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The Development and Validation of the Psychological Empowerment Scale for Older People

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ABSTRACT

Empowerment is a central paradigm in the care for older people. Social work requires measuring instruments to be able to meaningfully justify its efforts and interventions. This study aims at the validation of the Psychological Empowerment Scale for Older People, a measuring instrument build on this operationalization. The PESOP was administered to a large sample and completed by 398 older people in the Netherlands. The results provided evidence for a single-factor scale consisting of 17 items, with strong reliability and validity scores. The PESOP provides social work with a tool by which to measure the empowerment of older service users.

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Empowerment; measure; social work; older people

Introduction

Empowerment relates to mechanisms by which people, organizations and communities gain control over their lives and affairs (Rappaport, 1987; Zimmerman, 1995) and aims to support people to become active participants in their environment (Raeymaeckers & Dierckx, 2013). Empowerment provides social work with a framework through which to view social issues and challenges, such as inclusion, social justice and equality (Van Regenmortel, 2011). Empowerment as a multi-level construct can be analyzed on three levels; the individual level – referred to as psychological empowerment – the organizational level and the community level (Rappaport, 1987; Zimmerman, 1995).

In the care for older people, a context in which social work operates, the empowerment paradigm addresses and emphasizes context specific challenges that arise as people age (Hupkens et al., 2016; Lloyd, 1991; Maertens & Desmet, 2015). The extent to which older people gain or maintain control over decisions and actions in their lives as they age, is one such challenge. De

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Witte and Van Regenmortel (2023) introduced the concept of “silver empowerment” in this context which links the empowerment framework to context-specific opportunities and challenges for older people. It explicitly aims to counteract the dominant discourse of “ageism” which emphasizes decline, vulnerability and loss rather than strengths, experiential knowledge and resilience (Steenssens et al., 2023).

The social mission and responsibility that social work has as a profession requires it to critically examine its effectiveness and to be able to meaningfully justify its efforts and interventions (Gulikers, 2016). If social work states that it considers empowerment as an important process in its methods and as an important outcome of its efforts, then ways are needed to show the extent to which this actually happens. For a long time, social work has been looking for ways to reveal and support the effects of social work (Hermans, 2008) and demonstrating the added value of social work efforts can help to meaningfully justify and legitimize investments in the profession (De Waele et al., 2022; Gulikers, 2016; Van der Tier, 2022). In this regard, the discussion about measuring impact in social work has become increasingly prominent (Berenschot, 2020; Cools & Raeymaeckers, 2020; De Waele et al., 2022). Measuring instruments can be of value in relation to this challenge (Noordink et al., 2021, 2023). They can help to capture the extent to which service users experience or perceive the effects of interventions, growth and strength, but also the extent to which they gain control over their lives, bringing the discussion back to empowerment. This study focuses on psychological empowerment, as it is at this individual level of analysis that we want to be able to measure, learning about people’s perceptions of personal control, about their proactiveness and about their critical understandings of the socio-political environment (Zimmerman, 1995). Being able to measure psychological empowerment of older people creates the possibility to examine the relationship between psychological empowerment and other concepts that are relevant to gerontological social work and aging. For example, the concept of intrinsic capacity, which is considered an important construct for the healthy aging of older people, integrating physical and mental capacities of an individual and for which measures have been developed and validated widely (Chen et al., 2023; Gonzalez-Bautista et al., 2020; Su et al., 2024).

Psychological empowerment is generally accepted to have a three component structure, consisting of an intrapersonal component, an interactional component and a behavioral component (e.g. Zimmerman, 1995), sometimes supplemented by a fourth component related to a relational dimension (e.g. Christens, 2012). When measuring psychological empowerment, it is important that an instrument considers all components (Noordink et al., 2019; 2023; Steenssens et al., 2017) and measures empowerment as a whole. Several instruments cover one or two components, but the validation of the three or four factor structure is less common (Christens, 2012; Van Dop et al., 2016).

Furthermore, there is a lack of research in the current scientific literature on the measurement of empowerment of older people and the development of measuring instruments in this regard (Noordink et al., 2021). Some measuring instruments are available, but they focus specifically on hospitalized older people (Faulkner, 2001) or on empowerment in the context of patient safety (Elder et al., 2007). The Healthcare Empowerment Questionnaire (Gagnon et al., 2006) appears to be a suitable instrument, but seems unique in this regard and is 18 years old and validated in a Canadian context. Finally, the open-ended nature of empowerment, meaning it can have different meanings for different groups and people, also implies that a universal measure for empowerment is undesirable (Zimmerman, 2000) as the context specific characteristics should be accounted for in an instrument.

Previous research has led to the development of a context-specific operationalization of empowerment, from the perspective of older people (Figure 1) and based on the theoretical framework of empowerment (Noordink et al., 2024). This study by Noordink et al. forms the starting point for the current study, in which the results of this context-specific operationalization are translated into a measuring instrument, the Psychological Empowerment Scale for Older People (PESOP).

