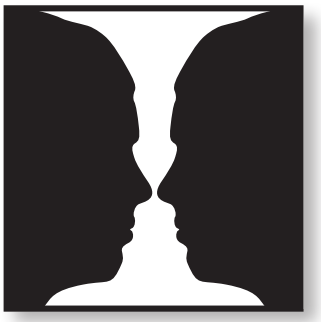
Coaching psykologi
www.coachingpsykologi.org
http://dx.doi.org/10.5278/ojs.cp.v0i8.3633



An Investigation into the Psychometric Properties and Validation of the Danish Self-Perception Profile

Psychometric Tools in a Coaching Context

By Ole Michael Spaten

Abstract

The Harter Self-Perception Profiles are anchored to a clear and validated theoretical framework and one of the most widespread used instruments. The purpose of this research was to conduct reliability studies of the Self-Perception Profile. The research assessed the psychometric properties of the instrument on a Danish sample from Copenhagen collecting scores on self-concept measures through five years. The results showed that the Danish version of this instrument is appropriate for individual assessments and in studies of self-concept. The research provided evidence of validity and reliability for this population. Furthermore it is discussed how psychometric tools might be used in coaching contexts

Keywords: *self-concept; coaching context; self-perception profiles; validation; psychometric*

Introduction

Before Harter's seminal work on Self-Concept and the Self-Perception Profiles for Children (SPPC), Adolescents (SPPA) and Adults, (Harter, 1982, 1983, 1985, 2012), there hardly existed any studies anchored to a clear and validated theoretical framework (Byrne, 1984). In the solid work on theoretical and methodological issues in self-concept Wylie furthermore recorded (Wylie, 1974, 1979, 1989) that most early self-concept instruments were entirely lacking any evidence of reliability and/or validity. Wylie later specified that the SPPC is the only "self-concept scale, which applies factor analysis to verify a priori item selection for allegedly distinct domains and to include both domain-specific and general self-esteem scales" ((Wylie, 1989) p. 111) in United States of America.

Previous to Harter's work on Self-Concept and SPPC, former approaches generally presumed self-concept to be a one-dimensional construct and therefore erroneously missed its differentiation with age (Shavelson, Hubner, & Stanton, 1976). But children's self-concept changes accordingly to their development and experiences (Pons & Harris, 2001), and a lot of knowledge will therefore be lost if the scores on many different questions covering many different self-concept domains is summed up in just one general self-scale score (Spaten, 2007; Spaten et al., 2015). Harter's initial work enclosed a specification of unambiguous dif-

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

ferent facets of the self-concept: "Our preference, to date, has been to isolate specific domains or dimensions, each of which is tapped by its own set of items, and to assess general self-worth independent of these specific judgments (Harter, 1982). Following this notion also more current advances have typically taken a multidimensional approach to the study of self-concept (Harter, 1985, 1990, 1999, 2012; Hattie & Marsh, 1996; Heatherton & Polivy, 1991; Linh et al., 2017; Marsh, 1989; Marsh, Byrne, & Shavelson, 1992).

Since the mid-eighties the SPPC has been translated and used in research in several other studies and countries besides US including e.g. South Africa, the Netherlands, Spain, Korea, France, Norway, Northern Ireland and Taiwan (Akande, 1999; Gavin & Herry, 1996; Granleese & Joseph, 1993; Grønfeldt et al., 2003; Pereda & Forns, 2004; Schumann et al., 1999; Shevlin, Adamson, & Collins, 2003; Skaalvik & Valas, 1999; Van Dongen-Melman, Hoor, & Verhulst, 1993; Wu & Smith, 1997). Although the instrument has been translated into many different languages, there is still an apparent call to discover more knowledge about its generalizing ability. This study will discuss this topic into further details.

Data was drawn from a longitudinal study on children's self-concept development living in different part of an urban city (Spaten, 2007) and aimed to investigate the psychometric properties of the Danish Self-Perception Profile for Children.

Before proceeding with the procedure of this study there will be a brief introduction to psychometric properties and factor analysis in the following paragraph.

Psychometric properties

Psychometrics is the construction of measurement instruments and the assessment of these instruments reliability and validity. In the psychological field psychometrics are concerned with measuring and quantifying psychological constructs such as, abilities, character and skills. Psychometric tests such as attitude scales, ability tests, measures of intellectual reasoning, personality or self-perception are intended to be more permanent measures and are perceived as scientific tools in the psychological field. These types of measurements must be evaluated extensively in order to state their psychometric properties, meaning their reliability and validity. Factor analysis is often used as a statistical procedure in order to support the psychological constructs that psychometric tests measure. The aim with factor analysis is in general terms to reveal hidden or intervening variables which might explain an observed relationship between peoples scores on several tests or sub-tests (Coolican, 2014; Ginty, 2013).

