
THE DEVELOPMENT AND VALIDATION SCALE SUBJECTIVE WELL-BEING ON PARENTS OF CHILDREN WITH POSTLINGUAL DEAFNESS DISABILITY

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Abstract.

Subjective well-being has been studied extensively, as well as efforts to develop relevant indicators to reveal well-being, but in expressing the subjective well-being of parents with children with special needs, it is still limited. On the other hand, an instrument to see the subjective well-being of parents who have children with special needs is needed depending on several studies which state that the well-being of a child can be determined, one of which is from parents' well-being. This study aims to develop a subjective well-being measurement instrument in the context of parents who have postlingual deafness children. The scale developed in the review of research reviews conducted by Diener. The steps for arranging the instrument began with compiling a blueprint, conducting content validation, empirical testing, item differences, and confirmatory factor analysis testing. Respondents who were involved in this study were 336 people (168 fathers and 168 mothers) who have postlingual deafness children who live in West Java, Indonesia. The results of the analysis of the subjective well-being instruments for parents who have postlingual deafness children showed that 30 items that can be compiled a satisfactory psychometric property in terms of content validity, item differences, and construct validity.

Keywords: Confirmatory factor analysis, scale development, well-being, parents

1. Introduction

Research on subjective well-being has become a topic in the last 15 years and there are around 170,000 studies, articles, and books published (Diener, Lucas & Oishi, 2018). Although the study of well-being has been going on for a long time, the concept of well-being itself is still elusive. The term well-being which is often used in colloquial language has a meaning that is still vague and can be ambiguous. As an alternative, Diener & Ryan (2009) use the term subjective well-being in some of their scientific studies on well-being. Veenhoven (2012) defines well-being as the level at which individuals

assess their overall quality of life as well. Meanwhile, according to Diener (2000), subjective well-being is defined as a person's evaluation of his life, which consists of affective and cognitive evaluations. Specifically, subjective well-being consists of two components, namely the affective component consisting of positive and negative feelings, which means that individuals with high subjective well-being experience life satisfaction, higher positive feelings, and fewer negative emotions; the cognitive component is an assessment of one's life satisfaction (Diener & Ryan, 2009). The aspect of subjective well-being is the quality of emotions, both in terms of the frequency and intensity experienced by individuals, both pleasant and unpleasant feelings (Kahneman & Deaton, 2010). Positive feelings refer to emotions such as satisfaction, whereas negative feelings are more like anger, sadness, and guilt (Baumgardner &

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Crothers, 2010; Kahneman & Deaton, 2010). Life satisfaction is what people think about their life (Kahneman & Deaton, 2010), which does not lead to a specific domain. However, feelings and specific domain satisfaction are generally measured through an integrated assessment of a person's life (Diener & Ryan, 2009).

There are many reasons why subjective well-being is important to research. From previous research studies, people who have high subjective well-being have relatively longer and healthier lives (Diener & Chan, 2011), have more roles in the community, are less divorced, and are preferred by others (Diener, Oishi, & Tay, 2018). Some countries have even used psychological aspects, such as happiness as an indicator of national success (Oishi et al, 2013). Several studies at home and abroad explored predictors of subjective well-being (Argyle, 1999; Myers, 1999; Lucas & Dyrenforth, 2006; Deaton, & Stone, 2016; Landiyanto et al, 2010; Diener & Chan, 2011; Jaafar et al., 2012; Sacks, Stevenson, & Wolfers, 2012; Yeo, 2014). Furthermore, several studies focus on the exploration of experiences and the meaning of subjective well-being by considering socio-economic and cultural considerations (Markus & Kitayama, 1991; Suh, 1998; Camfield, Guillen-Royo, & Velazco, 2010; Davey & Rato, 2012; Ratelle, Simard, & Guay, 2013; Maulana, Obst & Khawaja, 2018). On the other hand, events and experiences that occur within an individual can determine the meaning of subjective well-being (Cummins, Gullone & Lau, 2002; Pavot, 2008; Diener, 2018), as experienced by parents who have children with special needs (Resch et al, 2010, Resch, Benz & Elliot, 2012; Werner, 2013), however, based on a literature review conducted by researchers, research on subjective well-being in the realm of parents with special needs is still limited, especially in Indonesia. Taking into account the urgency of subjective well-being in human life, it is also important to study constructs and instruments to measure it in more depth.