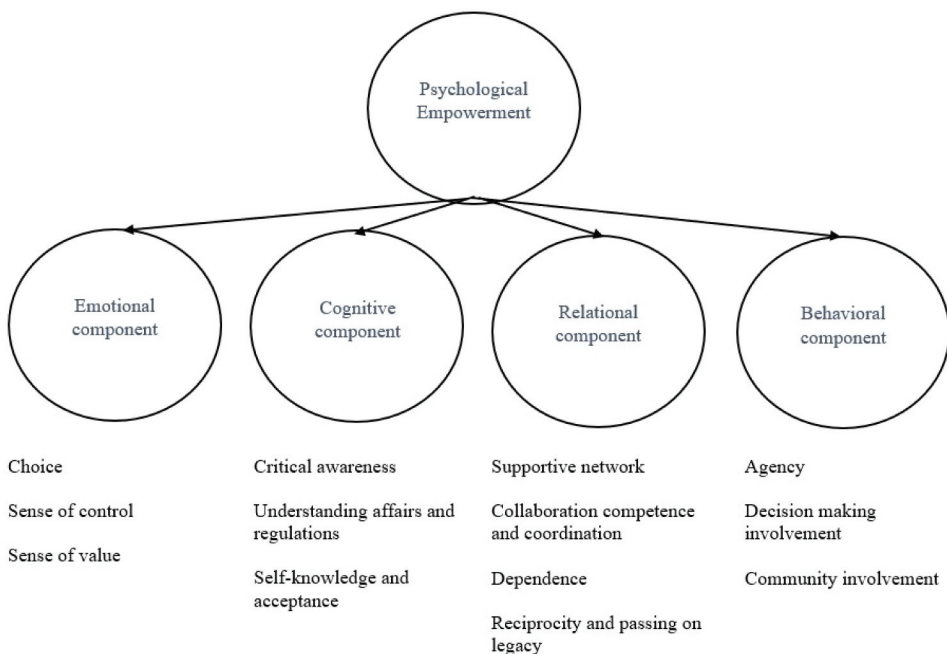


Figure 1. Conceptual model of psychological empowerment from older peoples perspectives (Noordink et al., 2024).

This study aims to determine the validity and reliability of the PESOP. The PESOP focuses on the individual level of empowerment and aims to provide a context-specific interpretation of empowerment from the perspective of older people.

Methods

Instruments

The PESOP

The PESOP is a self-administered questionnaire that – in its final form – consists of 17 items. It aims to capture all the aforementioned dimensions of psychological empowerment, as defined by Christens (2012) and Zimmerman (1995), from the perspective of older people. The preliminary items of PESOP are derived from a concept mapping conducted in 2022 and 2023 (Noordink et al., 2024), which resulted in 56 statements that cover the four dimensions of psychological empowerment.

An expert group consisting of a social work researcher, a social work professor and a methodology specialist then reduced the number of items to 27 items by removing overlapping items and adding items derived from existing scales to fill specific gaps that remained after analyzing the concept map data. All items except items 7 and 16 were derived from the aforementioned concept map with older people. Items 7 and 16 are based on the Service User Psychological Empowerment Scale (Van Dop et al., 2016) and the Dutch Empowerment List (in Dutch: de NEL; Boevink et al., 2009), as we believe that “critical awareness” – a significant aspect of the cognitive dimension of empowerment and based on the work of Paulo Freire (1970) – was not sufficiently captured by the concept map and was therefore compensated for by adding items from other scales.

The scale was then submitted to an expert group, consisting of 13 older people and a professor of gerontology, who contributed input on item formulation, comprehensibility of items and themes such as unambiguity, as such verifying face validity. The scale was adjusted accordingly, resulting in the initial 25-item version of the PESOP (see Table 1 for English version and Table 2 for Dutch version). The PESOP has a 5-point Likert response scale, differentiating between *strongly disagree*, *disagree*, *neither agree nor disagree*, *agree* and *strongly agree*.

Finally, the scale is administered to a large sample in order to conduct factor analyses and reliability analyses. Factor analyses allow us to explore the potential multi-dimensionality of the scale and determine which factors can be identified within the set of items. Reliability analyses allow us to measure whether different items intend to measure the same construct produce similar scores.

Table 1. Items of the initial 25-item version of the PESOP (translated from Dutch).

Emotional component	Cognitive component	Relational component	Behavioral component
<i>Choice</i>	<i>Critical awareness</i>	<i>The necessity of</i>	<i>Agency</i>
I decide for myself what I do or don't do	There is little attention around me for the needs of older people	<i>a supportive network</i>	People take over tasks from me, while I can still do them myself
I can decide for myself about matters that concern me, even if I can no longer do things myself	In order to adhere to rules and agreements, I must first understand them.	Other people help me stay in control of my life	As long as my mind is still sharp, I can do a lot myself
<i>Sense of control</i>	<i>Understanding affairs and regulations</i>	My loved ones are very important to me in order to grow old happily	<i>Decision making involvement</i>
I feel a lack of control over my life	I understand how my finances are arranged, even if someone else manages them	<i>Collaboration</i>	Other people make important decisions about my life
I feel like I have a say in the way my affairs are arranged	I have no overview of my financial responsibilities and obligations	<i>competence and coordination</i>	I make my own decisions in and around the house
<i>Sense of value and usefulness</i>	<i>Self-knowledge and acceptance</i>	I can work well with my loved ones to manage my daily affairs	<i>Community involvement</i>
I feel useful	I can accept that as I get older, not everything is possible anymore	Healthcare providers listen to what I find important	I am involved in activities in my neighborhood
I like it when people ask me for my opinion	I find it hard to let things go as I get older	<i>Dependence</i>	
		As I get older, I become more dependent on others	
		Sometimes I feel like a burden to the people around me	
		<i>Reciprocity and passing on a legacy</i>	
		I have a lot of stories to tell and I like that	
		I can also give something back to people who help me	

For the sake of completeness, the original Dutch version is also presented.