Procedural issues

Initially Susan Harter gave her permission for SPPC to be used for research purpose. Subsequently the test was translated to Danish and thereafter a bilingual colleague translated the test back to English.

The Danish version has five sub-scales measuring the children's self-perception in relation to how competent and adequate they perceive themselves in relation to school (Scholastic Competence), how they perceive themselves accepted by peers (Social Acceptance), how good they are at play and sports (Athletic Competence), how good they think they look (Physical Appearance) and how they think they behave (Behavioural Conduct). As predicted there is also a sixth independent sub-scale measuring a global judgement of the child's perceived worth as a person (Global Self-Worth) – this subscale is not domain specific.

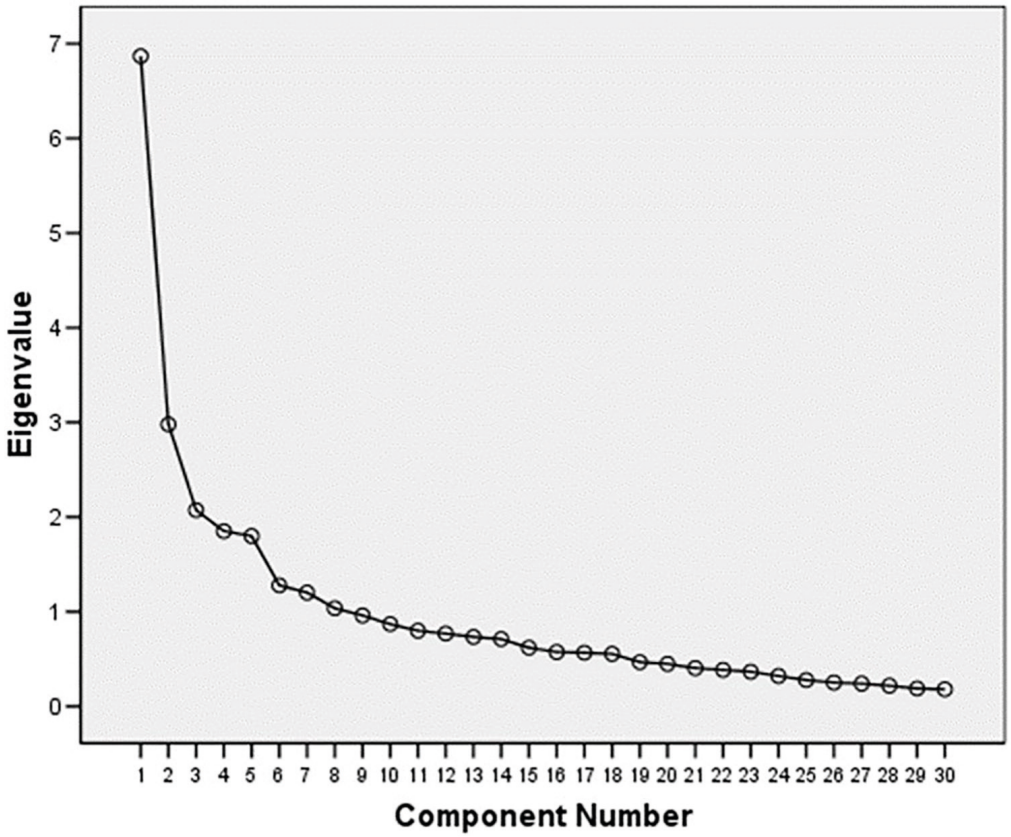
In the Danish version of SPPC, the scores are approximately normally distributed, but with some accumulation at the middle (Skewness = -.0.14; Kurtis = -.030). Below, the factor analysis on SPPC will be expounded first, followed by an analysis of inter-correlations between the sample's subscales and finally an analysis of internal consistency reliability for SPPC.

Factorial patterns

After data had been gathered, typed in and cleaned, the first step was to screen the data – and investigate if the sample was adequate for further analysis and factorial analysis. The preliminary examination of the data – before PCA (Principal Components Analysis) was ran – showed a correlation matrix with coefficients at .3 and above. The Kaiser-Meyer-Olkin coefficient was .687, exceeding the recommended minimum value of .5 (Kaiser, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) obtained statistical significance, which supports correlation matrix and thereby a foundation was found for the assumption that factor analysis could be carried out on the existing data set.