Construct of Well-Being

A construct deserves to be examined if the construct already has a clear conceptual definition and measurement strategy. Through a series of publications, Diener and colleagues propose subjective well-being is a multidimensional construct that has two separate components, namely: 1) high positive and low negative affection, and 2) cognitive evaluation of life satisfaction (Diener, 2000). Positive and negative affections are included in the affection component, while life satisfaction is included in the cognition component. However, in some studies, not all researchers use

the model proposed by Diener. Some researchers treat subjective well-being as a unidimensional model that only sees subjective well-being as a whole factor (Arthaud-day et al, 2005). The existence of differences in the measurement model of subjective well-being has consequences for both item analysis and interpretation of the construct. Unidimensional measures require only a simple interpretation because all items on the scale represent one attribute. In contrast, multi-dimensional measurements require a more complex interpretation (Widhiarso & Ravand, 2014).

The current view states that affection and cognition are two things that are interrelated and inseparable. Storbeck & Clore (2007) in their critical study opposed the argument that emotion and cognition are separate things. Affection plays a full role in the cognitive process where one of the functions of affection is to regulate cognitive processes. More sophisticated studies with neurological measurements have also found that emotion and cognition are an interplay (Tyng et al, 2017). One researcher who treats subjective well-being as a unidimensional construct is Librán (2006).

Another debate about how many factors are appropriate to measure subjective well-being relates to different views on positive and negative affections. Some researchers agree that positive and negative affection are two separate things that are not just a bipolar construct. When positive affection is dominant, it does not mean that negative affection becomes weak. Subsequent studies largely support these findings and underscore the importance of assessing positive and negative affections separately (Watson, Clark, & Tellegen, 1988). However, other researchers reported that positive and negative affections are contradictory constructs and are unidimensional. For example, Green, Goldman, and Salovey (1993) found a very high correlation between positive and negative affections ($r = -0.85$ to $r = -0.92$).

Measurement of Well-Being

Apart from the problem of the number of factors in the construct of subjective well-being, another problem related to the measurement of subjective well-being in Indonesia is the lack of information on the psychometric properties of the scale used for parents with children with special needs. There are several instruments in measuring subjective well-being, including: SWLS (Diener, Emmons, Larson, & Griffin, 1985); SPANE (Diener, 2009); PWI, (International Wellbeing Group [IWBG], 2006). Based on the research, until now, the subjective well-being instrument of parents who have children with postlingual deafness has never

been found. Meanwhile, according to previous researchers, a more specific instrument is needed so that it can fully describe the subjective well-being of parents who have children with special needs (Cummins, Gullone & Lau, 2002; Pavot, 2018; Negeri, 2013; Wijayanti, 2015). Diener (2018) recommends that further researchers can take various actions to strengthen SWLS and SPANE in order to obtain a deeper picture of subjective well-being.

By considering literature review and theoretical analysis, this study aims to prove the subjective well-being construct model empirically in parents who have children with postlingual deafness. This study is the second phase of a larger research project that examines the constructs and proves the constructs of subjective well-being in parents of children with postlingual deafness. Based on the findings of the first stage qualitative study where the construct of subjective well-being in parents with children with postlingual deafness was obtained, there were five main themes of subjective well-being in parents with children with postlingual deafness, namely standards of living, physical and mental health, social connectedness, achievement in life and spirituality (Anggrainy et al, 2020). In proving the constructed model in this study, researchers used a quantitative approach.

