

# Parental Empowerment: Construct Validity and Reliability of a Dutch Empowerment Questionnaire (EMPO)

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**Abstract** In this study, the construct validity and reliability of the Empowerment questionnaire (EMPO) that was developed in Dutch youth care was examined. The 12-item EMPO focuses on measuring parental empowerment in raising their children. The three components of psychological empowerment (intrapersonal, interactional, and behavioral) form the rationale for the EMPO. Non-clinical ( $n = 673$ ) and clinical ( $n = 1,212$ ) data were used. Construct validity was tested by the factorial structure, measurement invariance, correlations with other instruments (PSQ-S and SDQ), and empowerment differences between the two groups. Reliability was determined by testing the internal consistency and test-retest reliability. The results show that the factorial validity of the EMPO was sufficient to good, the EMPO was measurement invariant for various subgroups, and the EMPO scales were negatively correlated with parenting stress (PSQ-S) and child behavioral problems scales (SDQ). Furthermore, the clinical group was less empowered, and the correlation between parental empowerment and child behavioral problems was stronger in this group. In addition, both groups of parents had relatively high scores on the interactional component. In the clinical group, however, parental scores on the interactional component were less correlated with scores on the intrapersonal and behavioral components. Finally, reliability

analyses showed a largely sufficient to good internal consistency and test-retest reliability. The EMPO seems to be an instrument with sufficient to good construct validity and reliability. Further research is recommended regarding the underlying assumptions, other aspects of validity, representativeness, and the way it should be used as a tool by professionals for supporting parental empowerment.

**Keywords** Parental empowerment · Psychological empowerment · Youth care · Questionnaire · Construct validity · Reliability

## Introduction

The term empowerment has become increasingly prominent in the realm of human endeavor. Empowerment refers to the processes through which individuals, organizations, or groups gain control over matters that are important to them, and the outcomes of these processes (Rappaport 1987; Zimmerman 2000; Zimmerman and Rappaport 1988). The strength of people to shape and give meaning to interactions with their environment is central to the concept of empowerment (Holden et al. 2004; Peterson 2014). However, as a subject of scientific research, empowerment is a somewhat elusive concept (Koren et al. 1992). It is a layered concept situated on multiple levels that all influence each other (individual, organizational, and communal) and only receives meaning when the context and actors under investigation are considered (Akey et al. 2000; Holden et al. 2004; Rappaport 1987; Vuorenmaa et al. 2014; Zimmerman and Warschawsky 1998). In the scientific context, the large scope of empowerment has led to a multitude of theoretical insights, but less empirical knowledge, due partly to the

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lack of context-specific instruments to measure this construct (Akey et al. 2000; Holden et al. 2004; Peterson 2014; Vuorenmaa et al. 2014).

Since the 1980s in The Netherlands, value has increasingly been attached to the empowerment of clients within healthcare (Van Regenmortel 2009; Schouten 2013; Verzaal 2002). For youth care, this can be seen in the increase of empowerment-oriented programs such as Families First (Spanjaard and Haspels 2005), Home-Start (Hermanns et al. 1997), Family Centered Therapy (Bolt 2006), Family Group Conference (Van Pagée 2003), Signs of Safety (Turnell and Edwards 1999), wraparound care (Bruns et al. 2006), or parent support programs (e.g., Kutash et al. 2011; Nieuwboer et al. 2015; Robbins et al. 2008). The increasing use of such programs can be seen as the consequences of adopting a strength-based approach to care instead of a deficit-based approach (Slot and Spanjaard 2009), a tendency which is also prevalent in other countries (Powell et al. 1997; Lietz 2011). This approach is based upon the assumption that clients who come for help already have various competencies and resources that may be accessed to improve their situation. Although, in a strict sense, children and adolescents (hereafter referred to as youth) are the clients of youth care, parents are involved mostly as mediators in helping to achieve beneficial change. An important prerequisite for this role is that professionals know parents are knowledgeable and competent with regard to the needs of their child/children (Minjarez et al. 2013; Singh et al. 1995), and that parents become partners in shared decision making to determine the best support for themselves and their child (Kutash et al. 2011). In line with Zimmerman (2000), this can be seen as a parental empowerment process in which parents are stimulated to strengthen their parenting competencies to such an extent they can address and solve parenting problems independently of youth care and make the right decisions regarding parenting issues. For the purposes of assessment and evaluation, it is very important to measure the outcomes of this process.

The conceptualization of parental empowerment in this study is based on the work of Zimmerman (1990, 1995, 2000; see also Zimmerman and Rappaport 1988). Zimmerman refers to the outcome of the empowerment process at the individual level as psychological empowerment, which consists of three interconnected components (Zimmerman 1995, 2000). First, the individual has a feeling of personal control in his/her approach to matters important to him/her (intrapersonal component). In addition, the intrapersonal component is related to feelings of competence and self-efficacy. Second, an empowered person has greater critical awareness to see and handle matters important to him/her within and with his/her environment (interactional component). The interactional component concerns the alertness, willingness, and resolve of an

individual to change undesired situations, take control while doing so, and look for solutions and call upon resources. Third, an empowered person actually addresses matters important to him/her (behavioral component). This component concerns behavior that directly influences the realization of the desired situation, such as behavior aimed at solving problems (coping) and exercising socio-political control by participating in the community and in (interest) organizations. Given Zimmerman's three components, parental empowerment is defined as the outcomes of a process by which parents are strengthened in raising their child by increasing their feelings of personal control, their critical awareness of handling parenting issues within and in interaction with their environment, and their parental control over the child.

