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Changes in Finnish ninth graders' positive psychological capital (PsyCap) in a strength-based student guidance intervention

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ABSTRACT

The purpose of this research was to implement the strength-based student guidance among ninth graders by using a Power Zone tool and to analyse what kind of impact the guidance had in students. The especial focus was on the analysis of positive psychological capital (PsyCap). The test group (n = 57 students) and the control group (n = 46 students) were selected from two ordinary mainstreaming comprehensive schools with grades from 1 to 9 located in West-Finland. In the test group, the students' scores in PsyCap, strengths and resources, and student guidance increased positively and more than in the control group. The statistically significant change was found in the test group regarding their strengths and resources and a very significant change in the experiences of student guidance. The findings were encouraging. The positive changes encourage using the Power Zone tool in student guidance. It is possible to increase PsyCap through the strength-based guidance.

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KEYWORDS

Positive psychology; human strengths; strength-based guidance; positive psychological capital (PsyCap); power zone; an intervention research

Introduction

The Finnish school system is renewing in 1 August 2021 as the compulsory education will cover also upper secondary education (meaning general upper secondary aka high school, vocational education, or other compulsory education and training programs). It means that compulsory education lasts until one is 18 years old. The general objectives are to 'raise the level of education and competence in Finland, reduce learning gaps, boost equality and non-discrimination in education, improve the wellbeing of young people, raise the employment rate' (Ministry of Education and Culture, 2021). One part of the reform is to renew student guidance in compulsory education (Ministry of Education and Culture, 2020a). From the perspective of this research, it is interesting that the development focuses also on the students' abilities to recognize and use their strengths.

This was an intervention study that used a Power Zone tool (Voimakehä® in Finnish, Wenström, 2020b) for the strength-based student guidance among ninth graders (aged 15) in a Finnish school. The Finnish education system consists of preschool for students aged six and basic education (grades 1–9), followed by upper secondary education (high school and vocational), and higher education levels (Ministry of Education and Culture, 2020b). Thus, the ninth grade is the last year of basic education. The intervention itself is described in detail in Method section.

This research leans on a wide conception of human strengths based on which the use of any strengths can promote human beings' well-being and strengthen self-esteem (Wenström, 2020a, 2020b; Wood et al., 2011). In addition, this conception emphasizes that various strengths should be observed simultaneously and in interaction with each other (Biswas-Diener et al., 2011). The concept of strength as understood in positive psychology (see e.g. Peterson & Seligman, 2004) covers also

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neighbouring concepts such as talents, skills, interests, values, and resources (Biswas-Diener et al., 2011; Niemiec, 2018).

Next, we describe the background of the main idea in the power zone (Mayerson, 2015). With the concept of a power zone, Mayerson (2015) refers to the optimal zone of flourishing and well-being that allows a human being to use his or her character strengths, talents, skills, interests, values, and resources fully and that leads to high motivation and sense of capability. The fundamental idea is that if one is not able to use one's strengths or passion, one can still succeed based on one's talent and will but does not find doing equally satisfying or inspiring (Linley et al., 2010; Mayerson, 2015; Niemiec, 2018).

Character strengths are morally valuable features that every human being has (Seligman, 2002; Niemiec & McGrath, 2019; Peterson & Seligman, 2004). By recognizing them and using them, one can develop one's strengths and find one's full potential (Niemiec & McGrath, 2019; Salmela & Uusiautti, 2015). Each human being has strengths that typify him or her the best; these strengths are called signature strengths (Seligman, 2011). When using one's signature strength, one can experience inspiration, energy, and even the state of flow (see also Csikszentmihalyi, 2008). Signature strengths are the way to one's self-fulfilment and sense of meaning (Peterson & Seligman, 2004; Uusiautti, 2016a), even authentic happiness and flourishing (Seligman, 2002; Seligman, 2011). Signature strengths also serve as resources at the times of hardships or adversities as strengths support optimism, self-confidence, and the ability to make self-appreciative choices (Niemiec & McGrath, 2019; Park & Peterson, 2009).

Character strengths differ from other strengths that are talents, skills, values, and resources (Niemiec, 2014, 2018). Natural talents refer to inherited, relatively stable features (Niemiec, 2014). Mayerson (2015) describes that 'strengths of talent translate into competencies, while strengths of character translate into motivation' (p. 10). Skills mean strengths that can be learned, acquired, and developed, such as reading skills, learning skills, critical thinking skills and so on. These types of skills are usable in any contexts (Wenström, 2020b) and necessary in the fast-changing world (Lam et al., 2010) and for coping with the changing requirements of the future work (Moueddene et al., 2019). Interests refer to the sources of intrinsic motivation and passion (Niemiec, 2018; Niemiec & McGrath, 2019; Wenström, 2020a). According to Renninger and Hidi (2016), interests have a double meaning: a psychological state of being interested and a more stable disposition of being motivated about something. Interests direct how strengths are being used and provide contents and well-being in life, but also influence goal setting, motivation, and learning (Proyer et al., 2015; Renninger & Hidi, 2016). Values are the most personal and subjective strengths in the power zone thinking (Niemiec, 2014). Values direct choices, decision-making, investments of other resources, and priorities. Values can be categorized in numerous ways but the connection with well-being is based on the sense of self-respect when living one's life according to one's values (Katz, 1993; see also Peterson & Seligman, 2004). Finally, resources cover various factors that are important to human well-being (Allen, 2002). Resources can be physical, psychological, social, or functional (see e.g. Uusiautti & Määttä, 2014). Resources are valuable, support positive development, and make it possible to perform well, for example, in studies and at work (Demerouti et al., 2001; Uusiautti, 2016a, 2016b).

In student guidance that is based on the wide conception of strengths, the aforementioned six strength areas are under systematic reflection, activation, and usage not only at school but in life in general (Wenström, 2020b). In this research, the assumption is that the strength-based guidance also promotes students' positive psychological capital (PsyCap); that is, the awareness of one's strengths and psychological potential (Luthans et al., 2004). In Luthans et al.'s (2007) definition, PsyCap is juxtaposed with other forms of capital (traditional economic capital, human capital, and social capital). Actually, The Finnish General Guidelines for Basic Education (2014) defines that the basic education should accumulate students' human and social capital because these two forms of capital promote individual and societal well-being. In our opinion, education should also support students' positive development as optimistic, hopeful, and resilient citizens (see also Leskisenoja & Uusiautti, 2019) by accumulating their positive psychological capital.

Theoretical background

The concept of PsyCap has been recognized in research focusing on positive organizational behaviours (POB) (Youssef & Luthans, 2013). As mentioned, it is seen as a natural add to the concepts of economic, human, and social capital, referring to the awareness of 'who you are' and especially 'what you could become' (Luthans et al., 2007). PsyCap is an individual person's psychological resource and a core element of success and well-being (Luthans et al., 2006; see also Uusiautti & Hyvärinen, 2020). PsyCap appears as attitudes with self-initiative, enterprise, activity, and responsibility (Rauhala et al., 2013). In addition, high PsyCap can lead to determination, high expectations of success, and quick recovery from setbacks (Luthans et al., 2007).