2. Method

Participants

Participants in this study were 336 parents (168 fathers and 168 mothers) who have children with postlingual deafness, should be the biological father or mother of a child (or children) with postlingual deafness, should live together with their spouse and their child (children) with post-lingual deafness, should be able to communicate in verbal and written form using Bahasa Indonesia, should reside in West Java, Indonesia.

Table 1. displays participants demographic characteristics

Characteristics	Distribution
Age	
Range	26-39
Mean	32.67
Standar Deviation	2.57
Gender	
Male	168 (50%)
Female	168 (50%)

In the table above, it can be seen that the participants have an age range of 26-39 years with a mean of 32.67 and a standard deviation of 2.57. The male participants were 50% and 50% female participants.

Procedure

Based on the findings of the first stage qualitative study where the construct of subjective well-being was obtained in parents who have children with postlingual deafness (there are five main themes of subjective well-being in parents with children with postlingual deafness: standards of living, physical and mental health, social connectedness, achievement in life. and spirituality). Furthermore, from these themes a blueprint of subjective well-being instruments was compiled for parents who have children with postlingual deafness, describing the subjective well-being aspects of parents who have children with postlingual deafness, indicators, and items. Items are arranged in the form of a behavior scale. The scale moves from 1-5 indicating how agreed parents of children with postlingual deafness in doing the things indicated in each item. Numbers 1 (disagree), 2 (disagree), 3 (quite agree), 4 (agree), and 5 (strongly agree). Furthermore, the instrument will be tested, where the analysis technique will be explained in the research data analysis techniques section.

Analysis

Data analysis in this study was conducted to test the hypothesis:

H0: The subjective well-being construct model for parents who have children with postlingual deafness fit to the data.

H1: The subjective well-being construct model for parents who have children with postlingual deafness does not fit the data.

The data analysis technique consists of 5 steps: (1) Validating the contents of the instrument. Validation was carried out through an expert judgment process involving 5 psychologists with doctoral education, as well as psychometric experts. The results of the assessment by experts were analyzed using the Lawshe formula to find the content validity coefficient. With 5 raters, Lawshe (1975) proposed that each expert judgment be asked to answer questions for each item with three answer choices, a) essential, b) useful but not essential, c) not necessary. According to Lawshe, if more than half of the expert's judgment shows that the item is important / essential, then the item has at least content validity. (2) Conducting empirical tryout on the scale compiled in the previous step. The scaling format uses a Likert model. This instrument is tested on respondents. (3) Perform a statistical item difference test. The goal is to see the ability of each item to distinguish individuals into various qualitative levels of attributes measured

based on quantitative scores. The test is done by correlating the item score distribution with the distribution of the total score. The technique used is Pearson's product-moment. An item is said to have good difference power if the correlation coefficient (rix) is ≥ 0.30 (Azwar, 2014). To facilitate the process of calculating the item difference test, the SPSS series 20 is used. (4) Performing the construct validity test through the confirmatory factor analysis (CFA) test with the Lisrel 8.80 software on the one-factor model then looking at the resulting chi-square value. If the resulting chi-square (χ^2) value is < 0.05 (not significant), it can be stated that the model is not fit and does not measure one factor. Meanwhile, if the resulting chi-square value is > 0.05 (significant), it can be stated that the model is fit and measures only one factor. If a fit model has been obtained, the next step is to look at the item factor load on the model. The item must have a significant t-value (> 1.96), which means that the item actually measures what it wants to measure according to the measurement model. Items that are not significant (t-value < 1.96) will be eliminated. Next is to look at the existing charge coefficient values. If the coefficient value on the item is positive, the item will not be eliminated, and vice versa if the coefficient value on the item is negative, the item will be eliminated. And the last thing is if there is an item that has a correlation of more than four times, then the item will also be eliminated because it is assumed that the item is not unidimensional in accordance with the existing measurement model. (5) Do the final compilation. This is done by comparing the content validity coefficient of Lawshe with the item difference coefficient and the results of confirmatory factor analysis.