A hypothetical relationship exists between the three components (intrapersonal, interactional, and behavioral). Applied to a problematic parenting situation, parents who feel stronger as individuals tend to view situations as such, address them, and look for support or other solutions, and vice versa. Because of these tendencies, they will eventually change their parenting behaviors more effectively and in doing so, will (re)gain control over the raising of their children. However, little empirical evidence exists for the relationship among the three components. Some empirical studies are based on one (intrapersonal) or two (intrapersonal and interactional) components of Zimmerman's conceptualization of psychological empowerment (e.g., Christens et al. 2011; Holden et al. 2004; Peterson et al. 2006). Other studies do not use Zimmerman's categories; rather, they use a threefold division of attitude, knowledge, and behavior at the individual level of empowerment (e.g., Farber and Maharaj 2005; Martinez et al. 2009; Minjarez et al. 2013; Koren et al. 1992; Weiss et al. 2012, 2015). Empowerment is related to, but includes more than comparable concepts such as self-efficacy, competence, and power (Zimmerman 1995). Compared to self-efficacy, empowerment not only includes the ability to influence outcomes, but also involves other concepts of control, such as locus of control (Zimmerman and Warschausky 1998). Empowerment also differs from competence because empowerment typically includes issues such as critical awareness and social change, and because empowerment is linked more to proactive behavior. Furthermore, empowerment differs from power. Empowerment does not suggest authority, but is connected to a critical awareness of one's environment and an active engagement with it (Zimmerman 1995).

Parental empowerment is associated with various factors within the family context. Non-clinical studies have shown that higher parental empowerment is associated with fewer child behavioral problems (Weiss et al. 2012, 2015), less parental stress (Vuorenmaa et al. 2016; Weiss et al. 2015), more positive perceptions of the parenting

process (Weiss et al. 2015), and less perceived stress in everyday life (Vuorenmaa et al. 2016). Additionally, more parental empowerment is connected to a greater ability to act adequately as a parent, less use of professional care, and better use of social support (Wakimizu et al. 2011). Parental empowerment is reinforced when more formal and informal sources of help are available in the immediate environment (Nachshen and Minnes 2005). Clinical research on family-oriented support has revealed a relationship between higher levels of parental empowerment and fewer child behavioral problems (Graves and Shelton 2007). More parental empowerment is also related to less parenting stress, a family that functions better, and less child stress, as shown in a study of parents with clinic-referred children (Scheel & Rieckmann 1988).

The aim of this study was to determine the construct validity and reliability of the Empowerment Questionnaire (EMPO), which was developed in Dutch youth care to measure parental empowerment in raising children. The EMPO focuses on the individual level of empowerment outcomes and is based on Zimmerman's three components of psychological empowerment (Zimmerman 1995, 2000). For the intrapersonal component, the focus was on the feeling of control parents had as persons, not specifically as parents. Zimmerman referred to domain-specific control for the intrapersonal component; however, the authors of the EMPO assumed that, within the family domain, parents' roles as individuals and as parents are related. For the behavioral component, the focus was on parents' experiences that their behaviors provide them with control over raising their children. Participating in communities and organizations, which Zimmerman viewed as part of the behavioral component to exercise socio-political control, was not relevant to this study and therefore was not analyzed. In The Netherlands, the position of clients in healthcare is namely strongly anchored in various laws regarding their rights, their access to information and avenues for lodging complaints in the event of maltreatment, and their relation to insurers and providers (Schäfer et al. 2010). From this perspective, the EMPO differs from other measurements of parental empowerment such as the Psychological Empowerment Scale (PES) (Akey et al. 2000) and the Family Empowerment Scale (FES) (Vuorenmaa et al. 2014), which measure the extent to which parents act to obtain services their child needs from the care system.

## Method

### Participants

For the present study, data were used from a non-clinical and a clinical group.

### Non-Clinical Group

The non-clinical group consisted of 673 parents who responded to a call amongst 1,815 parents to participate, a response of 37 %. The non-clinical group consisted of 673 unique families, 495 mothers (74 %), and 178 fathers (26 %). Approximately 46 % of the parents (303 out of the 673) were aged between 23 and 40 years, and 54 % (370) were older than 40 years. Most of the parents (89 %; 599 out of the 673) were employed. The majority (85 %; 569) lived in families with a partner, who was also the biological parent of the child/children; 9 % (62) were single parents. Most parents were highly educated; 78 % (525) had at least higher vocational education. The 673 parents lived in families with an average of two children ( $SD = 0.8$ ). Information was collected on one child per parent. Of the 673 children, 52 % were girls (348). The average age of the children was 8.9 years ( $SD = 6.0$ ); 39 % (262) were between 4 and 12 years, 29 % (193) were younger than 4 years, and 32 % (218) were 12 years or older. Most of the children attended regular primary (39 %; 262) or secondary school (24 %; 162). A few children (2 %; 10) attended special (primary or secondary) schools.