The core dimensions of PsyCap are confidence, hope, optimism, and resilience (Luthans et al., 2004). Confidence means the belief in one's skills, ability to cope with challenges, and succeed in tasks (Luthans et al., 2006, 2007). In this sense, confidence is somewhat similar to the concept of self-efficacy (Bandura, 1997). High self-efficacy beliefs help finding and reaching one's full potential (Schunk & Pajares, 2004), because people with high self-efficacy set high goals, enjoy challenges, and are motivated and ready to work hard for reaching their goals (Keltikangas-Järvinen, 2010; Luthans et al., 2007). Confidence therefore determines the level of effort and persistency in one's actions as well (Das & Borooah, 2019). Research has showed that high confidence and optimism in students are likely to lead to high academic performance, coping with stress, and healthy behaviours, and satisfaction with studies (see e.g. Betz, 2004; Chemers et al., 2001; Ickson et al., 2019; Rand, 2008).

Hope is a positive state that appears as persistence and ability to find optional routes for reaching one's goals (Luthans et al., 2007). Hope is constructed with two elements that are willpower and waypower. In willpower, the person sets realistic but challenging goals and tries to reach them in a determined way. Waypower refers to the ability to change plans if needed, in other words, flexibility and ability to mould one's action (Luthans et al., 2007; Rauhala et al., 2013; Uusiautti, 2016b; Youssef & Luthans, 2013). Hope helps students to approach challenges and difficulties by focusing on successes which increases their chances to achieve (Conti, 2000).

Optimism creates belief in success now and in the future. PsyCap includes optimism specifically as realistic optimism (Manka et al., 2014) that is based on an accurate understanding of one's abilities, chances, and goals (Carver & Scheier, 2001; Seligman, 1992). Furthermore, optimism contains motivation, emotions, and ability to believe that good things can and will happen to oneself (Carver & Scheier, 2001; Luthans et al., 2007; Rauhala et al., 2013). According to Seligman (1992), an optimistic person explains positive events being bound to one's own actions and perceive the events as continuous rather than accidental or being bound to other people's action (see also Luthans et al., 2007; Manka & Manka, 2016; Youssef & Luthans, 2013).

Resilience refers to the ability to adjust, change, and recover, and even do better than before the adversity, bounce back (Connor & Davidson, 2003; Tugade & Fredrickson, 2004; see also Youssef & Luthans, 2013). Resilience forms and can be enhanced in learning environments (Brooks, 2006; Condly, 2006; Johnson, 2008; Tugade & Fredrickson, 2004). Students who believe they can develop their skills, learn more, and are able to seize opportunities, cope with school tasks and possible adversities or difficulties in a resilient manner.

Having described what PsyCap is and its main elements, it is also important to explain why PsyCap is important to adolescents' development. According to research, PsyCap enhances students' academic performance, well-being, positive resources, mental health, and positive behaviours (Burhanuddin et al., 2019; Nambudiri et al., 2020; Selvaraj & Bhat, 2018; Wang et al., 2014). Poots and Cassidy (2019) discovered that students with high PsyCap could avoid stress in studies and maintain physical and psychological well-being better than their peers with low PsyCap.

Strengths-based interventions provide good grounds for developing PsyCap as many of the psychological outcomes do correspond with the elements of PsyCap. For example, Dolev Amit et al. (2020) proved that a strengths-based intervention enhanced optimism, self-esteem, and positive affect in adolescents. Nambudiri et al.'s (2020) PsyCap intervention provided evidence

that positivity in general and PsyCap specifically influence positively on students' academic achievements. There are also interventions that have aimed specifically to improve PsyCap. For example, Luthans et al. (2008) tested an online-based PsyCap intervention. Dello Russo and Stoykova (2015) tested the replicability of Luthans et al.'s PsyCap intervention and confirmed its positive effects.

Method

The purpose of research and research question

The purpose of this research was to implement the strength-based student guidance among ninth graders and analyse what kind of impact the guidance had in students. The guidance was based on the Power Zone tool. Two research questions were set for this study: (1) What is the impact of the strength-based guidance intervention on the ninth- graders' PsyCap? and (2) What is the impact of the strength-based guidance intervention on the ninth-graders' awareness of their strengths and resources and experiences of student guidance?

Sample

The test group and control group for this research was selected according to the primary investigator's location and access to the schools. The target school for the test group was an ordinary mainstreaming comprehensive school with grades from 1 to 9 located in West-Finland. The school from where the control group was recruited located in the same area. The schools were somewhat similar when it came to their number of students and multiculturality.

The group of students who were contacted for the research as the test group included 70 ninth graders (n = 36 girls and n = 34 boys) and the group of students who were contacted for the research as the control group 53 ninth graders (n = 22 girls and n = 31 boys). The target group for the test group consisted of grades 9A, 9B and 9C. The grade 9A was an inclusive grade (n = 27 students) with seven students with special education needs. This grade was taught in co-teaching by the subject teachers and a special education teacher. The grades 9B (n = 22 students) and 9C (n = 21 students) were general education grades. In the target group of the control group, the grades 9A (n = 17 students) and 9B (n = 21 students) were general education grades. The grade 9C (n = 5 students) was a special education group and the grade 9D (n = 10 students) was a grade of flexible basic education. As the number of students in control group grades 9C and 9D was so low, these grades were combined as one in the analysis.

The permissions for the research were first applied from the city authorities for education, after which permissions were collected from the students and their guardians. The participation in the research was voluntary and anyone could withdraw from the research at any phase. Those students who were not willing to participate in the research still attended lessons but did not reply to surveys. Altogether 57 students (n = 35 girls and n = 22 boys) participated in the research in the test group and 46 students (n = 21 girls and n = 25 boys) in the control group. The students were coded in the data and the whole research data was anonymized.

Intervention

An intervention research usually aims to change the current pedagogical action at school being thus based on a practical need or objective (Simms et al., 2019). An intervention means a theory-based intervention program that aims to influence students' development (see e.g. Froh et al., 2009; Vainikainen & Hautamäki 2020 ; Waters, 2011). Interventions usually include research that investigates the effects of the intervention and opportunities to implement the findings wider in practice.

The purpose of this research was to investigate how the power zone guidance could increase students' PsyCap. The test group received the strength-based student guidance as a part of their

Table 1. Lesson plan for the strength-based student guidance intervention.