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

Figure 1. Scree Plot



Subsequently, a PC explorative factor analysis was conducted with Oblimin rotation. The choice of oblique rotation was due to an expectation of the factors being related and to the expectation that a relation between dimensions of self-perception would be found (Hair, Tatham, Anderson, & Black, 1998). In addition, this approach has been employed by the author of SPPC in earlier work (Harter, 1985). A minimum factor loading for each item was sat at .30 after a suggestion of a higher limit at .40 had been scrutinized ((Field, 2005) p. 647). This higher limit would result in an omission of two items from the analysis. One item from the subscale "Athletic Competence" and one item from the subscale "Behavioural Conduct" (see Figure 2 next page). The subscale "Global Self-Worth" is never included in such an analysis in the international research literature concerning Self-Perception Profile for Children (e.g.(Pereda & Forns, 2004; Van Dongen-Melman et al., 1993; Wu & Smith, 1997)). Just as the author propound that "Global Self-Worth" is partly shaped by the persons perception of being competent and sufficient in those domains that are important to the individual. According to Harter (1985), it is unlikely that "Global Self-Worth" should appear as a distinct factor, because the different domains vary in importance among individuals and as a consequence of this, they carry different relations to "Global Self-Worth" among different individuals (Van Dongen-Melman et al., 1993).

In the first free run, nine factors appeared which altogether accounted for 74 pct. of the variance (24,9 %, 11,2 %, 7,9 %, 6,9 %, 6,5 %, 5,3 %, 4,5 %, 3,9 % and 3,5 %).

However, the loadings at a nine-factor solution were widely spread with some factors only having two items and it was difficult to create psychological substantial consistency and meaning from this solution. An examination of the analysis' screen plot (see Figure 1) showed a break after the fifth component. With the use of Catell's scree test (Catell, 1966), it was decided that five components should be tested in the continuing analysis.

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

It was, in line with Harter's scale structure that the next run – explorative hypothetical – operated with an adjusted five factor solution. The PC analysis showed all five components with an "Eigenvalue" over 1, and this analysis accounted for 57,4 pct. of the variance. The first factor explains 24,9 pct. of the variance and contains the six items form the subscale "Physical Appearance" (see Figure 2). Factor II explains 11,2 pct. of the variance and contains the six items from the subscale "Behavioural Conduct". The third factor explains 7,9 pct. of the variance and contains six items from the subscale "Athletic Competence". Factor IV expounded for 6,9 pct. of the variance and refers to the subscale "Scholastic Competence". The fifth factor explains 6,5 pct. of the variance and contains six items from the subscale "Social Acceptance". The five factors supported almost 60 pct. of the variance (57,4 pct.), which is considered fully gratifying by a number of authors (Harter, 1982; Ogden, 1993; Pereda & Forns, 2004; Pons, Harris, & de Rosnay, 2004). The factor pattern is satisfactorily distinct with very few cross loadings above .18 (Harter, 1985). One item (no. 26) cross-loaded on factor III and IV, but was included in factor III, where it belonged thematically. There were also

Figure 2.

Principal Components Analysis with Oblimin rotation for five factor structure on 36 items of the Danish version of Self-Perception Profile for Children (N=174)

		Factor *				
	Item	I	II	III	IV	V
4.	Like their body as it is	.85				
10.	Like their physical appearance	.83				
16.	Like face and hair as it is	.77				
22.	Happy with height and weight	.69				
28.	Satisfied with their appearance	.62				
34.	Think they look good	.43				
1.	Don't do things that might cause trouble		.74			
7.	Never do anything they should not do		.68			
13.	Almost always does the right thing		.62			
19.	Is really good at being good		.58		.31	
25.	Like the way they behave		.55			.44
31.	Act the way supposed		.31			
2.	Good at all kinds of sports			.83		
8.	Does good in new kinds of sports			.78		
14.	Is good at new plays and games			.70		
20.	Think they are better than others at sports			.68		
26.	Do good in sports			.66	.37	
32.	Play rather than watch			.33		
5.	Just as good as other children				.73	
11.	Good at schoolwork				.71	
17.	Can almost always figure out the answers				.70	
23.	Is doing okay with homework				.68	
29.	Can do schoolwork fast				.64	
35.	Easily remember what they learn				.52	
3.	Easily gain new friends					.65
9.	Have as many friends as they would like					.60
15.	Most peers like me					.57
21.	Has lots of friends					.55
27.	Does things together with many children					.54
33.	Is popular among other children					.46
	Eigenvalue	6.9	3.1	2.2	1.9	1.8
	Varians explained	24,9	11,2	7,9	6,9	6,5

*** I = Physical Appearance II = Behavioural Conduct III = Athletic Competence; IV =Scholastic Competence V = Social Acceptance**

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

Table 1. Correlations between subscales

Correlations between subscales over five years, SPPC

		Social Accept.	Athletic Comp.	Physical Appearance	Behav. Conduct	Global Self-Worth
Scholastic Comp.	3. gr.	.46	.55	.31	.44	.44
	5. gr.	.34	.28	.27	.44	.39
	7. gr.	.07	.11	.13	.34	.25
Social Acceptance			.50	.44	.43	.53
			.46	.42	.29	.66
			.32	.31	.09	.32
Athletic Competence				.31	.30	.36
				.35	.17	.31
				.44	.09	.24
Physical Appearance					.35	.72
					.26	.67
					.03	.62
Behavioral Conduct						.56
						.46
						.34

cross loadings on item 19 and item 25, but mostly they loaded on factors, which they primary belonged to thematically. Item (no. 19) from the subscale "Behavioural Conduct" was also grouped under the subscale "Scholastic Competence" and the explanation is, presumably, that the wording could point at schoolwork as reference point. In outline, the analysis gave the same factor structure as found in the original version of the scale (Harter, 1985). In conclusion, the study showed a substantial factor loading (Van Dongen-Melman, et. al., 1993) on each subscale. No item had a factor loading lower than .31.