### Clinical Group

The clinical group consisted of 1,212 parents who, with their children, were supported by a youth care organization in the east of The Netherlands. This organization for youth and parenting support, a kind of child welfare organization, offers children and youths (0–25 years old) and their parents support and treatment for parenting problems. The 1,212 parents in the clinical group were referred to the youth care organization because of problems in one (16 %) or more (84 %) domains. Most of the parents had family problems (71 %) relating to their parental skills, the family climate or structure, and mutual family relations. Many parents (59 %) also experienced behavioral (59 %) or emotional (40 %) problems with their child. Less common were problems with or within the parents' social network (25 %) and problems related to their child's self-esteem (25 %) or cognition (13 %). Because of the problems in these domains, empowerment of the clinical group of parents in raising their children was an important issue. Each of the participating 1,212 parents was from a different family. The clinical group consisted of 829 (68 %) mothers and 383 (32 %) fathers. Of the 1,212 parents, 36 % (441) were single parents, 30 % (369) were part of two-parent families with both biological parents, and 13 % (157) were part of two-parent households, with one biological parent and one step-parent. Three percent of parents (31) were adoptive parents. Data regarding education level, daily activities, and age of parents were unavailable. When multiple children from the

same family were admitted to youth care, one child was included in the study based on chance. Of the 1,212 registered children, 46 % (556) were girls. The average age of children was 11.6 years old ( $SD = 5.1$ ). Approximately 28 % (344) of the children were between 4 and 12 years old, 13 % (151) were younger than 4 years old and 59 % (71) were older than 12. Most children attended regular primary (298; 25 %) or secondary school (371; 31 %), and 91 children (8 %) attended special (primary or secondary) schools.

Of the 1,212 referred children, the majority lived at home (936; 77 %), 138 (11 %) lived in residential facilities (40; 3 %), foster homes (84; 7 %), or in crisis care (10; 1 %), or in some form of assisted living accommodation (4; 1 %). The professional support offered by the youth care organization included ambulant family support (1,100; 92 %), sometimes in combination with foster, day, or residential care for children who (temporarily) did not live at home.

## Procedure

### *Non-Clinical Group*

The call to participate in the survey was distributed via email amongst 1,815 parents from a non-clinical population. Part of the 1,815 email addresses (1,225 employees with children) were supplied by an organization that offers care to both youngsters and adults. The other part (590 parents) was gathered through a promotion campaign by the researchers. Only one parent per family was included. The 673 parents who agreed to participate completed an online questionnaire about themselves (empowerment and parenting stress) and about their children (behavioral problems) between October and December 2014. For families with multiple children, parents answered questions about the child whose forename came first alphabetically (allocation based on chance). In the first half of November 2014, a follow-up measurement was conducted amongst 168 parents who had completed the questionnaire 5–6 weeks earlier. This questionnaire gathered only information about parental empowerment and stress. Because of some inconsistencies between the two measurements (e.g., the date of birth of parents or the name of the child was missing or different), only follow-up data of 135 out of the 168 (80 %) non-clinical parents was analytic. The 135 parents were comparable to the other 538 parents from the non-clinical group in terms of background characteristics (gender parent, age, and education level, and gender child, age and day activities;  $\chi^2$ -tests were all not significant).

### *Clinical Group*

The research data for the clinical group of 1,212 parents were collected from the time the parents and/or child

became involved in youth care with the youth care organization. Involvement with youth care occurred between September 2009 and April 2015. At the start, the 1,212 parents from the clinical group provided information via questionnaires about their own empowerment and the behavioral problems of their admitted children. These parents were part of a larger group of 8,200 parents who were involved during the abovementioned period (2009–2015) because their children were registered at the youth care organization. No data were collected for the majority of parents (6,988), which is largely because the research data were taken from the system of routine outcome monitoring implemented at the institution, which occurred in a phasic manner. In terms of various background characteristics (family composition, the gender of registered children, and living situation upon commencement), the group of 1,212 parents was comparable to the total population of 8,200 referred parents between 2009 and 2015.

## Measures

### *Parental Empowerment*

The EMPO consists of 12 items on parental empowerment in raising children. Items were formulated as statements to which parents responded using a 5-point scale (*disagree completely, disagree, don't disagree/agree, agree, agree completely*). Four statements dealt with what parents thought of themselves and their feelings of personal control from Zimmerman's (1995, 2000) intrapersonal component. Five statements were about alertness, willingness, and the resolve of parents to see and address undesired parenting situations, willingness to take control of their issues, seek advice and support from others if necessary, and look for solutions. The behavioral control component was measured using three statements concerning the behavioral control of parents and their influence in raising their children. The sum of the scores on all 12 items yielded a Total Empowerment score for parents.

### *Parenting Stress*

Parenting stress was measured with the short version of the Parenting Stress Questionnaire (PSQ-S; Vermulst et al. 2015). The PSQ-S has 10 positively formulated statements (e.g., 'I have pleasure in life'; 'I often feel good'; 'I have control of my child'; 'I can correct my child well if needed') with four answers (is completely applicable to me, is applicable to me, is fairly applicable to me, is not applicable to me). These statements concern problems in the parent-child relationship, problems with parenting, and depressive moods of parents. Together, the items represent a global index for parenting stress. The psychometric quality of the

PSQ-S suffices. According to Vermulst et al. (2015), the questionnaire shows a 1-factor solution with a good fit ( $\chi^2(26) = 203.16$ ,  $p = 0.000$ , CFI = .986, RMSEA = .069). The internal consistency of the measurement instrument is also good (Cronbach's  $\alpha = .86$ ; McDonald's  $\omega_h = .91$ ). User possibilities of the PSQ-S are comparable to the extensive version of the list, the PSQ. In our study, only parents in the non-clinical sample completed the PSQ-S; the reliability was good ( $\alpha = .90$ ,  $\omega_h = .99$ ).