The Tilburg Frailty Indicator (TFI)

In addition to measuring psychological empowerment with the PESOP, we also measured frailty because we hypothesized that a high score on psychological empowerment implies a sense of power and control and as such would be associated with a low score on frailty. Thus, the inclusion of a frailty scale allows us to examine concurrent validity of the PESOP. The TFI is a self-administered questionnaire for screening vulnerable older people consisting of two parts. The first part contains questions about determinants of vulnerability, while the second part consists of 15 items that can be used to determine whether older people are vulnerable and in which domain the problems manifest themselves, the physical, psychological or social domain (Gobbens et al., 2010).

Participants

Potential participants were approached through a collaboration with national associations for older people, namely the Catholic Unions for Older People

Table 2. Original Dutch items of the initial 25-item version of the PESOP.

Emotioneel component	Cognitief component	Relationeel component	Gedragscomponent
<i>Keuzevrijheid</i>	<i>Kritisch bewustzijn</i>	<i>De noodzaak van</i>	<i>Handelingsvermogen</i>
Ik bepaal zelf wat ik wel of niet doe	Er is om mij heen weinig aandacht voor de behoeftes van oudere mensen	<i>ondersteunend netwerk</i>	Mensen nemen taken van mij over terwijl ik het zelf nog kan
Ik kan zelf beslissen over zaken die mij bezighouden, ook als ik dingen zelf niet meer kan doen	Om me aan regels en afspraken te willen houden, moet ik ze eerst begrijpen	Andere mensen helpen mij om in controle te blijven over mijn leven	Zolang ik nog scherp van geest ben, kan ik veel zelf
<i>Gevoel van controle</i>	<i>Inzicht in eigen zaken en regelingen</i>	Mijn naasten zijn voor mij heel belangrijk om gelukkig oud te worden	<i>Betrokkenheid bij besluitvorming</i>
Ik voel een gebrek aan controle over mijn leven	Ik begrijp hoe mijn financiën zijn geregeld, ook als iemand anders ze beheert	<i>Vermogen om samen te werken en coördinatie</i>	Andere mensen nemen belangrijke beslissingen over mijn leven
Ik heb het gevoel inspraak te hebben in de manier waarop mijn zaken geregeld worden	Ik heb geen overzicht over mijn financiële verantwoordelijkheden en verplichtingen	Ik kan goed samenwerken met mijn naasten, om mijn dagelijkse zaken te regelen	Ik neem zelf de beslissingen in en rondom huis
<i>Gevoel van nut en waarde</i>	<i>Zelfkennis en acceptatie</i>	Zorgverleners luisteren naar wat ik belangrijk vind	<i>Gemeenschapsbetrokkenheid</i>
Ik voel me nuttig	Ik kan accepteren dat naarmate ik ouder word, niet alles meer mogelijk is	<i>Afhankelijkheid</i>	Ik ben betrokken bij activiteiten bij mij in de buurt
Ik vind het fijn als mensen me om mijn mening vragen	Ik vind het moeilijk om dingen los te laten naarmate ik ouder word	Naarmate ik ouder word, word ik afhankelijker van anderen	
		Soms voel ik mij een last voor de mensen om mij heen	
		<i>Wederkerigheid en doorgeven van nalatenschap</i>	
		Ik heb veel verhalen te vertellen en dat vind ik leuk	
		Ik kan ook iets terug doen voor mensen die mij helpen	

and the Protestant Christian Associations for Older People, associations that act as advocate for older people and organize events and activities around important themes related to aging, such as pensions, loneliness and healthy aging. These organizations represent older people throughout the country. Participants were also approached through the former employees' association of Anonymized University of Applied Sciences. This latter association has a large network of former employees, including a variety of people, e.g. former supervisors and administrative staff, but also teachers and management staff, in an attempt to include a broad base. Participants are eligible if they are 65 years or older. Besides 'age' there are no inclusion criteria. All members of these associations were emailed with an invitation to participate, consisting of an information letter, a consent form and a link to the questionnaire.

There are many different recommendations regarding the minimum sample size when constructing a measure and doing factor analysis. Comrey and Lee (1992) provide the following scale for adequate sample sizes: 100 = poor,

200 = fair, 300 = good, 500 = very good, 1,000 or more = excellent. When looking at the ratio of participants per item in the questionnaire Cattell (1978) recommends a ratio in the range of 3 to 6, Gorsuch (1983) recommends a minimum ratio of 5 and Everitt (1975) recommends a minimum ratio of 10 per item. In this study, we follow the strictest of the standards described above and use the rule of thumb of 10 respondents per item.