For an overview of factor loadings on all items in the Danish version of Harter's Self-Perception Profile for Children (See Figure 2, previous page).

The factors were – as expected – correlated in the area .19 - .45 - these inter-correlations will be further elaborated in the following section. One can state, that the identified factor structure is very consistent with earlier studies that concerns Self-Perception Profile for Children while comparative analyses was carried out (Harter, 1985; Rhee, 1993; Van Dongen-Melman et al., 1993; Wu & Smith, 1997).

Correlations between sub-scales on Danish Self-Perception Profile for Children

The relation between the six sub-scales or inter correlations between sub-scales will be presented in Table 1, as a result of a Pearson correlational analysis. For the sake of clearness, it was chosen to present the results from every second year over a period of five years.

In general, the study showed a mixed picture from weak, over moderate to moderately high correlations between subscales.

The correlations are generally in the same magnitude as in Harter's (1985) research, but a number of facts call upon attention. The most theoretically interesting to see is, that there is a clear tendency towards the scores being highly correlated when the children are younger. Values under .3 are not apparent while the children are younger, but are more frequent as the children become older. The tendency becomes even clearer if the material is divided up into school classes, but this gives very few cases to the test, and these analyses were omitted.

No negative values was found in table 1, but in general, the inter correlations were moderate but significant at 3rd and 5th grade. A closer look at the

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

Table 2.

Internal consistency for subscales, SPPC

Scholastic Competence	Social Acceptance	Athletic Competence	Physical Appearance	Behavioral Conduct	Global Self-Worth
.85	.76	.76	.80	.71	.79

domain specific subscales displayed a kind of isolated cluster with opposite increasing tendency: there is a weak increasing correlation between the subscales "Athletic Competence" and "Physical Appearance".

The correlations between each specific domain, and "Global Self-Worth" are of separate interest. Across all the correlations, "Physical Appearance" is the subscale that is most consistently related to "Global Self-Worth" at a moderate high level (*r* is in the span of .62 - .72). One could imagine that physical appearance is one of those factors, which affects the child and adolescent's conception of "Global Self-Worth" in a dominant way. However, this is about correlations – and there cannot be pointed towards causality between these factors; in order to draw further conclusions, more studies must be conducted. Anyway, this research ascertains, seen generally over time, that "Global Self-Worth" is that subscale which correlates strongest also with all other subscales: "Social Acceptance", "Athletic Competence", "Scholastic Competence" and "Behavioural Conduct" with moderate correlations (incidentally as expected (Harter, 1985)). There are only moderately high correlations (*r* .62 and above) between the subscales "Physical Appearance" and "Global Self-Worth" – not between "Physical Appearance" and the other scales.

In continuation of the discussion of correlations between schoolchildren's global self-worth and physical appearance (see e.g. literature review in (Aloise-Young, 1993; Harter, 2012)), the data material was divided into school classes, where a distinct picture was revealed: in five school classes, there was a moderate to high correlation between "Global Self-Worth" and "Physical Appearance" (*r* .62 to .83). The correlation was moderate (*r* .52 to .60) in the last three school classes. The conclusion that can be drawn from this is that one of the most crucial factors concerning the children's Global Self-Worth, already in the 3rd grade, is their understanding of their physical appearance. Schoolchildren's feeling of being physically attractive plays a major role in relation to their general self-image. It is underscored that the only inter-correlation, which is identified along with the children's ageing, is the relationship between the subscales Physical Appearance and Athletic Competence.

In general the analysis of the inter-correlations for the six subscales shows that the score correlates higher the younger the children are. Correlations below .3 are more and more frequently seen the older the children get. Global Self-Worth is the only subscale with generally high correlations across time and high correlations with the other subscales.

The final point will discuss the considerations concerning "if it is psychometrically sound": The Danish Self-Perception Profile for Children. It concerns the reliability, the internal consistency of the subscales.

Internal consistency reliability

The internal consistency between the different items in the sample is based on Cronbach's Alpha. The distribution of the items in the factor analysis showed five factors which were exactly equal to Harter's original distribution of items on the subscales and one could therefore comply with Harter's six subscale division. The result of this analysis of the Self-Perception Profile for Children's six subscales is presented in Table 2.