### Children's Behavioral Problems

Children's behavioral problems were established via the Dutch version of the Strengths and Difficulties Questionnaire (SDQ; Goedhart et al. 2003; Goodman 1997). The SDQ measures the existence of emotional and behavioral problems, social competencies, and consequences of the present problems for the daily functioning of children and young people aged 3–16 years. The SDQ has separate versions for youth of various ages and for various informants. In our study, parents completed the version for youngsters from 3 to 16 years old. The list contains 25 items formulated partly negatively and partly positively, and scored on a 3-point scale (*false*, *partly true*, *definitely true*). Together, the 25 items constitute five subscales, with five items each: emotional problems, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior. A total score was calculated by adding the four problem scales, without prosocial behavior. We used the Dutch version for parents (Goedhart et al. 2003); the scale for prosocial behavior was not included. Stone et al. (2015) showed that the reliability of the SDQ for the total score is sufficient to good ( $\alpha \geq .77$ ,  $\omega_h \geq .87$ ) at three consecutive measurement moments. The reliability of the SDQ in our study was also sufficient to good for the non-clinical group ( $\alpha = .75$ ,  $\omega_h = .95$ ) and good for the clinical group ( $\alpha = .82$ ,  $\omega_h = .96$ ).

## Data Analyses

### Construct Validity

To test the theoretical division into three factors (intra-personal, interactional, and behavioral control) we used Confirmatory Factor Analysis (CFA) with the program package Mplus 7.2 (Muthén & Muthén 1998–2013). For this purpose, the non-clinical and clinical samples were divided into two (practically) equal halves in a non-selective manner. The two non-clinical halves consisted of 337 and 336 parents; the two clinical halves both had 606 parents. The factor structure was tested for both the non-clinical and clinical group in the first half of the sample, leaving the possibility of improving the fit of the factor model when the

fit was unsatisfactory. The eventual factor structure was tested in the second half of both sample groups.

Because the response scales of the items were 5-point scales, (ordered) categorical confirmatory factor analysis (CCFA) will be applied with the WLSMV-estimator (weighted least square with a mean and variance-adjusted  $\chi^2$ -statistic and corrected number of df). In addition to the adjusted  $\chi^2$ -test, the comparative fit index (CFI; Bentler 1990) and the root mean square error of approximation (RMSEA; Steiger 1998) will be used as fit measures. The fit of a model with a CFI greater than .95 and a RMSEA of less than .05 is considered good. If the CFI is greater than .90 and the RMSEA less than .08, the fit is considered acceptable (Marsh et al. 2004).

Measurement invariance was tested for parent (informant) gender and level of education and for child (subject) gender and age within the non-clinical and clinical groups. Because data were missing within the clinical group for parental level of education, we examined only the measurement invariance for education within the non-clinical group. For testing measurement invariance, we used the procedure described by Steenkamp and Baumgartner (1998). First, we determined whether each construct contained the same items for the subgroups (configural invariance). The criterion for configural invariance is a factor model with a good/acceptable fit. Subsequently, we tested whether the factor loadings did not differ for the subgroups (metric invariance), and whether the threshold values of the items could be considered equal (scalar invariance). Metric and scalar invariance were tested simultaneously because the items are assumed to be measured at the ordinal (= ordered categorical) level. For these types of items it is not possible to test metric and scalar variance separately (Kim and Yoon 2011; Muthén and Muthén 1998–2013). Metric invariance means that relationships (correlations, regressions) between factors can be compared across subgroups. Scalar variance implies that factor means are comparable. To test the metric/scalar invariance, we used the  $\chi^2$ -difference test (DIFFTEST in Mplus, see Asparouhov and Muthén 2006). As is the case for the  $\chi^2$ -value to test model fit, the meaning of the  $\chi^2$ -difference test is limited because it is sensitive to large samples (Asparouhov and Muthén 2006). Therefore, we also used differences in two other fit indices (CFI and RMSEA) as these are less influenced by sample size. If  $\Delta$ CFI is less than  $-0.01$  and  $\Delta$ RMSEA is less than  $0.015$ , it is assumed that metric or scalar invariance does exist (Chen 2007; Cheung and Rensvold 2002).

Pearson correlations of the EMPO with the SDQ (behavioral problems of child) were examined for both groups. Moreover, Pearson correlation of the EMPO with the PSQ-S (stress of parent) was examined for the non-clinical group. Furthermore, we established whether differences in parental empowerment expected between the

non-clinical (more empowerment) and clinical groups (less empowerment) could be found empirically (one-tailed *t*-test).

### Reliability

The internal consistency of the EMPO was determined using Cronbach's  $\alpha$  (Cronbach 2004) and McDonald's  $\omega_h$  (McDonald 1978, 1999). Some researchers have argued against the accuracy of  $\alpha$ , as in certain cases this reliability measurement could lead to gross underestimation (Bentler 2009; Schmitt 1996; Sijtsma 2009). However, McDonald's  $\omega_h$  is a suitable alternative (Revelle and Zinbarg 2009). According to Zinbarg et al. (2005),  $\alpha$  and  $\omega_h$  are both underestimations of true reliability; however,  $\omega_h$  is always higher than  $\alpha$ . The test-retest reliability of the EMPO for the clinical group was determined using Pearson's correlation coefficient (*r*). According to the Committee of Test Affairs in The Netherlands (COTAN; Evers et al. 2010), reliability measures of tests for less important decisions that are less than .70 are considered insufficient. Reliability measures between .70 and .80 are sufficient, and reliability measures higher than .80 are considered good.

