ICN Journal of Clinical Nursing

CARE FOR OLDER PEOPLE

Social well-being and its measurement in the nursing home, the SWON-scale

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Aims and objectives. The aim of this study was to develop an observational scale to measure the social well-being of nursing home residents, by assessing not only the social behaviour of the resident towards others, but also the behaviour of others towards the resident.

Background. Traditionally, aspects of the social well-being of nursing home residents are assessed according to the social activities and interactions where they engage. Although these are important indicators of social well-being, other important indicators may include the positive social behaviour of others towards the resident (e.g. confirming the resident's behaviour or showing affection).

Design. A cross-sectional descriptive survey design.

Method. From the perspective of human social needs, items relating to fulfilment of the needs for affection, behavioural confirmation and status were formulated and tested. This took place in three nursing homes in the Netherlands that provide somatic and psycho-geriatric care.

Results. The study (sample n = 306) yielded a short and reliable scale, the Social Well-being Of Nursing home residents-scale, with separate sub-scales (three items each) for fulfilment of the three social needs.

Conclusions. These first results indicate that overall social well-being and its sub-dimensions can be measured with this new observational scale, although its validity needs to be confirmed. Including the social behaviour of others towards the resident may have provided a more comprehensive measure of the social well-being of nursing home residents.

Relevance to clinical practice. This measure may help to underscore the importance of the social behaviour of others (e.g. caregivers) for the overall social well-being of residents and with that assist care-providers in nursing homes to improve the social well-being of the residents.

Key words: measurement, nurses, nursing, nursing homes, older people, social well-being

Accepted for publication: 10 September 2009

Introduction

The core objective of nursing home staff has long been to provide the residents with high-quality care. Traditionally,

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Journal of Clinical Nursing

quality of life – as experienced by the residents – is becoming increasingly accepted as an important objective of care (Rijckmans et al. 2005). Quality of life is indicated not only by a relatively good medical and functional health status, but also and perhaps even more so by psychological and social well-being (Gerritsen et al. 2004). Although researchers disagree on the content of quality of life, most agree that it is about being well, or the subjective experience of life. Psychological and social well-being are important domains in most approaches, the former often considered as the central outcome (Gerritsen et al. 2007). Although measuring overall quality of life is important, measuring sub-dimensions provides more tools for improving quality of life, because the information is more specific (Gerritsen et al. 2004). Sometimes, however, only negative scales, such as scales for depression, are used in the measurement of quality of life (Rabins et al. 1999). As the absence of depression does not automatically imply that a resident is happy or content, positive scales are needed in the measurement of quality of life (Gerritsen et al. 2007). Accordingly, positive measures of specific domains of quality of life are needed.

The measurement of quality of life in the nursing home is widely discussed (Kane et al. 2003), but the general consensus is that it should focus on the subjective experience of the individual (Jonker et al. 2004). This implies that the individual in question is the most valid source of information, even if this individual suffers from dementia (Novella et al. 2001, Thorgrimsen et al. 2003). Indeed, several self-report instruments to measure quality of life in persons with dementia and/or in long-term care have been developed in the past decade (e.g. Brod et al. 1999, Logsdon et al. 1999, Selai et al. 2001, Kane et al. 2003). Nevertheless, many nursing home residents who are able to respond to self-report measures lose this ability during their stay, for example because of progressive dementia, which complicates the assessment and monitoring of a resident's well-being over time (Logsdon & Albert 1999, Whitehouse 1999, Logsdon et al. 2002). According to Kane et al. (2003), 60% of the nursing home population should be able to reliably report on their own quality of life. However, this leaves a large group of residents who can not, which means that measurement based on selfreport implies the exclusion of highly relevant sub-groups of nursing home residents and thus leads to unrepresentative results (Sneeuw et al. 2002). To measure the well-being of the entire nursing home population, it is necessary to complement self-report assessments with observational assessments. Furthermore, with an observational instrument that is suitable for use among all long-term care residents, all residents can be monitored during their entire stay, irrespective of the fact that, in general, their condition will deteriorate. In this article, it is argued that, in particular, the domain of social well-being of nursing home residents seems suitable to be assessed by observing behaviour, possibly even more so than most other domains of quality of life. This is so because social well-being is a result of the behaviour of the resident and the behaviour of the people around the resident, including the nursing home staff (Steverink & Lindenberg 2006). Measuring the social well-being of residents through observation makes it possible to take into account not only the social behaviour of the resident self, but also the positive social provisions of others towards the resident. This type of combined measurement may provide a more comprehensive assessment of the social well-being of nursing home residents than measuring the behaviour of residents alone.