Lesson	Lesson plan
(1) Character strengths	Introduction and definition of character strengths Video: https://www.youtube.com/watch?v=U3HB1Eyzlcl Why are the character strengths useful? https://arena.yle.fi/audio/1-4361597 Familiarization with character strengths. A word-colouring task: Which character strengths describe you? Values-in-Action test: viacharacter.org , after which everyone marks down their five signature strengths. Interpreting the VIA test results: What kind of positive feedback you have received at home or at school? How would others describe your character? Which characteristics do you appreciate in yourself? Working in pairs with Power Zone (VOIMAKEHÄ®) cards for characteristic strengths.
2. Talents	Which cartoon or fiction figure is like you? task Familiarization with talents by using the power zone cards. Discovering and colouring one's own talents. Which task do you find easy to accomplish? Working with the cards in pairs. Familiarization with temperament, video: https://yle.fi/aihe/artikkeli/2013/07/10/persoonaallisuus-ja-mielenterveys Analysing temperament features in a positive light, evaluating one's own temperament.
3. Skills	Future Skills video: https://www.youtube.com/watch?v=uBj56_0vjDU Searching your own skills task by analysing favourite doings and hobbies Group discussion about skills one has learned during one's life from others and in different contexts, using power zone word list as help Playing the Alias game with cards including skills needed at work Skills appreciated at work, using future work skills pictures
4. Values	The Most Important Thing in My Life task Familiarization with values: Own values vs. Finns' values in general A value test: https://arvoja.wordpress.com/ . Naming one's own three most important values Values practices Contemplation task: What do you value and find meaningful and important, worth investing? What kind of person you would like to be? What do you want to accomplish in life? Using values listen in power zone tool as help.
5. Resources	What are your resources? discussion Videos about PsyCap: https://www.youtube.com/watch?v=vzF2x_VQOTU https://www.youtube.com/watch?v=b34_ajEG_DM Resources-related tasks and resource identification
6. Interests	Videos: https://www.youtube.com/watch?v=MozX3qFlkpQ&feature=youtu.be https://www.youtube.com/watch?v=g8fJmVQuHd4 Contemplation task: What are you interested in, what makes you happy and brings you joy? Using Power Zone cards to analyse interests and their connection with talent development, as a group task. Occupation choice test: https://asiointi.mol.fi/avo/responsive/front-page.xhtml Analysing the test results especially for the part including interests.
7. Rehearsal	Various videos and games, personality tests etc.
8. Rehearsal	A Treasure Map task including items from lessons 1–6.

ordinary study guidance lessons. In included group guidance as lessons of 75 minutes once a week, for 8 weeks. The intervention was constructed so that the first six lessons introduced each part of the wide conception of strengths (character strengths, interests, talents, values, resources, and skills) while the last two lessons focused on rehearsing and thinking back at what was learned (see Table 1).

In addition, each student received a one-hour-long personal guidance session in January 2021. In the session, the students built their own power zone by using the Power Zone cards and had a strengths discussion with the student counsellor. Each adult working with the students by using the Power Zone tool had completed a licenced Power Zone (Voimakehä®) guidance training program. The lessons and the intervention were planned and designed in collaboration with the teachers and student counsellors.

Quantitative measures

The impact of the intervention was measured with surveys. Before the intervention, the students in the test and control groups took a beginning survey in September 2020. Those who were not at school at that time (e.g. were sick), took the survey at once when coming back to school. The end survey was conducted at the beginning of February 2021 for the test group, while the control group took the survey already in December 2020. The reason for this was that the student counsellor in the control group retired at the end of the year 2020. To make sure that the control group was under the similar guidance during the research, it was considered better to do the end survey before a new student counsellor would start.

The response rate for the data was among the students in test group 100% and among the students in the control group 96% (in the beginning survey $n = 48$ students and in the end survey $n = 46$ students).

The survey consisted of structured questions (see also Creswell & Creswell, 2009). The focus in the survey was on the elements of PsyCap but it also included questions about strengths and student guidance. When designing questions to measure the elements of PsyCap, various theories were dissected: The Children's Hope Scale was referred when formulating statements for hope (e.g. 'I believe I will cope well.' and 'I am able to come up with several ways of achieving important goals in my life.') (see Snyder et al., 1996). The Self-Efficacy Formative Questionnaire by Research Collaboration gave ideas for statements about confidence (e.g. 'I can cope with anything if I try hard enough.' and 'If I practiced every day, I could learn any skill.') (see Gammer Erickson & Noonan, 2018). Child & Youth Resilience Measure by Resilience Research Centre was used for designing statements about resilience (e.g. 'I find it important to perform well at school.') (see Resilience Research Centre, 2018) and The Youth Life Orientation scale for optimism (e.g. 'When I am uncertain about what will happen next, I usually believe things will go well.') (see Ey et al., 2005).

The scale used in the survey in this research was a five-item Likert scale with 1 = does not describe me at all ... 5 = describes me very well. Being a widely used scale for measuring attitudes or opinions, (Gall et al., 2003; Kananen, 2008) it was considered suitable to this research as well. The survey consisted of 37 statements that represented the elements of PsyCap, strengths, and guidance. The statements were used for formulating sum variables of Hope (comprising $n = 7$ statements about hope), Confidence (comprising $n = 6$ statements about confidence), Resilience (comprising $n = 5$ statements about resilience), Optimism (comprising $n = 6$ statements about optimism), PsyCap (comprising all statements about hope, confidence, resilience, and optimism, $n = 24$), Strengths and resources (comprising $n = 6$ statements about strengths spotting and usage), and Student counselling (comprising $n = 7$ statements about students' self-cognizance, strengths recognition, and plans for further education). In addition, changes were analysed with having all variables combined.

All statements were tested, and eventually 14 statements that had a Cronbach's alpha of $< .5$ were omitted. The Cronbach's alphas for the sum variables were between .559–.878. This was considered sufficient as, according to Tähtinen et al. (2011), the reliability is good if the values are $> .6$. Only one had a slightly lower value (.559).

The survey data was analysed with SPSS software. Those responses that missed one or more values were omitted. In the control group data, it meant one response from the grade 9B and three responses from the grade 9C. The analysis focused on the whole data (test and control groups) and on a grade-specific data. The purpose was to find out differences between the test and control groups in the beginning and end surveys. In addition, grade-specific differences were analysed.

Percentages, means, and standard deviations were calculated to describe the changes. The variables were observed through Shapiro Wilkin test that is recommended for small data (< 50). According to it, all variables did not follow normal distribution. The decision was to use both parametric (t-test) and non-parametric (Mann-Whitney U test) measures and compare the findings. The p-values from both tests corresponded each other mainly, and when there was a difference, the

non-parametric p-value was emphasized when interpreting the findings (Heikkilä, 2014; see also Murray, 2013). When presenting the significance of differences between the test and control groups in the beginning and end surveys, only the non-parametric findings from the Wilcoxon Signed test are used. This is because the t-test and Wilcoxon Signed test results differed from each other to some extent.

This was an intervention research that aimed at analysing whether the intervention had an impact on students' psychological capital. Considering the sample size, it was considered best to focus on comparing variables and sum variables between the initial and end measures and between the test group and control group. For example, by using regression analysis, it would have been possible to investigate how different variable combinations could explain PsyCap (Heikkilä, 2014; Tähtinen et al., 2011). However, this would have necessitated a change in the research approach, which was not possible at this stage. In addition, the current data would necessarily not allow such analyses. Instead, the survey items were grouped into variables so that it was possible to notice correlations (Cronbach alpha being between .559 and .878). These correlating variables were combined into sum variables, which can be compared to factor analysis (Heikkilä, 2014; Russell, 2002; see also Murray, 2013), and therefore, further analyses were not considered necessary.