3. Result

Blue print instrument

The instrument for measuring subjective well-being for parents who have children with postlingual deafness in this study consists of 30 items arranged in 5 aspects, namely standard of living, physical and mental health, social connectedness, achievement in life, and spirituality. The standard of living aspect consists of 2 indicators, 2 indicators of physical and mental health, 3 social connectedness indicators, 2 indicators of achievement in life and 1 indicator of spirituality.

Content validity coefficient

This validity shows the ability of items to measure the attributes to be measured. The content validity test is carried out through the calculation of the Content Validity Ratio (CVR) and the Content Validity Index (CVI) from Lawshe (1975). Before the

CVR and CVI calculations were carried out, the researchers conducted an assessment process by panelists (expert judgment) consisting of 5 panelists who were experts in the fields of psychology and psychometrics. According to Lawshe (1975) the value of the CVR of each item can be calculated by $[(ne - N / 2)] / N / 2$, where ne is the number of panelists who say an item is 'agreed', and N is the number of panelists. Then later from the results of this calculation, the CVR value that is considered good must pay attention to the CVR value table based on the number of panelists. There are 5 panelists in this study, so from the Lawshe table (1975) the minimum value of CVR for each item is 0.99. The value of CVR calculation for each item can be seen in table 2 below.

Table 2. Subjective Well-Being CVR Item Calculation

Aspect	No A item	CVR
Standard of living	1	1
	2	1
	3	1
Physical and mental health	4	1
	5	1
	6	1
	7	1
	8	1
Social connectedness	9	1
	10	1
	11	1
	12	1
	13	1
	14	1
	15	1
	16	1
	17	1
	18	0.2
Achievement in life	19	1
	20	1
	21	1
	22	1
	23	1
	24	1
	25	1
	26	1
Spirituality	27	1
	28	1
	29	1
	30	1

According to Lawshe (1975) items that have a negative value are bad items and items that have a value of 1.00 are good items. So that the decision to revise and replace items is made by referring to these provisions. The CVI value is calculated by

means of the mean CVR, where the CVI value of this instrument is 0.95.

Item difference coefficient

The ability of an item to distinguish individuals who have the attributes measured and those who do not have the attributes measured or distinguish individuals into various qualitative levels of attributes measured based on quantitative scores, is indicated by the magnitude of the coefficient. An item is said to have a good / high difference power if the correlation of the item score to the total scale score is equal to or more than 0.30 ($r_{ix} \geq 0.30$). If ($r_{ix} \geq 0.25$) can still be considered (moderate / sufficient difference), but if $r_{ix} \leq 0.20$ then the item has low difference power (Azwar, 2014). The results of the analysis showed that of the 30 items that were tested empirically on parents who had children with postlingual deafness, 30 items had ($r_{ix} \geq 0.30$).

Table 3. Item difference coefficient calculation

No. Item	Corrected Item- Total Correlation	Sig.
1	.444	Significant
2	.481	Significant
3	.345	Significant
4	.636	Significant
5	.362	Significant
6	.346	Significant
7	.352	Significant
8	.447	Significant
9	.472	Significant
10	.481	Significant
11	.386	Significant
12	.513	Significant
13	.484	Significant
14	.567	Significant
15	.478	Significant
16	.538	Significant
17	.537	Significant
18	.421	Significant
19	.422	Significant

No. Item	Corrected Item- Total Correlation	Sig.
20	.494	Significant
21	.535	Significant
22	.608	Significant
23	.408	Significant
24	.556	Significant
25	.574	Significant
26	.550	Significant
27	.472	Significant
28	.536	Significant
29	.623	Significant
30	.519	Significant

Construct validity coefficient

Confirmatory Factor Analysis (CFA) test with Lisrel 8.80 software was carried out to test the construct validity of this instrument. In assessing the criteria for the model fit / Goodness of Fit (GOF) according to the model fit index based on RMSEA < 0.08 , NFI ≥ 0.90 , CFI ≥ 0.90 , IFI ≥ 0.90 and RFI ≥ 0.90 (Hair et al, 2019). The next step is to see the significance of the item in measuring the factors to be measured. In this case the null hypothesis about the item factor load coefficient is being tested. The test is carried out by looking at the Standardized Loading Factor (SLF) value for each factor load coefficient ($SLF \geq 0.05$).