The results of the internal consistency reliability analysis show that the reliability in general is quite acceptable. In a report of her own findings, Harter (1982) expressed that the reliability was positioned moderately high between .71 - . 85.

The subscale Social Acceptance concerns relationship to friends and the perception of how well

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

liked and popular one is among others. In the present study, this subscale has the lowest reliability (.57) at the first measure point in 3rd grade. In her work (Harter, 1985) replaced a couple of items, among others, one at the subscale Social Acceptance, which might have improved the correlation. However, the following data collection and analysis showed that also the subscale Social Acceptance was at level with the other subscales.

In this manner, one can claim that SPPC, in this study, reached an acceptable internal reliability: the inner consistency between the different items turned out to be moderately high between .71 - .85. This result was incidentally corresponding with other international studies, where Harter's instrument has been applied (e.g. (Hagborg, 1993; Skaalvik, 1986; Trusty, Peck, & Mathews, 1994; Wu & Smith, 1997)).

Discussion

A cultural perspective on psychometric properties

As self-perception is no longer a new concept in the psychological field there is a rich diversity of measurement tools for the concept, which has been devised and further developed during the years. The psychometric properties of these measurement tools have therefore been a topic of discussion not only in Denmark, but also in a range of countries (Spaten, 2015).

In Vietnam it has been discussed whether researchers should use original measurement tools without adapting them to the specific cultural-social context. An overview of previous research on self-perception shows that a wide range of measurement tools such as SPSS have been translated and applied in the psychological field in Vietnam. However according to Linh et al., (2017) some aspects of the self can be different according to the culture referred to and therefore the psychometric properties of SPPC and other measurement tools, must be considered in the given cultural context. In continuation of the multidimensional approach to self-perception (Harter, 1985; Linh et al., 2017) suggests adapting the measurement tools of self-esteem to the social-cultural context and therefore proposes an extra dimension (familial self) when addressing self-esteem among Vietnamese adolescents as this is a significant self-esteem area in the given culture (Linh et al., 2017).

Psychometric properties in a coaching context

During recent years, the coaching psychology field has garnered significant attention. The increase in coaching related literature and publications coincides with the growth and demand for coaching in the psychological and organizational field. Grant (2006) found an increase in academic publications by 266 pct. in the period 2001-2005 compared with the period 1996-2000.

Based on this extensive growth a comprehensive review of the current available measurement instruments in the coaching field was carried out by Ellinger & Kim (2014). It was proposed by the authors that the increase in academic publications on coaching called for a wider understanding of the psychometric properties of available instruments. The review therefore included a comprehensive assessment of existing measurement instruments in the coaching field. One of the articles included in the review set out a structural analysis of coaching engagement and presented an overview of the theoretical traditions of coaching (Cox, Bachkirova & Clutterbuck, 2014), while another applied a systematic approach suggesting different core coach competencies (Maltbia, Marsick & Ghosh (2014). One did a systematic review on coaching scales and provided relevant psychometric information regarding validity measures, reliability procedures and testing (Hagen & Peterson, 2014). This systematic review found that not all the available scales applied in a coaching context had the same psychometric properties. They found that only a few scales provided sound psychometric properties and it was concluded that further work had to be done in the coaching scale development – in particularly for executive and peer coaching. There were however several limitations to the review which only included one international scale. Studies that address the psychometric properties of coaching scales from an international perspective could therefore be of future interest. Future studies will be carried out to analyse how self-perception profiles could be useful in a coaching context.

The review by Ellinger & Kim (2014) was intended to increase further research on various types of coaching by examining the psychometric properties of instruments that had been applied in different studies and may continue to be used in prospective research.

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

Discussion and concluding remarks on the analysis of psychometric properties

The development of the SPPC was a step forward in measuring self-concept as it addressed many methodological and theoretical issues, e.g. that global and domain specific perceptions, although contemporaneous within the children's phenomenological field, should be studied as disconnect constructs (Byrne & Schneider, 1988; Marsh & Holmes, 1990).

The mentioned demand to further assess factor structure and internal consistency has in this study proved to show promising results.

The Danish Self Perception Profile for Children is, as a test instrument, a translation of an international approved, validated test, which in different versions, only partly, has found employment in Denmark in a short number of years (Grønfeldt et al., 2003; Jensen, 1998; Schultz Jørgensen & Ertman, 1995). SPPC was before its use translated by this article's author, and the translation was cross-checked with former translations, and a pilot was conducted on two school classes. The data work, quality of data and the work with the results suggest that the instrument has satisfying psychometric qualities.

The instrument's internal consistency reliability has been tested with Cronbach's Alpha. When the quality of SPPC was examined (without including the one year where the subscale Social Acceptance was at .57), the reliability is predominantly in the area .71 to .85, which is a satisfying moderate to moderately high reliability.