Results

Overall changes between the test and control groups

In (Table 2), we present means for the beginning and end surveys in the test and control groups. The higher the mean of a sum variable is, the stronger the students' perceptions of how well the statements described themselves are. The (Table 2) shows that the means in the test group were lower in the beginning measurement than in the control group. A significant difference between the test group and control group could be found in the perceptions of student guidance, while other sum variables did not have statistically significant differences in the beginning measurement. Also, in the end measurement, the means in the test group were lower than in the control group but the difference became smaller.

(Figure 1) illustrates changes in means in the test and control group. The means in the test group changed depending on a sum variable from 2.2% to 21.7%, while the change in the control group was smaller (between - 1.2% and 10.10%). In the test group, the change was positive in all sum variables, while in the control group the change in the PsyCap was negative. The biggest change happened in the test group regarding the students' perceptions of student guidance (21.7%). Altogether, the change in the test group can be described very positive (7.2%). Although the change in PsyCap was smaller compared to other variables, it is relevant to have a closer look how the elements of PsyCap changed during the intervention.

The difference between means in the test group appeared statistically significant in student guidance, strengths and resources, and in the sum variable combining all elements in the survey. In the control group, the change in student guidance was statistically very significant.

Changes in the PsyCap

The sum variable of PsyCap consisted of four sum variables called Hope, Confidence, Resilience, and Optimism. The impact of the intervention is apparent in the changes between the beginning and end measurements in the test group. Hope increased 0.7 (4%), self-confidence 0.5 (7%). Resilience decreased 0.1 (0.8%). Optimism stayed the same in the beginning and end measurement (see Figure 2). The changes in the control group (see Figure 3) were somewhat inconsistent (Hope decreased 0.8 (4%), Resilience decreased 0.2 (1.5%), while others self-confidence increased 0.2 (3%) and optimism 0.3 (3%). The means in the test group were higher in Hope and Confidence but lower in Resilience and Optimism than in the control group.

Table 2. The means of sum variables in the test and control groups, and their differences ($p \leq 0,001^{***}$, $p \leq 0,01^{**}$, $p \leq 0,05^{*}$).

Sum variables	The beginning measurement				The end measurement					
	Test group (n = 57)	Control group (n = 42)	Difference in the mean	T-test Sig. (2-tailed)	Mann Whitney U – test sig.	Test group (n = 57)	Control group (n = 42)	Difference in the mean	T-test Sig. (2-tailed)	Mann Whitney U-test sig.
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation		
PsyCap	46.2	8.49	48.3	7.27	2.1	0.199	47.2	9.48	0.5	0.791
Strengths and resources	12.3	4.02	13.2	3.73	0.9	0.242	13.4	3.34	0.2	0.738
Student guidance	14.0	3.49	16.0	2.96	2.0	0.003**	17.0	4.88	0.5	0.508
All variables combined	72.4	12.88	77.5	12.70	5.1	0.055	77.6	14.87	1.2	0.673

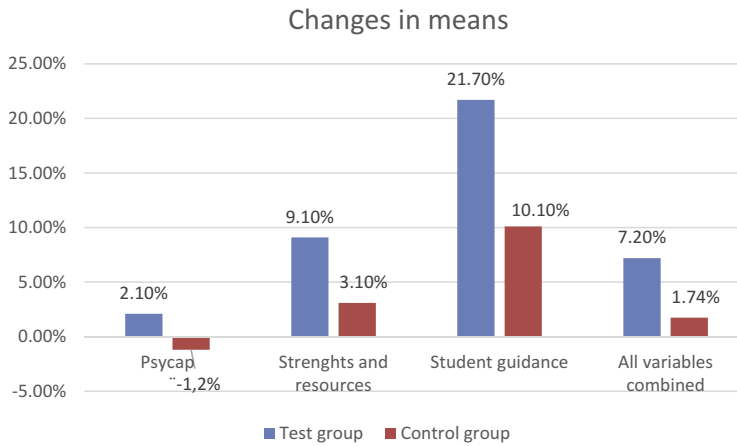


Figure 1. Changes in means in the test group and control group.

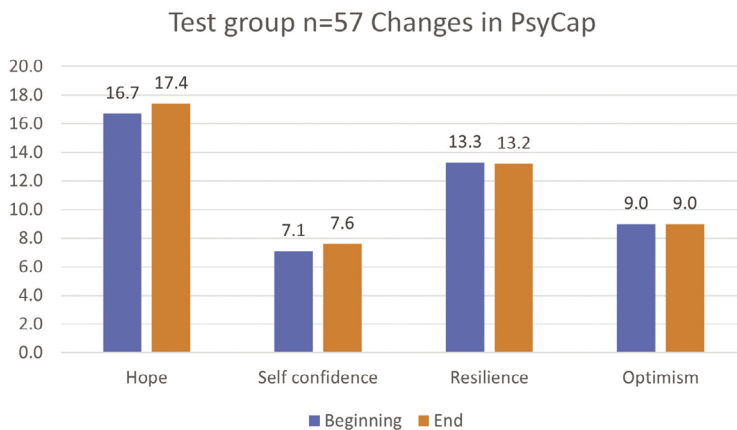


Figure 2. Changes in means in PsyCap in the test group.

The changes in the test group show that the intervention increased the overall PsyCap in students (see Table 4). The findings from the control group data support this interpretation. The difference between the beginning measurement and end measurement in the test group was significant in the T-test when it came to confidence ($t = -2.056$, $p = .044$, 2-tailed). This was supported by the Wilcoxon signed test that showed an almost statistically significant change ($p = .050$).

Changes in the grade-specific measurements

(Figure 4) illustrates grade-specific changes during the intervention. This analysis provides information about the consistency of the intervention in the test group grades.

In the test group grade 9A the differences in means between the beginning and end measurements were statistically very significant ($p = .001$) according to the Wilcoxon signed test when it came to the variables of Strengths and resources and Student guidance. In addition, when all

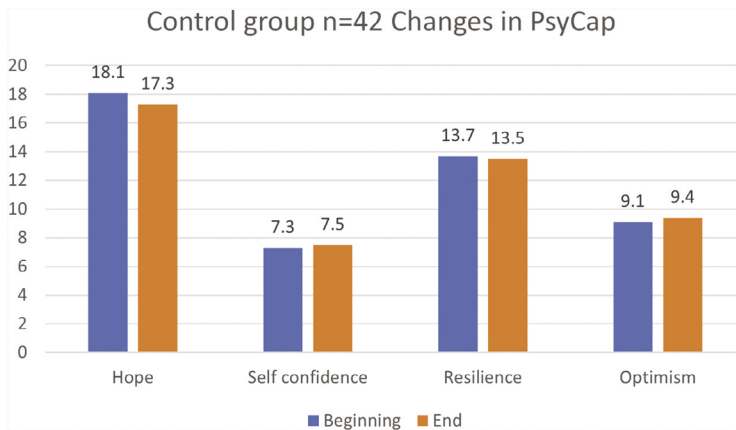


Figure 3. Changes in means in PsyCap in the control group.