## Results

### Construct Validity

#### Factorial Validity

Testing the factorial validity of the EMPO using CFA on the first half of the sample in both groups showed the following fit:  $\chi^2(50) = 125.87$ ,  $p = 0.000$ , CFI = .978, RMSEA = .067 for the non-clinical group and  $\chi^2(50) = 175.50$ ,  $p = 0.000$ , CFI = .983, RMSEA = .064 for the clinical group. Because Item 10 ('I have control over the behavior of my child') and Item 11 ('My child always behaves the way I want him/her to') of the behavioral control factor showed significant correlated error terms (indicating an overlap in the meaning of the two items), we correlated the error terms of both items. Correlating error terms within a factor is defensible (see Hooper et al. 2008). Subsequently, the factor model including the correlated error terms of Item 10 and Item 11 were tested on the second half of the sample in both groups with CFA. The fit of the factor models was  $\chi^2(50) = 145.17$ ,  $p = 0.000$ , CFI = .966, RMSEA = .075 for the non-clinical group and  $\chi^2(50) = 142.90$ ,  $p = 0.000$ , CFI = .988, RMSEA = .055 for the clinical group. All fit estimates were acceptable (RMSEA < .08) to good (CFI > .95).

Table 1 presents the standardised factor loadings ( $\lambda$ ), item-rest correlations ( $r_{i\cdot}$ ), and fit measures for the total

non-clinical group of 673 parents and for the total clinical group of 1,212 parents. The standardised factor loadings were substantial for both groups. Eight of the 12 factor loadings in the non-clinical group and 10 of the 12 factor loadings in the clinical group were > .60. The factor loadings varied from .35 (non-clinical group) and .43 (clinical group) to .96 (non-clinical group) and .91 (clinical group). The item-rest correlations were good (> .30) for practically all items according to COTAN-norms (Evers et al. 2010). Item 5 is an exception with a value of .21 in the clinical group, but still acceptable.

The three factors correlate within both groups (Table 2). The correlation of the interactional component with the intrapersonal and behavioral control component differed in strength between the non-clinical and clinical groups. The correlations between the interactional and intrapersonal components ( $r = .48$  versus  $r = .34$ ,  $z = 3.51$ ,  $p = .000$ ) and between the interactional and behavioral components ( $r = .49$  versus  $r = .30$ ,  $z = 4.70$ ,  $p = .000$ ) were significantly higher in the non-clinical group (for a calculation of the differences, see Cohen and Cohen 1983, p. 54; Preacher 2002).

### Measurement Invariance

Table 3 describes the results of the test for measurement invariance of the EMPO for the various subpopulations. The changes in the fit indices between the model in which the factor loadings and threshold values were estimated freely (configural model) and equated (metric/scalar model) generally meet the established criteria ( $p$ -value of the  $\chi^2$ Diff-test > .05 and/or  $\Delta$ CFI < -0.01 and  $\Delta$ RMSEA < 0.015). Of the seven groups, four had  $p$ -values for the DIFFTEST greater than .05. Additionally, for all seven groups, the CFI did not decrease and the RMSEA did not increase. Therefore, for all subpopulations, the metric/scalar model (2) did not fit worse than the configural model (1). The scores on the EMPO of fathers and mothers could be compared within the non-clinical and clinical groups. The same was true for the comparison of scores in terms of child gender and age (subdivided into three categories: 0–3 years old, 4–11 years old, and 12 years and older) and parental level of education in the non-clinical group (< HVO [Higher Vocational Education] and HVO or higher).

### Correlations with PSQ-S and SDQ

The analysis of correlations of the EMPO with the PSQ-S and the SDQ showed that, for the total scales, more parental empowerment was associated with less parenting stress and fewer child behavioral problems (Table 4) in the non-clinical group. The correlation of the EMPO Total was  $r = -.39$  ( $n = 654$ ,  $p = .000$ ) with the PSQ-S and  $r = -.18$

**Table 1** CFA: standardised factor loadings ( $\lambda$ ) and item-rest correlations ( $r_{it}$ ) of the EMPO

	Non-clinical group ( $n = 673$ )		Clinical group ( $n = 1,212$ )	
	$\lambda$	$r_{it}$	$\lambda$	$r_{it}$
Intrapersonal				
1. I am in control of myself	.79	.61	.80	.57
2. I am in control of my life	.88	.65	.80	.56
3. I don't easily get stressed	.46	.32	.50	.36
4. I feel confident about the future	.80	.65	.70	.62
Interactional				
5. I make use of advice or support from people around me, if necessary	.35	.31	.43	.21
6. I always fight for matters that are important to me	.56	.50	.70	.39
7. I correct the behavior of my child when necessary	.79	.62	.78	.49
8. I immediately act when there are problems with my child	.64	.47	.77	.45
9. I look for solutions myself when I have a problem with my child	.73	.58	.71	.44
behavioral control				
10. I have control over the behavior of my child	.73	.56	.80	.59
11. My child always behaves the way I want him/her to	.51	.35	.76	.53
12. I am very much in control of the raising of my child	.96	.70	.91	.60

*Note*

$\lambda$  = standardized factor loading,  $r_{it}$  = item-total correlation

Model fit non-clinical group ( $n = 673$ ,  $\chi^2(50) = 214.198$ ,  $p = 0.000$ , CFI = .973, RMSEA = .070)