A total of 532 participants responded, resulting in 398 valid respondents after eliminating those respondents with missing responses. Of the 398 participants 52% were men and 48% were women; 2% had completed no or only primary education, 25% had secondary education as their highest level of education and 73% had completed college or university education. The mean age of participants was 74.8 (*SD* 0.270) years. A total of 385 respondents completed the questionnaire digitally and 13 respondents completed the questionnaire on paper. Sample collection took place between December 2023 and February 2024.

This study was approved by the Ethics Review Board of the Anonymized University under reference number TSB_RP1242.

Procedure

The Catholic Unions for the Older People, the Protestant Christian Associations for Older People and the former employees' association of Anonymized University of Applied Sciences were contacted by the research team, the purpose of the study was explained, the procedure was discussed and agreements were made regarding the distribution of the questionnaire. The information letter discussed in detail the purpose of the study, the rights of the participants, anonymity, ethics, data storage and the availability of aftercare if deemed necessary or desired.

The questionnaire was distributed digitally using Qualtrics as a survey platform. Reading the information letter and giving informed consent preceded being able to administer the two scales, making sure participant were informed and gave consent prior to administering the scales. Completion of the questionnaire required access to a digital device, such as a computer, laptop, smartphone or tablet. An advantage of this mode is that it increases the reach or range and therefore more people can be contacted in a relatively short time. A disadvantage is obviously that it excludes people who are not digitally connected or literate, which is imaginable given the characteristics of the target population. To compensate for this, participating organizations received printed versions of the questionnaire to distribute to their members. Results from both modes, 385 digital and 13 on paper, were jointly analyzed.

Data analysis

Descriptives

The first step was to reverse code the contra-indictive items and run descriptives on all variables. Item descriptives (such as variance, standard deviations, outliers) were analyzed to examine the psychometric quality of the items. Many items showed a poor distribution of scores on the 5-point Likert scale, where in most cases the vast majority of responses were in the two highest (or two lowest) categories. This means that for most items the observed item scores were already approximately dichotomous in their distribution, instead of polytomous. For this reason and to facilitate subsequent analyzes, all item scores were transformed from polytomous into dichotomous variables. For each item, the choice of dichotomy was determined by assessing between which two scores on the Likert scale the dividing line should be placed, so that the score distribution was as equal as possible. Henceforth, all factor and item analyses explored and compared were performed on both the ordinal and dichotomous variants of the scale, to assess and confirm the value and necessity of item dichotomization (MacCallum et al., 2002).

Exploratory factor analysis and parallel analysis

An exploratory factor analysis (EFA) was conducted, by means of a principal axis factoring (PAF), to explore the potential multi-dimensionality of the scale and determine which factors could be identified within the item set. A PAF was chosen because we interpret empowerment as a latent construct with underlying dimensions, and PAF aims to uncover the latent factors that explain the covariance between variables (Fabrigar & Wegener, 2012).

Parallel analysis (PA) was conducted with R package *psych* (Revelle, 2024) to explore the factors found through EFA. PA is a statistical method used post-EFA to determine the appropriate number of factors to retain, comparing observed eigenvalues to those generated from random data (Fabrigar & Wegener, 2012; Horn, 1965). This method mitigates the risk of over-extracting factors by identifying those that likely represent meaningful constructs rather than random variance. Compared to subjective methods like scree plots or the eigenvalue >1 rule, PA provides a more objective criterion for factor retention, supporting the robustness and validity of the factor solution (Crawford et al., 2010).

In line with the results from the PA, an iterative process of item analyses and factor analyses was used to experiment with and compare forced 3-, 2- and single factor solutions. For the solutions with multiple factors, promax rotation was used. In these analyses, factor loadings were considered relevant when at 0.4 or higher, in line with common standards (Ellis, 2016).

The KMO and Bartlett's test will be conducted to evaluate all available data together, to determine if substantial correlation in the data is implied with a KMO value over 0.5 and a significance level for the Bartlett's test below 0.05.

Reliability

An estimate of the reliability, by means of both Cronbach's alpha and McDonald's omega, of the 25-item version of the scale, was calculated, after which poorly performing items were deleted stepwise, one by one, until item deletion no longer improved the reliability of the scale. This resulted in the final 17-item version of the PESOP, which aligned with the 17 items that have a higher factor loading than 0.4. Using both Cronbach's alpha and McDonald's omega provides a more complete picture of the reliability of the PESOP. Alpha is simple and widespread, but may be limited in situations where items do not have equal factor loadings. Omega is more flexible and provides a more accurate estimate in complex cases. By using both metrics, a more nuanced understanding can be acquired of a scale's internal consistency.

Concurrent validity

After the final 17-item version of the PESOP was determined, sum scores were calculated for both the PESOP and the TFI, which allowed us to calculate correlations between the two scales and thus explore the hypothesized relationship between empowerment and frailty.

Results

In this section we describe the item statistics, the factor solution resulting from the various factor analyses and parallel analyses that were compared, the reliability of the final scale, the concurrent validity and the content validity of the PESOP.