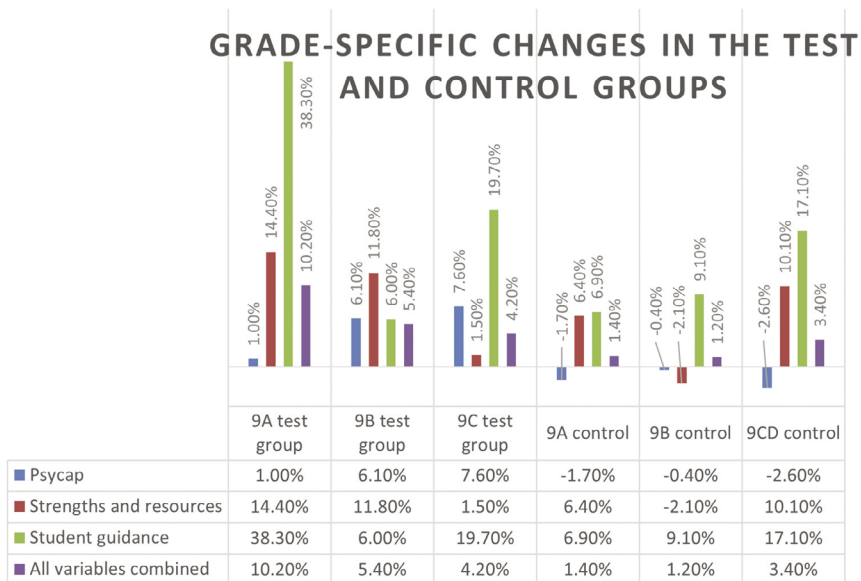


Figure 4. Grade-specific changes in the test and control groups.

variables were combined, the difference in the mean was statistically significant ($p = .004$) (see Table 3). While the PsyCap did not have a significant increase in mean, the change was still positive.

In the test group 9B, the means did not have statistically significant changes but the changes in means of the sum variables were somewhat similarly or consistently positive. In the test group 9C, the biggest change happened in the sum variable of Student guidance that was almost statistically significant ($p = .030$) (see Table 5). As the (Figure 4) shows, there were no major changes in the control group. Also, the change in the PsyCap was negative in all control group grades (see Figure 4 and Table 6).

Table 4. The changes in PsyCap in the test group and control group and p-values of the Wilcoxon test ($p \leq 0.001^{***}$, $p \leq 0.01^{**}$, $p \leq 0.05^*$).

PsyCap sum variables	Test group n = 57						Control group n = 42							
	The beginning measurement			The end measurement			The beginning measurement			The end measurement			T-test Sig. (2-tailed)	Wilcoxon Signed test p
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Difference in the mean			
Hope	16.7	3.18	17.4	3.80	0.7	0.120	18.1	3.03	17.3	3.04	-0.8	0.032*	0.045*	
Confidence	7.1	2.02	7.6	1.85	0.5	0.044*	7.3	1.36	7.5	1.61	0.2	0.377	0.319	
Resilience	13.3	2.57	13.2	3.07	-0.1	0.775	13.7	2.57	13.5	2.77	-0.2	0.507	0.455	
Optimism	9	2.61	9	2.71	0	1.000	9.1	2.41	9.4	2.39	0.3	0.375	0.225	

Table 5. The changes in the test group grades and p-values of the Wilcoxon test ($p \leq 0,001^{***}$, $p \leq 0,01^{**}$, $p \leq 0,05^{*}$).

Sum variables	9A n = 21		9B n = 16		9 C n = 20	
	Difference in means	Wilcoxon Signed test P	Difference in means	Wilcoxon signed test P	Difference in means	Wilcoxon Signed test P
PsyCap	0.5	0.984	2.6	0.127	0.3	0.888
Strengths and Resources	1.9	0.001***	1.3	0.130	0.2	0.647
Student Guidance	5.1	0.001***	0.8	0.682	2.7	0.030*
All variables combined	7.5	0.004**	4.7	0.147	3.2	0.085

Table 6. The changes in the control group grades and p-values of the Wilcoxon test ($p \leq 0,001^{***}$, $p \leq 0,01^{**}$, $p \leq 0,05^{*}$).

Sum variables	9A n = 15		9B n = 19		Control group 9 CD n = 8	
	Difference in means	Wilcoxon Signed test P	Difference in means	Wilcoxon Signed test P	Difference in means	Wilcoxon Signed test P
PsyCap	-0.8	0.425	-0.2	0.861	-1.25	0.461
Strengths and Resources	0.9	0.139	-0.3	0.674	1.25	0.157
Student Guidance	1.0	0.051	1.5	0.042	2.5	0.061
All variables combined	1.1	0.575	1.0	0.809	2.5	0.206

Discussion

Summary of findings

The findings from the intervention were encouraging. In the test group, the students' scores in PsyCap, strengths and resources, and student guidance increased positively and more than in the control group. The statistically significant change was found in the test group regarding their strengths and resources and a very significant change in the experiences of student guidance. This is an important finding that suggests that the Power Zone tool improves the students' perception of guidance in general but can also help students to discover their own strengths and resources, and to imagine and plan their future careers. This is the very first research that analyzes the impact of the Power Zone tool and therefore, there are no comparative findings. However, we will discuss the findings in relation to other studies about PsyCap.

When analysing the impact on PsyCap, the findings are more complex. This research showed the small positive changes in the test group and control group. In the test group, the PsyCap increased 2.2%, and among the elements of PsyCap, the change in confidence was especially significant and positive.

The positive changes encourage using the Power Zone tool in student guidance but also indicate that the elements of PsyCap are fundamental by nature and thus may change more slowly than for example, the awareness of one's strengths. For example, one's hope or resilience may appear correctly only in real-life situations at some point in the future, while the beginning and end measurements can – at their best – provide us with a gleam of possible change in students' aptitudes. However, the findings can be seen encouraging. It is possible to increase PsyCap through the strength-based guidance by teaching students to recognize good things in life and themselves (see Johnson & Thompson, 2015; Salmela, 2016; E. Sointu et al., 2017; Waters, 2011; Wenström, 2020a). Even this short-term intervention provided positive results, which supports the findings from earlier PsyCap interventions (see also Luthans, Avey, & Patera, 2008; Corbu et al., 2021). For example, in some short workplace interventions, PsyCap has increased an average of 2% (Luthans et al., 2015), which is in line with this research.

Limitations

First, the validity of the measurement can be questioned as the survey was planned for this research and was not based on previously validated measurements. However, the sum variables were tested for their alpha values, which meet the criteria for reliability (Tähtinen et al., 2011). Second, the test group and control group represented two schools in the same city. The findings per se are not generalizable but describe changes in this particular setting. In addition, the sample size ($N = 123$) was relatively small. However, the response rates were high (test group 100% and control group 96%), which increased the reliability of findings in this intervention.

As mentioned the Power Zone tool is new and based on positive psychological theories. This research is the first to report its impact on basic education students scientifically. The tool is increasingly in use at various levels of education and enterprises in Finland. More research is needed about its usability.