Model fit clinical group ( $n = 1,212$ ,  $\chi^2(50) = 250.951$ ,  $p = 0.000$ , CFI = .989, RMSEA = .058)

**Table 2** Correlations between the EMPO scales

Non-clinical group ( $n = 673$ )			
	Intrapersonal	Interactional	Behavioral control
Interactional	.48		
Behavioral control	.47	.49	
Total Empowerment	.81	.84	.77
Clinical group ( $n = 1,212$ )			
	Intrapersonal	Interactional	Behavioral control
Interactional	.34		
Behavioral control	.45	.30	
Total Empowerment	.80	.71	.77

*Note* All correlations are significant with  $p < 0.001$

( $n = 654$ ,  $p = .000$ ) with the SDQ. For the non-clinical group, the correlations between the three components of the EMPO and PSQ-S were strongest for the behavioral control component ( $r = -.46$ ,  $n = 653$ ,  $p = .000$ ) and weakest for the interactional component ( $r = -.16$ ,  $n = 653$ ,  $p = .000$ ). The correlation between the subscales of empowerment and the

total score of the SDQ was  $r = -.29$  ( $n = 654$ ,  $p = .000$ ) for the behavioral component and  $r = -.16$  ( $n = 654$ ,  $p = .000$ ) for the intrapersonal component. More child behavioral problems were associated with lesser feelings of personal control as individuals and lesser parental control in raising their children. The correlation between the interactional component and total child behavioral problems was not significant ( $r = -.02$ ,  $n = 654$ ,  $p = .54$ ).

For the clinical group, information is missing on parenting stress; only the correlation between the EMPO and SDQ was known ( $r = -.33$ ,  $n = 1,047$ ,  $p = .000$ ) for the total score of both lists. The correlations between the three components of parental empowerment and the total score for child behavioral problems was strongest for the behavioral control component ( $r = -.42$ ,  $n = 1,047$ ,  $p = .000$ ) and weakest for the interactional component ( $r = -.11$ ,  $n = 1,047$ ,  $p = .000$ ). In contrast to the non-clinical group, the correlation between the total score for behavioral problems and the interactional component in the clinical group was significant. Furthermore, a correlation existed between total behavioral problems and the intrapersonal component ( $r = -.22$ ,  $n = 1,047$ ,  $p = .000$ ).

The correlation between the total scores for parental empowerment and child behavioral problems was significantly higher for parents in the clinical group ( $r = -.33$ )

**Table 3** Goodness-of-fit indices of the factor structure of the EMPO

M	Factor loadings and thresholds	Variable	$\chi^2$	df	p	CFI	RMSEA	$\Delta$ CFI	$\Delta$ RMSEA	$\chi^2$ Diff-test		
										$\chi^2$	df	p
Non-clinical group (n = 673)												
		Informant										
1	Free to vary	Gender	256.24	100	.000	.976	.068					
2	Equal		285.47	143	.000	.978	.054	.002	-.014	74.62	43	.002
1	Free to vary	Education	287.78	100	.000	.969	.075					
2	Equal		278.73	143	.000	.978	.053	.009	-.022	56.82	43	.077
		Child										
1	Free to vary	Gender	284.37	100	.000	.971	.074					
2	Equal		275.13	144	.000	.980	.052	.009	-.022	54.18	44	.140
1	Free to vary	Age	396.73	152	.000	.959	.085					
2	Equal		434.82	224	.000	.965	.065	.006	-.020	108.42	72	.004
Clinical group (n = 1,212)												
		Informant										
1	Free to vary	Gender	313.94	100	.000	.986	.059					
2	Equal		388.84	141	.000	.983	.054	-.003	-.005	108.14	41	.000
		Child										
1	Free to vary	Gender	314.20	100	.000	.985	.059					
2	Equal		293.41	141	.000	.989	.042	.004	-.017	39.63	41	.532
1	Free to vary	Age	364.52	150	.000	.985	.059					
2	Equal		406.70	238	.000	.988	.042	.003	-.017	109.34	88	.061

Note M = model. informant gender (mother/father). informant education (higher vocational education: no/yes). child gender (girl/boy). child age (0–4 years/4–12 years/>12 years)

than for parents in the non-clinical group ( $r = -.18$ ,  $z = 3.34$ ,  $p = 0.000$ ). For the subscales, there was not always a significant difference in the correlations between the clinical and non-clinical group. Furthermore, it is noteworthy that compared with the other two components of empowerment, the behavioral control component had higher correlations with nearly all the subscales of the SDQ in both groups. Within these correlations the behavior component was associated significantly more strongly with the child’s conduct problems than with emotional problems. This was the case for both the non-clinical group ( $r_{jk} = -.31$ ,  $r_{jh} = -.17$ ,  $r_{kh} = .20$ ,  $z = 2.96$ ,  $p = .002$ ) and for the clinical group of parents ( $r_{jk} = -.33$ ,  $r_{jh} = -.20$ ,  $r_{kh} = .28$ ,  $z = 3.70$ ,  $p = .001$ ) (for a calculation of the differences, see Steiger 1980; Lee and Preacher 2013).