Reliability test using CFA allows the emergence of reliability values per dimension. The estimation approach used is construct reliability (CR) using CFA analysis with the help of LISREL 8.80 analysis software. According to Hair et al. (2019) a good CR value is if it is greater than or equal to 0.60.

Table 4. Subjective wellbeing instrument model fit test

No	Criteria	Index	Fit
1	RMSEA	0.047	Good Fit
2	NFI	0.96	Good Fit
3	CFI	0.98	Good Fit
4	IFI	0.95	Good Fit
5	RFI	0.95	Good Fit

By referring to the model fit index value in the table above, it can be concluded that the measurement model is fitted with the data. Based on these results, it can be continued at the next stage, namely to see whether the item is significant to measure the factors to be measured. The test is carried out by looking at the Standardized Loading Factor (SLF) value for each factor load coefficient, as in table 5 below.

Table 5. Significance test for subjective well-being items

Observed	Latent	SLF	SE	p-value	Sig.
1	SL	0.67	0.67	0.00	S
2	SL	0.64	0.89	0.00	S
3	SL	0.51	1.22	0.00	S
4.	KF	0.50	1.05	0.00	S
5.	KF	0.58	0.89	0.00	S
6.	KF	0.59	0.91	0.00	S
7.	KF	0.61	0.92	0.00	S
8.	KF	0.61	0.99	0.00	S
9.	SC	0.65	0.81	0.00	S
10.	SC	0.70	0.82	0.00	S
11.	SC	0.61	0.91	0.00	S
12.	SC	0.68	0.81	0.00	S
13.	SC	0.65	0.84	0.00	S
14.	SC	0.61	1.00	0.00	S
15.	SC	0.65	0.88	0.00	S
16.	SC	0.55	0.96	0.00	S
17.	SC	0.64	0.83	0.00	S
18.	SC	0.61	0.99	0.00	S
19.	SC	0.59	0.96	0.00	S
20.	AL	0.59	0.92	0.00	S
21.	AL	0.55	0.95	0.00	S
22.	AL	0.59	1.14	0.00	S
23.	AL	0.50	1.51	0.00	S
24.	AL	0.53	1.09	0.00	S
25.	AL	0.50	1.15	0.00	S
26.	AL	0.50	0.99	0.00	S
27.	AL	0.50	1.32	0.00	S
28.	SP	0.57	1.10	0.00	S
29.	SP	0.63	0.79	0.00	S
30.	SP	0.73	0.69	0.00	S

Based on the calculation of the item significance test in the table above. It is known that all subjective well-being items in parents who have children with postlingual deafness are significant so it is said that all subjective well-being items in parents who have children with postlingual deafness are valid. As for the reliability test, the value of construct reliability (CR) for each of the five dimensions of the subjective well-being variable

ranged from 0.801 to 0.895. This value shows that the subjective well-being instrument for parents who have children with postlingual deafness has good reliability and is reliable.

4. Discussion

Based on the literature review, there are several instruments in measuring subjective well-being, including: SWLS (Diener, Emmons, Larson, & Griffin, 1985); SPANE (Diener, et al, 2009); PWI, (International Wellbeing Group [IWBG], 2006). This instrument measures subjective well-being in general, while according to some previous researchers, a more specific instrument is needed so that it can fully describe the subjective well-being of parents who have children with special needs (Cummins, Gullone & Lau, 2002; Pavot, 2018; Negeri, 2013; Wijayanti, 2015). Diener (2018) recommends that further researchers can take various actions to strengthen SWLS and SPANE in order to obtain a deeper picture of subjective well-being. Therefore, in this study researchers developed a subjective well-being instrument for parents who have children with postlingual deafness.