Conclusion

The purpose of this research was to analyse how the strength-based guidance would increase students' PsyCap. The Power Zone tool was used for providing the students with a profound understanding that would not be limited only in success at school subjects (Hotulainen et al. (2015) but that would help them find their own paths at the end of basic education and later in their studies (Hotulainen & Lappalainen, 2011; Hyvärinen et al., 2021). Understanding about one's strengths and resources provide confidence in one's own choices and ability to make self-appreciative solutions (see also Hotulainen & Lappalainen, 2011; Salmela, 2016). Indeed, the most

important task of basic education is to provide students with hope and confidence when the expectations and pressures towards the future are the biggest. From the PsyCap elements, confidence can be boosted by giving positive feedback about students' strengths and building their trust in themselves (see also Biswas-Diener et al., 2011; Proctor et al., 2009).

We started this article by telling about the reform in the Finnish compulsory education. According to Suomen virallinen tilasto (SVT) (2021), about 6% of students quit their upper secondary level education. The main reason is that they have selected a wrong field after basic education (Pekkarinen & Myllyniemi, 2017). This shows that the development program for student guidance is necessary so that the students would be aware of their own strengths, abilities, and interests at the end of basic education and could make better choices and prepare for future challenges as well (E. Sointu et al., 2017; E. T. Sointu et al., 2014). In this research, students seemed to benefit from the strength-based guidance and the Power Zone tool that was used in personal and group guidance situations (see also Hotulainen et al., 2015; Leskisenoja, 2016). However, also deeper analyses of the curriculum and conception of learning that prevail at schools, in which a tool like Power Zone is tested, is needed. This research showed that, as an addition to the tools used in guidance, the Power Zone tool had a positive impact.

This strength-based intervention provided initial findings about the usability of the Power Zone tool. The lesson plan introduced in this article was focused on the ninth-graders' guidance but it is applicable to other grades and lessons too. The next step is to go deeper in the analysis of students' and Power Zone counsellors' experiences of the usage of this kind of strength-based guidance method.

Disclosure of potential conflicts of interest

No potential conflict of interest was reported by the author(s).

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References

- Allen, B. P. (2002). *Personality theories*. Allyn & Bacon.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.
- Betz, N. E. (2004). Contributions of self-efficacy theory to career counseling: A personal perspective. *The Career Development Quarterly*, 52(4), 340–353. <https://doi.org/10.2161-0045.2004.tb00950.x>
- Biswas-Diener, R., Kashdan, T. B., & Minhas, G. (2011). A dynamic approach to psychological strength development and intervention. *The Journal of Positive Psychology*, 6(2), 106–118. <https://doi.org/10.1080/17439760.2010.545429>
- Brooks, J. E. (2006). Strengthening resilience in children and youths: Maximizing opportunities through the schools. *Children & Schools*, 28(2), 69–76. <https://dx.doi.org/10.1093/cs/28.2.69>
- Burhanuddin, N. A., Ahmad, N. A., Said, R. R., & Asimiran, S. (2019). A systematic review of the psychological capital (PsyCap) research development: Implementation and gaps. *International Journal of Academic Research in Progressive Education and Development*, 8(3), 133–150. <https://doi.org/10.6007/IJARPEd/v8-i3/6304>
- Carver, C. S., & Scheier, M. F. (2001). Optimism, pessimism and self-regulation. In E. C. Chang (Ed.), *Optimism & pessimism: Implications for theory, research and practice* (pp. 31–51). APA.

- Chemers, M. M., Hu, L., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology*, 93(1), 55–64. <https://doi.org/10.1037/0022-0663.93.1.55>
- Condly, S. J. (2006). Resilience in children: A review of literature with implications for education. *Urban Education*, 41(3), 211–236. <https://doi.org/10.1177/0042085906287902>
- Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18(2), 76–82. <https://doi.org/10.1002/da.10113>
- Conti, R. (2000). College goals: Do self-determined and carefully considered goals predict intrinsic motivation, academic performance and adjustment during the first semester? *Social Psychology of Education*, 4(2), 189–211. <https://doi.org/10.1023/A:1009607907509>
- Corbu, A., Peláez Zuberbühler, M. J., & Salanova, M. (2021). Positive psychology micro-coaching intervention: Effects on psychological capital and goal-related self-efficacy. *Frontiers in Psychology*, 12(art), 566293. <https://doi.org/10.3389/fpsyg.2021.566293>
- Creswell, J. W., & Creswell, J. D. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Sage.
- Csikszentmihalyi, M. (2008). *Flow: The psychology of optimal experience*. HarperCollins.
- Das, B., & Borooah, I. P. (2019). *Relationships of Psychological Capital (PsyCap) to quality of life (QOL) in college teachers*. Retrieved https://www.researchgate.net/publication/339947934_RELATIONSHIP_OF_PSYCHOLOGICAL_CAPITAL_PSYCAP_TO_QUALITY_OF_LIFE_QOL_IN_COLLEGE_TEACHERS
- Dello Russo, S., & Stoykova, P. (2015). Psychological Capital Intervention (PCI): A replication and extension. *Human Resource Development Quarterly*, 26(3), 329–347. <https://doi.org/10.1002/hrdq.21212>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands - resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Dolev Amit, T., Rubin, A., & Zilcha Mano, S. (2020). Is awareness of strengths intervention sufficient to cultivate wellbeing and other positive outcomes? *Journal of Happiness Studies*, 22(2), Advance online publication. <https://doi.org/10.1007/s10902-020-00245-5>
- Ey, S., Hadley, W., Nuttbrock, D., Allen, D., Palmer, S., Klosky, J., Deptula, D., Thomas, J., & Cohen, R. (2005). A new measure of children's optimism and pessimism: The youth life orientation test. *Journal of Child Psychology and Psychiatry*, 46(5), 548–558. <https://doi.org/10.1111/j.1469-7610.2004.00372.x>
- Froh, J. J., Kashdan, T. B., Ozimkowski, K. M., & Miller, N. (2009). Who benefits the most from a gratitude intervention in children and adolescents? *Examining Positive Affect as a Moderator*. *The Journal of Positive Psychology*, 4(5), 408–422. <https://doi.org/10.1080/17439760902992464>
- Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research. An introduction*. Allyn and Bacon.
- Gammer Erickson, A. S., & Noonan, P. M. (2018). Self-efficacy formative questionnaire. In P. N. Noonan & A. S. Gaumer Erickson (Eds.), *The skills that matter: Teaching interpersonal and intrapersonal competencies in any classroom* (pp. 175–176). Corwin.
- Heikkilä, T. (2014). *Tilastollinen tutkimus [Statistical research]*. Edita Publishing.
- Hotulainen, R., Lappalainen, K., & Sointu, E. (2015). Lasten ja nuorten vahvuuksien tunnistaminen [Recognizing children and adolescents' strengths]. In L. Uusitalo-Malmivaara (Ed.), *Positiivisen psykologian voima [The power of positive psychology]* (pp.264-280). PS-kustannus.
- Hotulainen, R., & Lappalainen, K. (2011). Pre-school socio-emotional behaviour and its correlation to self-perceptions and strengths of young adults. *Emotional and Behavioral Difficulties*, 16(4), 365–381. <https://doi.org/10.1080/13632752.2011.616342>
- Hyvärinen, S., Kangastie, H., Kari, S., Löf, J., Naakka, M., & Uusiautti, S. (2021). Fostering a successful life through a strength-based approach in higher education guidance. In S. Hyvärinen, T. Äärelä, & S. Uusiautti (Eds.), *Less struggling, more flourishing – Introduction to the multidisciplinary research on positive education and work*. Cambridge Scholars Publishing, in press.
- Ickson, T., Kaplan, O., & Slobodin, O. (2019). Does optimism predict academic performance? Exploring the moderating roles of conscientiousness and gender. *Studies in Higher Education*, 45(3), 635–647. <https://doi.org/10.1080/03075079.2018.1564257>
- Johnson, B. (2008). Teacher-student relationships which promote resilience at school: A micro-level analysis of students' views. *British Journal of Guidance & Counselling*, 36(4), 385–398. <https://doi.org/10.1080/03069880802364528>
- Johnson, D., & Thompson, J. (2015). Training PsyCap and signature strength use to instill a self-regulated virtuous cycle. *International Positive Psychology Association's - 4th World Congress on Positive Psychology*, Buena Vista, Florida.
- Kananen, J. (2008). *Kvantti. Kvantitatiivinen tutkimus alusta loppuun [Quanti. The quantitative research from start to finish]*. Jyväskylän University Press.
- Katz, M. (1993). *Computer-assisted career decision making: The guide in the machine*. Lawrence Erlbaum.
- Keltikangas-Järvinen, L. (2010). *Hyvä itsetunto [Good self-esteem]*. WSOY.
- Lam, S., Cheng, R. W., & Choy, H. C. (2010). School support and teacher motivation to implement project-based learning. *Learning and Instruction*, 20(6), 487–497. <https://doi.org/10.1016/j.learninstruc.2009.07.003>
- Leskisenoja, E. (2016). *Vuosi koulua, vuosi iloa. PERMA-teoriaan pohjautuvat luokkakäytänteet kouluiloin edistäjinä [Year of school, year of joy – PERMA-based classroom practices enhancing perceived joy at school]*. Lapland University Press.