Although the initial EFA yielded six factors with an eigenvalue higher than 1.0, the post-EFA parallel analysis proposed a three factor solution, which was further explored.

Using the R package *psych* (Revelle, 2024) a parallel analysis was performed using 100 replicated datasets. The results of this analysis are shown in [Figure 2](#). As can be seen in [Figure 2](#), the first factor receives an eigenvalue of 8.97, while all subsequent factors receive a much lower eigenvalue. This suggests that the patterns in the data are mainly explained by the first factor, and that including more factors add little in terms of explained variance of the data. Nevertheless, the parallel analysis shows that there is statistical evidence for the presence of a second and third factor, since the eigenvalue for these factors falls above the 95% confidence interval obtained from the parallel analysis.

In line with the results from the parallel analysis, an iterative process of item analyses and factor analyses was used to experiment with and compare forced

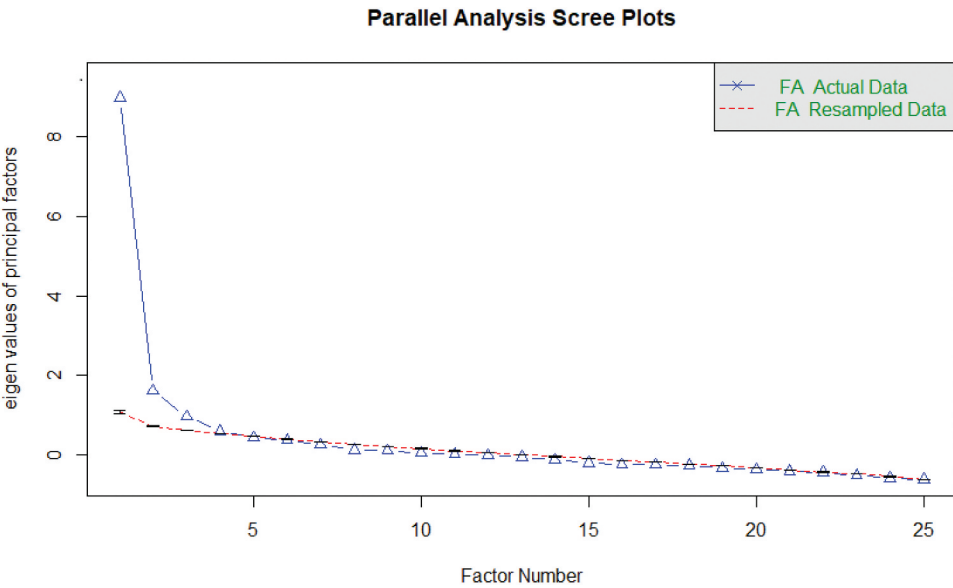


Figure 2. Scree plot parallel analysis. Both the eigenvalues of the empirical data and the resampled data from the parallel analysis, based on 100 replications. 95% confidence bars are displayed for the resampled data.

3-, 2- and single factor solutions (Table 3). For the solutions with multiple factors, promax rotation was used. In these analyses, factor loadings were considered relevant when at 0.4 or higher, in line with common standards (Ellis, 2016).

For the 1-factor solution, 8 items showed factor loadings below our threshold of 0.4 and hence would be considered unscalable. This one factor explained 35.9% of the variance in the data. For the 2-factor solution there still remained 6 items that did not show a high enough factor loading for either factor. Additionally, there were now 5 items that did not cleanly belong to one of the

Table 3. Eigenvalues and statistics for forced 3-, 2- and single factor solutions.

	ML1		
SS loadings	8.97		
Proportion Var	0.36		
	ML1	ML2	
SS loadings	7.75	3.02	
Proportion Var	0.31	0.12	
Cumulative Var	0.31	0.43	
Proportion Explained	0.72	0.28	
Cumulative Proportion	0.72	1.00	
	ML1	ML2	ML3
SS loadings	4.86	4.33	2.55
Proportion Var	0.19	0.17	0.10
Cumulative Var	0.19	0.37	0.47
Proportion Explained	0.41	0.37	0.22
Cumulative Proportion	0.41	0.78	1.00

two factors but showed notable factor loadings on both factors. Only 3 items loaded strongly only on the second factor and the explained variance of the model only increased to 39.7%, suggesting there is little practical value in considering the second factor. For the 2-factor solution, a correlation of 0.34 was found between the two factors. Moving from a 2-factor solution to a 3-factor solution did not improve the scalability of the set of items, with 10 items remaining unscalable due to either not having a high factor loading on any of the factors (5 items) or having high factor loadings on multiple factors (5 items). This model explained 41.9% of the variance.

Since both the 2-factor and the 3-factor solution resulted in fewer items being scalable, did not yield usable and interpretable additional factors, and since the eigenvalues of these factors were low compared to that of the first factor, we continued with the 1-factor solution. The 8 items that were not contributing sufficiently to the measurement of this factor were eliminated from the scale.

The KMO and Bartlett's tests evaluate all available data together, where substantial correlation in the data is implied with a KMO value over 0.5 and a significance level for the Bartlett's test below 0.05. With a KMO value of 0.91 and a significance level for the Bartlett's test of 0.000, sufficient correlation is implied, which means that a factor analysis is appropriate and possible.