*Differences Between Non-Clinical and Clinical Group*

The average score on the interactional component was practically the same for both groups of parents (non-clinical group  $\bar{x} = 4.04$  and clinical group  $\bar{x} = 4.02$ ,  $t = 0.58$ ,  $p = .564$ ,  $ES = .04$ ) (Table 5). Parents in both groups resembled each other in their alertness, willingness, and resolve to see and address undesired parenting situations,

ask for advice or help, if necessary, and look for solutions. However, the two groups of parents differed in their average scores on the intrapersonal component ( $\bar{x} = 3.80$  and  $\bar{x} = 3.45$ ,  $t = 11.93$ ,  $p = .000$ ,  $ES = .56$ , respectively) and on the behavioral control component ( $\bar{x} = 3.53$  and  $\bar{x} = 2.65$ ,  $t = 26.61$ ,  $p = .000$ ,  $ES = 1.17$ , respectively). On both components the non-clinical group showed more empowerment. Moreover, total parental empowerment for the non-clinical group was higher than that of the clinical group (Total score was  $\bar{x} = 3.83$  and  $\bar{x} = 3.49$ ,  $t = 15.61$ ,  $p = .000$ ,  $ES = .72$ ).

**Reliability**

The reliability of the EMPO in terms of internal consistency was mostly good (Table 6). The reliability of the total scale was  $\alpha = .86$  and  $\omega_h = .88$  in the non-clinical group and  $\alpha = .82$  and  $\omega_h = .86$  in the clinical group. The reliability of the interactional scale was the lowest (.76 and .74  $\omega_h$ ), but was sufficient according to COTAN-norms (Evers et al. 2010). The other scales had reliabilities greater than .80 ( $\omega_h$ ), and therefore were good. In the non-clinical group, 135 parents filled out the EMPO 5–6 weeks later again. The test-retest reliability for the total scale was good ( $r = .79$ ,

**Table 4** Correlations between EMPO and SDQ/PSQ-S

	Total Empowerment	Intrapersonal	Interactional	Behavioral control
Non-clinical group				
PSQ-S ( $n = 653$ )	-.39***	-.37***	-.16***	-.46***
SDQ total ( $n = 654$ )	-.18***	-.16***	-.02	-.29***
Emotional problems	-.12**	-.17***	.04	-.17***
Conduct problems	-.18***	-.12**	-.04	-.31***
Hyperactivity/inattention	-.11**	-.08*	-.01	-.19***
Peer relationship problems	-.12**	-.08*	-.06	-.17***
Clinical group ( $n = 1,047$ )				
PSQ-S	n.a.	n.a.	n.a.	n.a.
SDQ total	-.33***	-.22***	-.11***	-.42***
Emotional problems	-.18***	-.14***	-.08*	-.20***
Conduct problems	-.34***	-.18***	-.12***	-.33***
Hyperactivity/inattention	-.23***	-.15***	-.06*	-.23***
Peer relationship problems	-.18***	-.14***	-.07*	-.18***

Note \*\*\*  $p < 0.001$ . \*\*  $p < 0.01$ . \*  $p < 0.05$

$p = .000$ ). The test-retest reliability for the intrapersonal and interactional subscales was  $r = .73$  ( $p = .000$ ) and  $r = .66$  ( $p = .000$ ) for the behavioral control subscale. The test-retest reliabilities were sufficient for the first two scales, but not sufficient for the last scale.

## Discussion

The construct validity and reliability of the EMPO was tested with a 12-item questionnaire aimed to measure parental empowerment in raising children, with Zimmerman's three components of psychological empowerment as a theoretical starting point. For this purpose, data were used from both non-clinical and clinical group of parents. The overall conclusion was that the construct validity and reliability of the EMPO was sufficient to good. In both groups of parents, the theoretical division of empowerment into an intrapersonal component (four items), an interactional component (five items), and a behavioral control component (three items) was empirically found. Additionally, the EMPO was measurement invariant for various subgroups (gender and education of parents, and gender and age of children). Furthermore, relationships were observed between the EMPO and two other questionnaires (SDQ and PSQ-S) that were also established in other studies (Scheel and Rieckmann 1998; Weiss et al. 2012, 2015). More parental empowerment was associated with fewer child behavioral problems (measured in both groups) and less parenting stress (only measured in the non-clinical group). In particular, the highest correlations were found between the behavior control component of empowerment and the SDQ, including its subscales. Moreover, in the non-clinical

group as well as in the clinical group, the behavior control component correlated significantly higher with the conduct problems scale of the SDQ than with the emotional problems scale. Our study also showed that the internal consistency of the EMPO scales was largely sufficient (established with  $\alpha$ ) to good (established with  $\omega_b$ ). The test-retest reliabilities were sufficient for the EMPO as a whole and for the subscales intrapersonal and interactional, but not sufficient for the subscale behavioral control. The  $\omega_b$ , as a measurement of internal consistency, was higher than  $\alpha$  in practically all cases, which supports Zinbarg et al. (2005).

A comparison of the findings between the two groups of parents showed (1) that parents from the clinical group perceived less total empowerment and less empowerment on the intrapersonal and behavioral control components than parents from the non-clinical group did, and (2) that a stronger correlation existed between total parental empowerment and total child behavioral problems in the clinical group. A possible explanation is that families become involved with professional help, such as youth care, because they have insufficient parental empowerment to handle their children's behavioral problems (see Scheel and Rieckmann 1998). Additionally, parents who use youth care may indicate that the cause of their problems refers to themselves (low internal locus of control) and the solution to the problems can be found with the help of professionals (high external locus of control; Bot 2013). Therefore, it is important that youth care services can stimulate parental empowerment by seeing parents as equal and competent decision-making partners and by taking into account the obstacles parents perceive in raising their children with behavioral problems, the resources they need, and the extent to which their environment can change (see also,