- Leskisenoja, E., & Uusiutuuti, S. (2019). Human strength-spotting at school as the future foundation of "us" in the Arctic. In S. Uusiutuuti & N. Yeasmin (Eds.), *Human migration in the Arctic: The past, present, and future* (pp. 239–261). Palgrave Macmillan.
- Linley, P. A., Nielsen, K. N., Gillett, R., & Biswas-Diener, R. (2010). Using signature strengths in pursuit of goals: Effects on goal progress, need satisfaction, and well-being, and implications for coaching psychologists. *International Coaching Psychology Review*, 5(1), 6–16.
- Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: Toward a microintervention. *Journal of Organizational Behavior*, 27(3), 387–393. <https://doi.org/10.1002/job.373>
- Luthans, F., Avey, J. B., & Patera, J. L. (2008). Experimental analysis of a web-based training intervention to develop positive psychological capital. *Academy of Management Learning & Education*, 7(2), 209–221. <https://doi.org/10.5465/amle.2008.32712618>
- Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. *Business Horizons*, 47(1), 45–50. <https://doi.org/10.1016/j.bushor.2003.11.007>
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital. Developing the human competitive edge*. Oxford University Press.
- Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). *Psychological capital and beyond*. Oxford University Press.
- Manka, M.-L., Larjovuori, R.-L., & Heikkilä-Tammi, K. (2014). *Voimavarat käyttöön – Miten kehittää psykologista pääomaa? [Use your resources – How to develop psychological capital?]*. Synergos.
- Manka, M.-L., & Manka, M. (2016). *Työhyvinvointi [Well-being at work]*. Talentum Pro.
- Mayeron, N. M. (2015). "Characterizing" the workplace: Using character strengths to create sustained success. *Kognition & Pedagogik*, 96, 14–27. <https://www.viacharacter.org/pdf/CHARACTERIZING%20THE%20WORKPLACE-USING%20STRENGTHS%20TO%20CREATE%20SUSTAINED%20SUCCESS.PDF>
- Ministry of Education and Culture. (2020a). *Opinto-ohjauksen kehittämisohjelma [The development program for student guidance]*. Retrieved <http://urn.fi/URN:ISBN:978-952-263-879-3>
- Ministry of Education and Culture. (2020b). *Suomen koulutusjärjestelmä [The education system of Finland]*. Retrieved <https://minedu.fi/koulutusjarjestelma#koulutusjarjestelma>
- Ministry of Education and Culture. (2021). *The Government has decided to raise the leaving age in compulsory education from the start of autumn term 2021*. Retrieved https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162875/MoEC_compulsory%20educaton.pdf?sequence=1&isAllowed=y
- Moueddene, K., Coppola, M., Wauters, P., Ivanova, M., Paquette, J., & Ansaloni, V. (2019). *Expected skills needs for the future of work. Understanding the expectations of the European workforce*. Deloitte Insights. Retrieved December 2, 2019. <https://www2.deloitte.com/us/en/insights/focus/technology-and-the-future-of-work/upskilling-the-workforce-in-european-union-for-the-future-of-work.html>
- Murray, J. (2013). Likert data: What to use, parametric or non-parametric? *International Journal of Business and Social Science*, 4(11), 258–264. <http://ijbssnet.com/journal/index/2120>
- Nambudiri, R., Shaik, R., & Ghulyani, S. (2020). Student personality and academic achievement: Mediating role of psychological capital (PsyCap). *International Journal of Educational Management*, 34(4), 767–781. <https://doi.org/10.1108/IJEM-12-2018-0385>
- Niemiec, R. M. (2014). *Mindfulness and character strengths. A practical guide to flourishing*. Hogrefe.
- Niemiec, R. M. (2018). *Character strengths interventions. A field guide to practitioners*. Hogrefe.
- Niemiec, R. M., & McGrath, R. E. (2019). *The power of character strengths. Appreciate and ignite your positive personality*. VIA Institute of Character.
- Park, N., & Peterson, C. (2009). Strengths of character in schools. In R. Gilman, E. Huebner, & M. Furlong (Eds.), *Handbook of positive psychology in schools* (pp. 65–76). Routledge.
- Pekkarinen, E., & Myllyniemi, S. (2017). *Nuorisobarometri 2017 [Youth barometer 2017]*. Painotalo Varteva.
- Peterson, C., & Seligman, M. (2004). *Character strengths and virtues: A handbook and classification*. Oxford University Press.
- Poots, A., & Cassidy, T. (2019). Academic expectation, self-compassion, psychological capital, social support and student wellbeing. *International Journal of Educational Research*, 99(art), 101506. <https://doi.org/10.1016/j.ijer.2019.101506>
- Proctor, C. L., Maltby, J., & Linley, P. A. (2009). Strengths use as a predictor of well-being and health-related quality of life. *Journal of Happiness Studies*, 12(1), 153–169. <https://doi.org/10.1007/s10902-009-9181-2>
- Proyer, R. T., Gander, F., Wellenzohn, S., & Ruch, W. (2015). Strengths-based positive psychology interventions: A randomized placebo-controlled online trial on long-term effects for a signature strengths- vs. a lesser strengths-intervention. *Frontiers in Psychology*, 6(art), 456. <https://doi.org/10.3389/fpsyg.2015.00456>
- Rand, K. L. (2008). Hope and optimism: Latent structures and influences on grade expectancy and academic performance. *Journal of Personality*, 77(1), 231–260. <https://doi.org/10.1111/j.1467-6494.2008.00544.x>
- Rauhala, I., Leppänen, M., & Heikkilä, A. (2013). *Pääasia – Organisaation psykologinen pääoma [The main thing – The organization's psychological capital]*. Talentum.
- Renninger, K. A., & Hidi, S. E. (2016). *The power of interest for motivation and engagement*. Routledge.
- Resilience Research Centre. (2018). *CYRM and ARM user manual*. Resilience Research Centre, Dalhousie University. Retrieved <http://www.resilienceresearch.org>