Factor analysis was conducted on all the years the instrument has been used and the result is generally consistent with the presentation which was brought in this article (Spaten, 2007). The analysis of the psychometric properties shows a satisfying result – that it is possible to trust studies which use this instrument.

It could also be added that there, in the first phase of the data analysis, was conducted a number of frequency analysis, analysis of the material's distribution, analysis on item level and screening with the purpose of making a general view of the material and in general to test the quality of the data. The main result of these analyses was that the material was suitable for statistical analysis. These, rather comprehensive analyses, will not be expounded in this context, partly because they are very voluminous and partly because relatively few of the analyses are statistically significant. As documentation for these statistical analyses, cross tables and more see Spaten (2007; 2014). The results showed that this could be an appropriate instrument to use for individual assessments and in studies of self-concept. Results provide evidence of validity and reliability for this population.

Thanks to scientific assistant Signe Nygaard for important review, language editing and amendments on the final version of this article.

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

References

Akande, A. (1999). South african children conception of self. *Early Child Development and Care, 152*, 55-76.

Aloise-Young, P. A. (1993). The development of self-presentation: Selfpromotion in 6-10 year old children. *Social Cognition, 11*, 201-222.

Bartlett, M. S. (1954). A note on the multiplying factors for various chi square approximation. Journal of Royal Statistical Society, 16(Series B), 296-8.

Bachkirova, T., Cox, E., & Clutterbuck, D. (2010). *The complete handbook of coaching*. London, England: CIPD.

Byrne, B. M. (1984). The general/academic self-concept nomological network: A review of construct validation research. *Review of Educational Research, 54*, 427-456.

Byrne, B. M., & Schneider, B. H. (1988). Perceived competence scale for children: Testing for factorial validity and invariance across age and ability. *Applied Measurement in Education, 1*, 171-187.

Coolican, H. (2014). *Research methods and statistics in psychology* (6. ed.). London: Hodder & Stoughton.

Catell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, I*, 245-276.

Ellinger, A. D., & Kim, S. (2014). Coaching and Human Resource Development. *Advances in developing human resources*, *16*(2), 127-138.

Field, A. (2005). Discovering statistics using SPSS (2nd ed.). Thousand Oaks, CA, US: Sage Publications, Inc.

Gavin, D. A. W., & Herry, Y. (1996). The french self-perception profile for children: Score validity and reliability. *Educational and Psychological Measurement, 56*, 678-700.

Ginty A.T. (2013) Psychometric Properties. In: Gellman M.D., Turner J.R. (eds) Encyclopedia of Behavioral Medicine. Springer, New York, NY

Grant, A.M. (2008). Workplace and executive coaching: A bibliography from the scholarly business literature. In R. Stober & A.M. (Grant) (Eds.), *Evidence based coaching handbook: Putting best practices to work for your clients* (pp. 367-398). Hoboken, NJ:Wiley.

Granleese, J., & Joseph, S. (1993). Factor analysis of the self-perception profile for children. *Personality and Individual Differences, 15*, 343-345.

Grønfeldt, V., Sigsgaard, E., Hansen, S. E., Hasselstrøm, H., Froberg, K., & Andersen, L. B. (2003). Validering af "om mig selv" - et spørgeskema til børn. *Nordisk Psykologi, 55*(2), 94-106.

Hagborg, W. J. (1993). Gender differences on harter´s self-perception profile for adolescent. *Journal of Social Behavior and Personality, 8*(1), 141-148.

Hair, J. F., Tatham, R. L., Anderson, R. E., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). New York: Prentice Hall.

Harter, S. (1982). The perceived competence scale for children. *Child Development, 53*, 87-97.

Harter, S. (1983). Developmental perspectives on the self-system. In P. H. Mussen & E. M. Hetherington (Eds.), *Handbook of child psychology: Socialization, personality and social development* (Vol. 4, pp. 275-386). New York: Wiley.

Harter, S. (1985). *The self-perception profile for children: Revision of the perceived competence scale for children. Manual*. Denver: University of Denver.

Harter, S. (1990). Issues in assessment of the self-concept of children and adolescents. In A. La Greca (Ed.), *Childhood assessment: Through the eyes of a child*. Boston: Allyn & Bacon.

Harter, S. (1999). *The construction of the self. A developmental perspective*. New York: The Guildford Press.

Harter, S. (2012). *Construction of the self. Developmental and Sociocultural Foundations*. New York: The Guildford Press.

Hattie, J. A., & Marsh, H. W. (1996). Future directions in self-concept research. In B. A. Bracken (Ed.), *Handbook of self-concept* (pp. 421-462). New York: Wiley.

Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state of self-esteem. *Journal of Personality and Social Psychology, 60*, 895-910.

Jensen, B. (1998). *Kompetencebegrebet - en undersøgelse af sundhed og idræt*. Kbh.: DLH.

Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31-36.