The instrument developed in this study consisted of 30 items. The arrangement of items is based on the results of previous qualitative studies that produce the construct of subjective well-being in parents who have children with postlingual deafness (Anggrainy et al., 2020). There are five main themes of subjective well-being for parents who have children with postlingual deafness: standards of living, physical and mental health, social connectedness, achievement in life and spirituality. Furthermore, the construct is tested empirically and based on the results described previously, the hypothesis proposed in this study can be proven that the construct model of subjective well-being in parents who have children with postlingual deafness fit the data. Psychometrically, the instrument developed has high validity and reliability so that this instrument can measure the subjective well-being of parents who have children with postlingual deafness.

The dimensions of subjective well-being in parents who have children with postlingual deafness

The first dimension, standard of living, is the respondent's perception of the minimum objective conditions they have in living life. Standard of living is revealed based on two indicators, namely education and employment. High scores on this dimension indicate that satisfaction with their education can be useful in educating children who experience postlingual deafness and if the

respondent's income can meet the needs of their children who experience postlingual deafness.

The second dimension, physical and mental health, is the respondent's feeling of satisfaction because he feels physically and mentally healthy. A high score on this dimension is shown if the respondent is physically fit even though it requires extra energy to educate children who experience postlingual deafness. Meanwhile, mentally, the respondents still have sufficient time to rest and have special time for recreation together.

The third dimension, social connectedness, is the feeling of pleasure experienced by respondents because they are related to the nuclear family, extended family and society. A high value is obtained when the respondent feels happy because of the support and role of the nuclear family, extended family and community. Consistent with the collective culture of the country, the maintenance of positive social relations is an important value of Indonesian culture (Jetten et al., 2002). Positive social relationships consist of instrumental and emotional support received and given from and to family members, which are closely related to well-being in the Indonesian context (Landiyanto et al., 2011; Rahayu, 2016). This finding is consistent with research from Diener et al (2018) showing that reciprocal social relationships are important determinants of well-being.

The fourth dimension, achievement in life, is a feeling of happiness caused if the partner (husband / wife) does not change to love their children who experience postlingual deafness, support each other in caring for their children who experience postlingual deafness, the respondent's children who experience postlingual deafness can be adaptive in life and also even though they have children who have postlingual deafness, respondents can still be productive in the world of work.

The fifth dimension, spirituality is shown as a feeling of happiness because of the belief in a spiritual power that protects it. A high value is obtained when respondents believe that submitting and giving thanks to the Creator has enabled them to achieve happiness. There is a sense of gratitude and the ability to take lessons for the presence of children who experience postlingual deafness. which may be due to the strong relationship between religion and family in the Indonesian cultural context. Spirituality itself is very relevant to Indonesian culture, because it is a society with a strong religious orientation. Cohen (2002) suggests that a sense of spirituality helps people's coping strategies and directs them to prosper. In addition, as a collectivist society strongly affiliated with religious values, spirituality provides stronger social

support and a sense of security for Indonesians (Alawiyah & Held, 2015).

Limitations and Future Research

Well-being research in a specific domain (in this case with special needs) continues to develop, therefore it is necessary to develop instruments that are appropriate to that specific domain. This study presents a subjective wellbeing instrument for parents who have children with postlingual deafness and is expected to add to the literature on well-being in the realm of special needs, especially for parents who have children with postlingual deafness.

From a psychometric perspective, the subjective wellbeing instrument for parents who have children with postlingual deafness has good validity in terms of content validity and construct validity. However, the subjective wellbeing instrument for parents who have children with postlingual deafness which was developed in this study still needs to be supported by external validity evidence because the convergent and external validity test of this test has not been carried out so that this is what needs to be refined for further research.

5. Conclusions

Based on the results of the analysis and discussion in this study, it can be concluded that all items in the subjective well-being instrument for parents who have children with postlingual deafness are significant so that it is said that all items in this subjective well-being instrument are valid. The subjective well-being scale of parents with children with postlingual deafness is the first step to obtain instruments that are appropriate to the context of parents with children with special needs.

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