**Table 5** Differences in parental empowerment between non-clinical and clinical group (measurement: EMPO)

	Non-clinical group (n = 673)		Clinical group (n = 1,212)		t-test			Effect size
	Mean	SD	Mean	SD	df	t	p	
Intrapersonal	3.80	.55	3.45	.67	1883	11.93	.000	0.56
Interactional	4.04	.48	4.02	.50	1183	.58	.564	ns 0.04
Behavioral control	3.53	.59	2.65	.83	1883	26.61	.000	1.17
Total Empowerment	3.83	.43	3.49	.49	1883	15.61	.000	0.72

Note t-test (one tailed, unequal variances assumed). ns: not significant. effect size (ES) with pooled SD. ES .20–.50 = small. ES .50–.80 = medium. ES > .80 = large

**Table 6** Reliability of the EMPO scales

Scale	Items	Non-clinical group (n = 673)		Clinical group (n = 1,212)	
		$\alpha$	$\omega_h$	$\alpha$	$\omega_h$
Intrapersonal	4	0.74	0.83	0.73	0.87
Interactional	5	0.73	0.76	0.74	0.74
Behavioral control	3	0.74	0.82	0.87	0.97
Total empowerment	12	0.86	0.88	0.82	0.86

Cattaneo and Chapman 2010). The question is whether and to what extent high parental empowerment is equally realistic in all situations and whether youth care services are able to facilitate this empowerment process. More insight is necessary into the development of parental empowerment, child behavioral problems during a period of youth care involvement, and the professional support they get. Important research questions include possible differences between parents in their empowerment while raising their children at the start of youth care and during involvement with it. Other questions relate to explaining possible differences in empowerment due to changing circumstances such as the development of behavioral problems in a child, parenting stress, and the availability of resources. An important question is whether changes in parental empowerment are due to the professional support they get during a period of youth care.

Parents in both groups indicated that they were very alert and willing to see and address problematic parenting situations (relatively high score on the interactional component). However, for parents in the clinical group, this was less strongly correlated with (1) feelings of competence and self-efficacy (intrapersonal component), and (2) control in raising their children (behavioral control component). Zimmerman (1995) viewed the interactional component as a bridge between the intrapersonal and behavioral (control) components.

Given the current findings, this bridge seems less strongly present in the clinical group. The high critical awareness of parents in the clinical group is possibly related to the complexity of parenting circumstances where a willingness to act is created less by personal characteristics, such as feelings of control of the parent as an individual, than by the urgency of the situation. The relatively weak correlation between critical awareness and actual control over their children might indicate that parents in the clinical group did not know how to convert their willingness to act in complex parenting situations into specific effective parenting behavior. For this reason, they became involved in youth care. The current findings invite further research into the bridging function and the mechanism behind empowerment. Relevant research questions concern the possible differences between parents who start with youth care in the strength of the correlation between the three components, in the development of these correlations during involvement in youth care, and explanations for possible differences. Data of various measurement occasions are needed to explore the mechanism behind the empowerment process.

This study has a number of strengths. Data were used from a large number of parents in both clinical and non-clinical groups. Furthermore, all three components of psychological empowerment were used in contrast to other empirical research (e.g., Christens et al. 2011; Holden et al. 2004; Peterson et al. 2006). Using the three components could provide more insight into the mechanism of empowerment. At the same time, various critical notes can be made about our study. Different to Zimmerman, the focus was on the control experienced by parents as individuals instead of understanding the intrapersonal component in a domain-specific manner. Assumed was that in the family domain the roles of parents as individuals and as parents are related. It appears from our study that parental empowerment incorporates an intrapersonal component measured by parental feelings of control as a person and that there is a moderate correlation between this intrapersonal component and the other two components of

parental empowerment. Although this could be an indication, as far as we know there is no further scientific evidence to substantiate this assumption, and further research on this is needed. A second critical note refers to the validity of the EMPO. In this study several aspects of construct validity were examined: factorial validity, measurement invariance, concurrent validity and mean differences between groups. Discriminant validity and predictive validity were not part of this study. Regarding the predictive validity, the EMPO does not claim to lead to a diagnosis or to a decision whether or not to provide care. The EMPO should be seen as a tool for supporting the assessment on client intake or as a tool for setting treatment goals and determining the progress of a treatment. Despite this, it would be valuable to examine other aspect of validity of the EMPO in future research. A third critical note concerns the relatively large number of higher education levels in the non-clinical group. Testing measurement invariance did not show any differences in the factor structure and parameters between lower and higher educated groups. However, additional analyses did show that highly educated parents were slightly more empowered on average than lower educated parents were. This was true for general empowerment and empowerment on the intrapersonal and interactional components. However, given the effect sizes, the differences could be qualified as negligible ( $ES < .20$ ; Cohen 1988). Despite this, the identified differences between the clinical and non-clinical group in our study should be considered carefully. The EMPO requires further testing for representative samples. One last critical note concerns the positive formulation of the EMPO items. A greater discriminating power of a measurement instrument increases the possibility of utilizing empirical information by professionals in youth care. Positively formulated items, such as in the EMPO, often lead to reduced variance in answers, possible because they invoke socially desirable answers more easily. The EMPO items are positively formulated because we feel this best matches the topic of the list; namely, empowerment. The consequence, however, is that it may be more difficult and it requires training to identify and use the results as a tool for supporting parents in their empowerment process.

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#### Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethical approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of

the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

**Informed consent** Informed consent was obtained from all individual participants included in the study.

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