The principal axis factoring with a forced single factor solution, resulted in a scale of 17 items with loadings higher than 0.4, as shown in [Table 4](#).

The reliability analysis for the 17-items version of the PESOP show a Cronbach's alpha of 0.89 and a McDonald's Omega of 0.91, suggesting that the reliability of the scale can be labeled as "good", "high", and even close to "excellent" (Taber, 2018). The stepwise deletion of items starting with the 25-item version of the PESOP resulted in the 17 items as shown. Further removal of items does not improve the reliability, as also shown in [Table 4](#). The fact that both Cronbach's alpha and McDonald's omega yield a high result suggests that the items contribute equally to the measurement of empowerment, and that the scale is well constructed for reliable measurement.

In order to determine the extent to which the 17 items are relevant to and representative of the targeted construct, and thus cover all relevant parts of the construct, the final 17 items were compared with the theoretical model that was used as a starting point for scale development. This way, the content validity of the PESOP can be determined by examining the overview in [Table 5](#), which shows that all four dimensions of psychological empowerment are represented by multiple items, with an emphasis on the emotional component, which is more strongly represented by six items. Interestingly, the aforementioned single factor solution means that the hypothesized multi-dimensionality of empowerment with three or four different components, is not supported by as many

Table 4. Factor matrix for single factor solution and items total statistics.

	Items	Factor 1	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	I decide for myself what I do or don't do	0.761	0.638	0.88
2	I can decide for myself about matters that concern me, even if I can no longer do things myself	0.720	0.607	0.88
3	I feel a lack of control over my life	0.722	0.581	0.88
4	I feel like I have a say in the way my affairs are arranged	0.797	0.640	0.88
5	I feel useful	0.690	0.568	0.89
6	I like it when people ask me for my opinion	0.576	0.469	0.89
7	In order to adhere to rules and agreements, I must first understand them	0.655	0.544	0.89
8	I understand how my finances are arranged, even if someone else manages them	0.792	0.655	0.88
9	I have no overview of my financial responsibilities and obligations	0.688	0.505	0.89
10	My loved ones are very important to me in order to grow old happily	0.439	0.384	0.89
11	I can work well with my loved ones to manage my daily affairs	0.606	0.518	0.89
12	Sometimes I feel like a burden to the people around me	0.716	0.556	0.89
13	People take over tasks from me, while I can still do them myself	0.721	0.556	0.89
14	Other people make important decisions about my life	0.825	0.654	0.88
15	I can also give something back to people who help me	0.677	0.495	0.89
16	As long as my mind is still sharp, I can do a lot myself	0.807	0.659	0.88
17	I make my own decisions in and around the house	0.859	0.699	0.88
18	There is little attention around me for the needs of older people	0.146		
19	I can accept that as I get older, not everything is possible anymore	0.105		
20	Healthcare providers listen to what I find important	*		
21	I have a lot of stories to tell and I like doing that	0.144		
22	I am involved in activities in my community	0.175		
23	I find it hard to let things go as I get older	*		
24	Other people help me stay in control of my life	-0.346		
25	As I get older, I become more dependent on others	0.192		

Items 7, 9, 11, 13, 18, 21, 23 and 25 were initially contra indicative items and have been reverse coded; Items 20 and 23 had factor loadings that did not differ significantly from 0 and are therefore not shown.

different factors, even though all components are accounted for in the final instrument.

To explore concurrent validity, sum scores were calculated for both the PESOP and the TFI, allowing us to calculate correlations between the two scales. The negative correlation score of -0.224 ($p\text{-value} < 0.001$), implies – as hypothesized – that high scores on empowerment are associated with low scores on frailty, although the correlation score is to be considered weak or weak to moderate (Abma et al., 2016).

Discussion

The purpose of this study was to develop a valid and reliable measure for psychological empowerment that can be used in the context of older people in general. Ideally, such a measure opens up possibilities for social workers to

Table 5. Overview of the distribution of the 17 PESOP items over the four sub-concepts.

<i>Emotional component</i>	
Choice	I decide for myself what I do or don't do
Choice	I can decide for myself about matters that concern me, even if I can no longer do things myself
Sense of control	I feel a lack of control over my life
Sense of control	I feel like I have a say in the way my affairs are arranged
Sense of value and usefulness	I feel useful
Sense of value and usefulness	I like it when people ask me for my opinion
<i>Cognitive component</i>	
Critical awareness	In order to adhere to rules and agreements, I must first understand them
Understanding affairs and regulations	I understand how my finances are arranged, even if someone else manages them
Understanding affairs and regulations	I have no overview of my financial responsibilities and obligations
<i>Relational component</i>	
The necessity of a supportive network	I can work well with my loved ones to manage my daily affairs
The necessity of a supportive network	My loved ones are very important to me in order to grow old happily
Dependence	Sometimes I feel like a burden to the people around me
Reciprocity and passing on a legacy	I can also give something back to people who help me
<i>Behavioral component</i>	
Agency	People take over tasks from me, while I can still do them myself
Agency	As long as my mind is still sharp, I can do a lot myself
Decision-making involvement	Other people make important decisions about my life
Decision-making involvement	I make my own decisions in and around the house

examine the extent to which their efforts contribute to the empowerment of their service users. The overall results of this study indicate that the final 17-item version of the PESOP displays construct and content validity associated with psychological empowerment in a single factor solution and that the scale has good internal consistency and is thus reliable.