Linh, T.T., Houng, T.T and Trang, N.M. (2017) Development and Validation of the Self-Esteem Scale of Toulouse (ETES) in Vietnam. *Open Journal of Social Sciences, 5, 114-125.*

Maltbia, T.E., Ghosh, R., & Marsick, V.J (2013). Contracting and execution as structural executive coaching competencies for enhanced per-

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

formance: Reviewing literature to inform practice and future research. In D. Chapman, & K. Desiderio (Eds.), *Proceedings of the Academy of Human Ressource Develipment Conference.* Arlington, VA.

Marsh, H. W. (1989). *The self-description questionnaire (sdq): A theoretical and empirical basis for the measurement of preadolescent self-concept: A test manual abd a research monograph*.San Antonio, Texas: The Psychological Corporation.

Marsh, H. W., Byrne, B. M., & Shavelson, R. J. (1992). A multidimensional hierarchical self-concept. In T. M. Brinthaupt & R. P. Lipka (Eds.), *The self: Definitional and methodological issues* (pp. 44-95). Albany: State University of New York Press.

Marsh, H. W., & Holmes, I. W. M. (1990). Multidimensional self-concepts: Construct validation of responses by children. *American Educational Research Journal, 27*, 89-117.

Ogden, T. (1993). Projekt opvækstnetværk.Oslo.

Pereda, N., & Forns, M. (2004). Psychometric properties of the spanish version of the self-perception profile for children. *Perceptual and Motor Skills, 98*, 685-699.

Pons, F., & Harris, P. (2001). Piaget's conception of the development of consciousness. *Human Development, 44*(4), 220-227.

Pons, F., Harris, P., & de Rosnay, M. (2004). Emotion comprehension between 3 and 11 years: Developmental periods and hierarchical organizations. *European Journal of Developmental Psychology, 1*(2), 127-152.

Rhee, U. (1993). Self-perceptions of competence and social support in korean children. *Early Child Development and Care, 85*, 57-66.

Schultz Jørgensen, P., & Ertman, B. (1995). *Greve undersøgelsen (projekt opvækstnetværk)*. Kbh.

Schumann, B. C., Striegel-Moore, R. H., McMahon, R. P., Waclawiw, M. A., Morrison, J. A., & Schreiber, G. B. (1999). Psychometric Properties of the Self-Perception Profile for Children in a Biracial Cohort of Adolescent Girls: The NHLBI Growth and Health Study. *Journal of personality assessment*, *73*(2), 260-275.

Shavelson, R. J., Hubner, J. J., & Stanton, J. C. (1976). Self-concept: Validation of construct interpretations. *Review of Educational Research, 46*, 407-441.

Shevlin, M., Adamson, G., & Collins, K. (2003). The self-perception profile for children (sppc): A multiple-indicator multiple-wave analysis using lisrel. *Personality and Individual Differences, 35*, 1993-2005.

Skaalvik, E. M. (1986). Ages trends in male and female self-esteem in norweigian samples. *Scandinavian Journal of Educational Research, 30*(3), 107-119.

Skaalvik, E. M., & Valas, H. (1999). Relations among achiewement, self-concept and motivation in mathmatics and language arts: A longitudinal study. *Journal of Experimental Education, 67*(2), 135-149.

Spaten, O. M. (2007). *Børns identitet og selvopfattelsesudvikling - en længdesnitsundersøgelse af forskellige børnegrupper i danmark [Childrens identity and self-concept development - a longitudinal research with different groups of children in Denmark]*.Aalborg: Forlaget CHREB.

Spaten, O. M. (Ed.). (2014). *Unges identitet og selvopfattelse. Kvalitative og kvantitative studier - aktuel empirisk forskning*. Aalborg: Aalborg University Press

Spaten, O. M., Miller, T., & Rasmussen, P. (2015). Personlighedstest og aptitude-test i erhvervslivet. In A. Rasmussen, C. Ydesen, K. Andreassen & M. Buchardt (Eds.), *Test og prøvelser - Oprindelse, udvikling, aktualitet*. Aalborg: Aalborg University Press.

Spaten, O. M. (2015). Making one-self. In T. G. B. Hansen, K. Jensen de López & P. Berliner (Eds.), *Conceptual and applied approaches: Self in culture in mInd* (pp. 53-87). Aalborg: Aalborg University Press

Trusty, J., Peck, H. I., & Mathews, J. (1994). Achievement, socioeconomic status and self-concepts of forth-grade students. *Child Study Journal, 24*(4), 281-298.

Van Dongen-Melman, J. E. W., Hoor, H. M., & Verhulst, E. C. (1993). Cross-cultural validation of harter's self-perception profile for children in a dutch sample. *Educational and Psychological Measurement, 53*, 739-753.

Wu, Y.-J., & Smith, D. E. (1997). Self-esteem of taiwanese children. *Child Study Journal, 27*(1), 1-19.

