for four weeks. They could only switch core qualities in the first week, if it became evident that they had made a wrong or awkward choice. That could have had the effect of pupils not always being able to describe examples of their use of the chosen core quality. It is also somewhat unnatural when pupils discover various core qualities in themselves and yet are only allowed to specifically use one core quality and describe examples of its use. As a result, resistance towards using just one core quality can have cropped up, itself causing negative emotions. Moreover, it is also a hindrance to the teacher to be allowed to specify just one core quality in a pupil, while in various situations that same pupil probably shows more core qualities. Finally, the 'mandatory' recording of examples of how the pupil has used his/her core qualities in the end possibly leads to resistance and a lessening of the motivation. These could be considerations when improving the intervention. Therefore, in further research one could help pupils become aware of various core qualities and stimulate them to use various qualities. It is also valuable that a pupil learns to make greater use of core qualities that, as yet, he/her possibly does not use so much. In follow-up research, experiments can also be conducted with longer lasting interventions or several intervention periods in one school year.

The practical significance of this study

Durlak et al. (2011) argue that there is a need for interventions that teachers themselves can conduct, because on the whole, these are more effective. The research significance and practical significance of this study is therefore the fact that it has been proven to be possible for teachers to positively influence the wellbeing of pupils using the intervention developed by us.

The practical significance of this study lies in the socio-emotional development of pupils. It appears to be possible to teach teachers in a short training how they can make pupils aware of their core qualities and help them use these core qualities, with the positive effects described. This seems an important result because increasing the wellbeing of pupils has great intrinsic value and can be seen as an important educational objective.

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