Multi-dimensionality within a single factor scale

The factor and item analyses show that there is no strong psychometric support for multi-dimensionality in the empowerment scale. This can be partly explained by the sample used; the respondents score relatively high on all assumed sub-components. It is also striking that highly educated people are strongly overrepresented in the sample. Finally, it can be hypothesized in this context that all respondents belong to and actively participate in organized communities, as evidenced by their involvement in the Catholic Unions for the Older People, the Protestant Christian Associations for Older People and the former employees' association of Anonymized University of Applied Sciences, the communities we approached for this research. Community involvement, as we know, is an outcome of being empowered (Zimmerman, 1995), which was already a possible predictor of the relatively high scores. Overall, it is very well possible that the current sample is more empowered than one would expect of older people in general. All are involved in their

communities, almost all have access to and can make use of digital devices (smartphones, tablets, computers) and all are literate enough to understand and respond to a fairly language-rich questionnaire.

Theoretically, it is possible that due to the high scores on all sub-constructs, the different dimensions can no longer be clearly distinguished from a single factor solution. That raises the question what the added value is of making the sub-components explicit for this scale, with this sample. Overall, there is no strong evidence that multi-dimensionality has value for this sample.

Looking at the relationship between these items and the theoretical model that was used at the item level, it is striking that the four hypothesized dimensions are all represented by multiple items. Thus, the scale does indeed reflect empowerment as a whole, rather than focusing on just one of the theoretical subdimensions, such as the emotional component. The fact that this can be represented psychometrically with a single factor also has advantages. It simplifies the use and administration of the instrument and therefore reduces the number of items needed to obtain a reliable measure.

Context-specific interpretation of empowerment

The operationalization of empowerment from the perspective of older people that was developed in our previous research (Noordink et al., 2024), which shows a very context-specific interpretation of empowerment for older people, is largely confirmed by the validation of the measure. The aspects within the four empowerment components that shape older people's interpretation of empowerment, such as "*sense of value and usefulness*", "*understanding affairs and regulations*", "*dependence*" and "*reciprocity and passing on a legacy*", are all represented in the PESOP. However, apparently important aspects of older people's empowerment, such as "*self-knowledge and acceptance*" and "*community involvement*", are not confirmed by the results of this study as central aspects of older people's empowerment. A retrospective analysis of the items that intended to measure these aspects suggests that the wording of these items may provoke different, undesirable responses from respondents, than anticipated. For example, the item "*I can learn to accept my shortcomings as I get older*" might imply the presence of shortcomings that people might want to contest. Also, the item "*I am able to let things go as I get older, no matter how difficult they may be*" has a two-stage load which could lead to confusion, as it relates to *letting go*, but also to the spectrum on or extent to which one is able to accept to "*let go*".

Assessing the process of instrument development

In 2023 previous research on theoretical requirements for the development of empowerment measures led to the development of a guideline with eight

conditions on how an empowerment measure should be constructed, in line with theoretical, ethical and methodological standards (Noordink et al., 2023). With these guidelines it is possible to assess the current process of instrument development for the PESOP.

Determine who is the benefit group of this exercise en what is the purpose of measuring empowerment in relation to this

The intention of this study and of the validation of an empowerment measure for older people, is primarily to gain insight into how older people interpret empowerment, helping social work to better understand how to contribute to the empowerment of older people. In a way, the goal is also to offer social work the tools to critically evaluate the extent to which their efforts contribute to the empowerment of the service users, as described in the introduction. Thus, by enabling social workers to evaluate and improve their services, the study aims to indirectly improve the living conditions of older people. However, the relatively strong, vital and empowered sample that was used, may not be the best representatives for the population of older people that are the actual service users of social work. This is further elaborated in the Limitations section. Reflecting on the process of operationalizing empowerment from the perspective of older people, as published in our previous research (Noordink et al., 2024), we also aimed to create positive, empowering experiences for the participants of the research project, making the participants a beneficiary group as well.

Determine the theoretical foundation and definition of empowerment for the instrument

The theoretical framework that formed the starting point for conceptualizing empowerment and for operationalizing the construct, is clearly described in this study and further elaborate in the study that prequels the current one (Noordink et al., 2024). The framework of Zimmerman (1995) and the subsequent framework of Christens (2012) provided the theoretical delineation and starting point for item development.

Determine whether this instrument aims to measure empowerment as a catalyst (process) or empowerment as an end in itself (outcome)

Although we see empowerment as an important process in the lives of older people, that can lead to the achievement of greater goals such as healthy aging or aging in place, for this study empowerment is operationalized in terms of outcomes, as we aim at measuring the extent to which a person perceives to be empowered. With the PESOP the ambition is not to investigate the effect of empowering factors, events or processes or the relation between empowerment processes and other goals, which would be the aim if processes are put central (Noordink et al., 2023).