- Russell, D. W. (2002). In search of underlying dimensions: The use (and abuse) of factor analysis in personality and social psychology bulletin. *Personality & Social Psychology Bulletin*, 28(12), 1629–1646. <https://doi.org/10.1177/014616702237645>
- Salmela, M. (2016). *Die ylioppilastutkinnon huippuarvosanoihin laudaturylioppilaiden kertomana [Paths to the highest scores in the Finnish Matriculation Examination as described by straight-A graduates]*. Lapland University Press.
- Salmela, M., & Uusiautti, S. (2015). A positive psychological viewpoint for success at school – 10 characteristic strengths of the Finnish high-achieving students. *High Ability Studies*, 26(1), 117–137. <https://doi.org/10.1080/13598139.2015.1019607>
- Schunk, D. H., & Pajares, F. (2004). Self-efficacy in education revisited. Empirical and applied evidence. In D. M. McInerney & S. van Etten (Eds.), *Big theories revisited. Volume 4: Research on sociocultural influences on motivation and learning* (pp. 115–138). Information Age Publishing.
- Seligman, M. E. P. (1992). *Optimistin käsikirja [The manual of an optimist]*. Otava.
- Seligman, M. E. P. (2002). *Authentic happiness*. FreePress.
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. FreePress.
- Selvaraj, P., & Bhat, C. (2018). Predicting the mental health of college students with psychological capital. *Journal of Mental Health*, 27(3), 279–287. <https://doi.org/10.1080/09638237.2018.1469738>
- Simms, V., McKeaveney, C., Sloan, S., & Gilmore, C. (2019). *Interventions to improve mathematical achievement in primary school-aged children*. Nuffield Foundation.
- Snyder, C. R., Hoza, B., Pelham, W., Rapoff, M., Ware, L., Danovsky, M., Highberger, L., Rubinstein, H., & Stahl, K. J. (1996). The development and validation of children hope scale. *Journal of Pediatric Psychology*, 22(3), 399–421. <https://doi.org/10.1093/jpepsy/22.3.399>
- Sointu, E., Virtanen, T., Lappalainen, K., & Hotulainen, R. (2017). Vahvuuksien ja motivaation tukeminen edistämässä koulupolulle kiinnittymistä ja hyvinvointia [Support for strengths and motivation promote engagement and well-being at school]. In S. Puukari, K. Lappalainen, & M. Kuorelahti (Eds.), *Ohjaus ja erityisopetus oppijoiden tukena [Guidance and special education as the support for learners]* (pp. 111–128). PK-kustannus.
- Sointu, E. T., Savolainen, H., Lambert, M. C., Lappalainen, K., & Epstein, M. H. (2014). Behavioral and emotional strength-based assessment of Finnish elementary students: Psychometrics of the BERS-2. *European Journal of Psychology of Education*, 29(1), 1–19. <https://doi.org/10.1007/s10212-013-0184-3>
- Suomen virallinen tilasto (SVT). (2021). *Koulutuksen keskeyttäminen [School quitting in Finland]*. ISSN=1798-9280. Helsinki: Tilastokeskus. Retrieved <http://www.stat.fi/til/kkesk>
- Tähtinen, J., Laakkonen, E., & Broberg, M. (2011). *Tilastollisen aineiston käsittelyn ja tulkinnan perusteita [The basics of statistical analysis and interpretation]*. Painosalama.
- The Finnish General Guidelines for Basic Education. (2014). *The ministry of education and culture*. Ministry of Education and Culture.
- Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Applied Psychology*, 86(2), 320–333. <https://doi.org/10.1037/0022-3514.86.2.320>
- Uusiautti, S., & Määttä, K. (2014). How to promote the healthy development of human resources in children and youth? In K. Määttä & S. Uusiautti (Eds.), *Time for health education* (pp. 131–140). Peter Lang.
- Uusiautti, S. (2016a). Success at work requires hope and the ability to engage in an optimistic attitude. *European Journal of Workplace Innovation*, 2(2), 41–64. <https://doi.org/10.46364/ejwi.v2i2.356>
- Uusiautti, S. (2016b). Hope at work. In L. Bormans (Ed.), *The world book of hope* (pp. 222–226). Lannoo.
- Uusiautti, S., & Hyvärinen, S. (2020). Defining the new concept of sustainable success – A state-of-the-art analysis on the phenomenon. *New Ideas in Psychology*, 60(art), 100819. <https://doi.org/10.1016/j.newideapsych.2020.100819>
- Vainikainen, M.-P., & Hautamäki, J. (2020). Three studies on learning to learn in Finland: Anti-Flynn effects 2001–2017. *Scandinavian Journal of Educational Research*, published online 20 Oct 2020. <https://doi.org/10.1080/00313831.2020.1833240>
- Wang, X., Zheng, Q., & Cao, X. (2014). Psychological capital: A new perspective for psychological health education management of public schools. *Public Personnel Management*, 43(3), 371–383. <https://doi.org/10.1177/0091026014535182>
- Waters, L. (2011). A review of school-based positive psychology interventions. *The Australian Educational and Developmental Psychologist*, 28(2), 75–90. <https://doi.org/10.1375/aedp.28.2.75>
- Wenström, S. (2020a). *Enthusiasm as a driving force in vocational education and training (VET) teachers' work. – Defining positive organization and positive leadership in VET*. (PhD dissertation, University of Lapland, Finland.)
- Wenström, S. (2020b). *Positiivinen johtaminen. Johda paremmin opetus- ja kasvatusalalla [Positive leadership. Lead better in the teaching and education field]*. PS-kustannus.
- Wood, A. M., Linley, P. A., Maltby, J., Kashdan, T. B., & Hurling, R. (2011). Using personal and psychological strengths leads to increases in well-being over time. A longitudinal study and development of the strengths use questionnaire. *Personality and Individual Differences*, 50(1), 15–19. <https://doi.org/10.1016/j.paid.2010.08.004>
- Youssef, C., & Luthans, F. (2013). An integrated model of psychological capital in the workplace. In P. A. Linley, S. Harrington, & N. Garcea (Eds.), *The Oxford handbook of positive psychology and work* (pp. 277–288). Oxford University Press.