Wylie, R. C. (1974). *The self-concept: A review of methodological consideration and measuring instruments (vol. 1)*.Lincoln: University of Nebraska Press.

Wylie, R. C. (1979). *The self-concept: Theory and research on selected topics (vol. 2)*.Lincoln: University of Nebraska Press.

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

Wylie, R. C. (1989). *Measures of self-concept*. Lincoln: University of Nebraska Press.

Contact

Ole Michael Spaten
Aalborg University
Coaching Psychology Unit
Kroghstraede 3
9220 Aalborg Øst
E-mail: oms@hum.aau.dk
Orchid: https://orcid.org/0000-0003-3402-9963

Ole Michael Spaten

Dr Ole Michael Spaten, Licensed psychologist, BA MA PhD Specialist Psychotherapy, MISCPAccred Supervisor, Fellow ISCP, Head of Psychology Master Program, Director of Coaching Psychology Unit and Senior Researcher at Department of Communication and Psychology, Aalborg University.

Award winning psychologist Ole Michael Spaten is a leading pioneer in Danish Coaching Psychology research; he conducted the first Randomized Control Trial in Scandinavia evaluating the effectiveness of brief cognitive behavioral coaching. He is the founding editor-in-chief of the Danish Journal of Coaching Psychology. Ole's research interests and publications relate to self and identity, social learning, coaching psychology-psychotherapy practice and intervention.

The Danish Journal of Coaching Psychology is a joint project of the Coaching Psychology research Unit, Dept. of Communication and Psychology at Aalborg University and the Coaching Psychology Unit, Dept. of Exercise and Sports Science, University of Copenhagen. This document is subject to copyright and may not be reproduced in whole or part in any medium without written permission from the publishers.

Centre for Coaching

Established 2001
Courses run in association with the International Academy for Professional Development Ltd

Promoting Evidence Based Cognitive Behavioural Coaching since 2001

The Centre and its training faculty are leading pioneers of cognitive behavioural coaching. Our courses are recognised by the International Society for Coaching Psychology and are British Psychological Society Learning Centre Approved. The programme is modular and consists of 2-day and 5-day certificated courses. The Centre's Director is Prof Stephen Palmer PhD, Honorary Fellow and former President of the Association for Coaching.

Cognitive Behavioural Coaching Courses

IAFPD Diplomas and Advanced Certificates

Modular programmes in coaching, psychological coaching & coaching psychology: Advanced Certificate; Diploma

IAFPD Certificate Courses

1 Coaching	13-17 Jan; 2-6 Mar; 18-22 May
2 Stress Management and Performance Coaching (6 days)	Modular
3 Coaching Psychology (psychologists only)	16-20 Mar; 15-19 Jun
OR	
Psychological Coaching	16-20 Mar; 15-19 Jun
Work-Based Professional Development (Specialist Topic)	Blended Learning

ACCREDITED ADVANCED DIPLOMA IN COACH TRAINING

Courses 1-3 are the taught work for our Advanced Diploma in Coaching Accredited by Association for Coaching

Trainers: Our experienced trainers are Chartered Psychologists and have published books, chapters or articles on coaching. Most have presented at major coaching conferences.

Two-day and other Courses

Performance Coaching	5-6 Feb; 1-2 Apr; 27-28 May
Stress Management	21-22 Jan; 26-27 Feb; 16-17 Apr
Assertion and Communication Skills Training	11-12 Mar
Problem Focused Counselling, Coaching and Training	22-23 Apr
Health and Wellbeing Coaching	20-21 Apr
Coaching and Coaching Psychology Supervision	14-15 Oct
Positive Psychology Coaching	12-13 May
Developing Psychological Resilience – a Coaching Perspective	25-26 Mar
Developmental and Transitions Coaching	14-15 Jul

Distance Learning Courses

Life Coaching: A cognitive behavioural approach

Stress Management

Courses held at British Psychological Society and RSPH, London or in-house

The Centre for Coaching is an *ILM Recognised Provider*. As a recognised provider, the Centre runs a wide range of coaching and management development programmes which are suitable for Continuing Professional Development. Membership of The Institute of Leadership and Management: our 5-day programmes can lead to Associate grade and two of our 5-day programmes to full Member grade.

Tel: +44 (0) 208 853 4171 Email: admin@iafpd.com
www.centreforcoaching.com

Centre Approved by the International Society for Coaching Psychology which recognises all of our courses. We are an organisational member of the Association for Coaching. Centre for Coaching, 156 Westcombe Hill, London SE3 7DH. In partnership with the Interntional Academy for Professional Development Ltd. www.iafpd.com

ilm Recognised Provider

the british psychological society approved

ISCP INTERNATIONAL SOCIETY FOR COACHING PSYCHOLOGY ISCP Approved Centre

Association for Coaching