Determine the substantive scope of the instrument

The PESOP intends to measure psychological empowerment and aims to consider all dimensions within psychological empowerment, as described by Christens (2012).

Determine the relationship between the construct and its dimensions for this instrument

In line with the theoretical models of Zimmerman (1995) and Christens (2012), empowerment is interpreted as a superordinate construct, meaning that empowerment is manifested through its dimensions (Peterson, 2014).

Define and describe the context as explicitly as possible

The Method section describes the sample used to validate this study. In the concept mapping study (Noordink et al., 2024) the context and the participants involved were also described in detail. However, apart from age, gender and education, we chose not to ask for further personal details that could have helped to further describe the context. This is a potential limitation as more information about the context and target population may help to interpret the context specificity of the results.

Determine to what extent the target population will be involved in the development of the measuring instrument and why

The participation of the target population in the development of the PESOP was considered a crucial aspect and was given explicit attention. Based on the intention to operationalize empowerment from the perspective of older people themselves, several exercises were conducted to involve the target population. The concept mapping approach which was central in our previous study (Noordink et al., 2024) shows how existing methods were modified to allow for maximum, context-specific participation of the target population. This was done with the intention to operationalize empowerment as close as possible to the perspective of the population itself, but also in an attempt to make research participation a positive, potentially empowering experience for those involved.

Following this exercise, an expert panel of older people was involved and provided extensive feedback and ideas on item formulation, comprehensibility of items and themes such as unambiguity.

However, real participation and ownership will only be achieved if, in future use of the PESOP, older people are not only asked to complete the PESOP, but also to give meaning to the results of the measurements together with the researchers or social workers and to decide together how to proceed with these results. The extent to which this is done, is beyond the authors' control.

Determine the extent to which existing scales will be used in the development of the instrument and how data from these scales will be translated into new contexts

Two items of the initial 25-item version of the PESOP were derived from existing scales, as described in the Methods section. For the final 17-item version of the PESOP, these two items were deleted, due to psychometric vulnerabilities.

Limitations and suggestions for future research

This study validated the PESOP for older people in a non-hospitalized context. The sample is relatively empowered, educated, connected and skilled, which is not representative of the entire population of older people. In particular, older people with care needs or with increased vulnerability are likely to score differently on empowerment outcomes. This means that it is conceivable that the current sample does not represent the population of older people who actually rely on social work. As such, the ability to generalize the outcomes of this study is very limited and one should be careful not to translate the results from this study to other contexts too easily. Nevertheless, we believe that the central themes we found represent the themes and challenges that older people – including older people who rely on care and services – face on a regular basis, as other studies show comparable results (Gagnon et al., 2006; Huizenga et al., 2022; Noordink et al., 2024; van Corven et al., 2021). And although the sample of this study was able to include over 400 valid respondents, a larger number of participants and a more diverse sample, would increase the reliability and generalizability of this study. Future research should therefore focus on replicating this exercise, but for example within a group of hospitalized older people or older people who can be interpreted as patients, clients or people in need of help.

Since the PESOP item scores were skewed with polytomous scoring, the data provides less information than might be expected with a polytomous response scale. The vast majority of responses were in the two highest or two lowest categories. This means that for most items the observed item scores were already approximately dichotomous in their distribution. For this reason, the item scores were dichotomized. However, this also inevitably results in the loss of information about individual differences within the groups. Nevertheless, dichotomization can be justified as high skewness interferes with interpretability and dichotomizing can enhance interpretability (MacCallum et al., 2002).

Although the face and content validity of the PESOP has been established, further efforts to determine concurrent validity may be valuable.

Concurrent validity was examined, but the hypothesized correlation between empowerment and frailty, while present, was found to be weak, to weak to moderate at best. Furthermore, the psychometric quality of the questionnaire would benefit from additional analysis of construct validity, specifically convergent validity by administering this questionnaire alongside other relevant questionnaires. For example, in addition to the Health Care Empowerment Questionnaire (HCEQ; Gagnon et al., 2006).

Conclusion

This study provides us with a valid and reliable measure with which we can evaluate the extent to which older people perceive themselves to be empowered. The relatively small number of items in the scale and its unidimensionality suggest that it is easy to administer and easy to understand, instrument qualities that may be explicitly valuable if we wish to avoid unnecessarily burdening the target population.

The PESOP can provide the professional practice of social work with a tool to evaluate the extent to which their services contribute to the empowerment of their service users. Social workers and social work organizations can use this tool to learn, understand and better adapt to achieve their goals. In addition, we know that joint discussion and completion of empowerment questionnaires can open the door to valuable conversations between social workers and older people about how they stay in control of their affairs as they age, what they consider important and what they need to do this. In this way, the added value of questionnaires goes beyond just the numerical value, but also offers conversational tools with which social work can strengthen its services.

For older people themselves, the value of empowerment measuring instruments lies in the opportunity to use such measurements and the outcome of such measurements to influence policy, to have a voice in the development of social interventions and social services and to influence the care they receive. This in itself could lead to increased empowerment.

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