Background

Traditionally, social well-being aspects of nursing home residents are assessed according to the social activities and interactions where the residents engage, e.g. Functional Behaviour Profile (Baum *et al.* 1993), Index for Social Engagement (Mor *et al.* 1995), Activity and Affect indicators of Quality of Life (Albert *et al.* 1996) and the Vienna List (Porzsolt *et al.* 2004). These are important indicators of social well-being, but other important indicators may be the positive social behaviour of others towards the resident (e.g. confirming the resident's behaviour or showing affection). Even if the resident is not observably active in a social sense, the positive social behaviour of others may make an important contribution to the resident's overall social well-being.

In the literature, a measure for social well-being that can be applied to all long-term care residents and can measure the behaviour of both the residents and significant others was not found. Therefore, an observational scale was developed to measure: (1) the behaviour or characteristics of the resident that reflect positive social intentions towards others and (2) the behaviour of others that reflect positive social provisions towards the resident. The combination of these social behaviours is assumed to reflect positive social well-being in nursing home residents.

To determine which aspects or dimensions of social wellbeing should be included in such a measure, the perspective of basic human social needs was the starting point. Just as there are basic physical needs, there may also be basic social needs that, if fulfilled, yield overall social well-being just as physical need fulfilment would yield overall physical well-being. A theory that is based on the same assumption is Social Production Functions (SPF) theory (Lindenberg 1996, Ormel *et al.* 1997, Steverink & Lindenberg 2006). According to this theory, social well-being depends on the fulfilment of three basic human social needs: the need for affection, for behavioural confirmation and for status. *Affection* refers to being loved as a person irrespective of what one does or has and this need can be fulfilled, for instance, by close and caring relationships. Behaviour*al confirmation* refers to having one's behaviour confirmed by others and this need can be fulfilled, for example, by the experience of belonging to a group. *Status* refers to being appreciated for specific talents or assets, that only a few people posses. In the nursing home, this need can be fulfilled, for example, by being appreciated for having been a well-known sportsman or being popular because of certain personal characteristics (Gerritsen *et al.* 2004).

According to the approach described earlier, not only the resident can actively try to achieve social need fulfilment, but the people around the resident can also provide the resident with experiences of affection, behavioural confirmation or status. In fact, nursing home residents – more than others – seem to depend on nursing home staff and others to provide them with social need fulfilments.

A study was carried out to develop the measurement instrument. First, a pool of items and their response-categories was formulated and expert opinion was sought (Streiner & Norman 2003). By using expert opinion, the face validity and content validity of the instrument were aimed for. Subsequently, the items, three presupposed sub-scales and an overall scale were tested.

Composition of the item pool

First, a pool of items and their response-categories were formulated on the basis of SPF-theory. Then, expert opinion was used to ensure the face validity and content validity of the instrument and to connect the instrument to daily practice.

On the theoretical basis of the three social needs stated in the SPF-theory, 28 items were initially formulated. The specific content of each item was based on clinical observations of daily interactions in four nursing homes in the Netherlands. Two types of items were formulated by two of the authors (DG & NS): Items reflecting the behaviour of the resident towards others (R items) and items reflecting the behaviour of others towards the resident (O items). Subsequently, eleven individual key informant interviews were held with four nurses, three psychologists, and four physicians in four nursing homes. In these interviews, the content and formulation, as well as the response-categories of the items, were discussed. After each interview, any adaptations that had been suggested were added to the content of the next interview. This process resulted in a final set of 27 items (12 for affection, nine for behavioural confirmation and six for status). One item was omitted because no agreement was reached about its content. For the fulfilment of each social need, both types of items (R and O items) were included. Examples of R items were 'How often does the resident help other residents with something?' and 'How often does the resident show appreciation to the nursing staff?'. Examples of O items were 'How often does the resident get a compliment for his or her looks?' and 'How often does the resident get a hug?'. To avoid asking the nursing staff to judge their own behaviour and to control for socially desirable answers, the O items were depersonalised by referring to all people around the resident instead of the observer (rater) alone.

In the interviews, the different response-categories for the items were also discussed. These pertained to two scaling methods. Twelve items were used to measure the frequency of the behaviour (frequency items) and the other 15 items to measure the absence or presence of behaviour or personal characteristics (presence/absence items). An important advantage of frequency-categories is that they are likely to be more responsive to change. On the other hand, they are often more difficult to assess. The frequency response-categories that resulted from the interviews were: (1) once a month or less, (2) once a week, (3) several times a week, (4) once a day and (5) several times a day or all day. A category 'not applicable' was also added.

Initially, the presence/absence items were dichotomous. However, when our informants considered it necessary because of the specific content of the item, a third responsecategory 'not sure' or 'in-between' was added, this was the case for four items. The dimensions of affection and behavioural confirmation contained both R items and O items and both frequency as well as presence/absence response-categories. The status dimension also contained both R items and O items, but only with presence/absence response-categories.

Construction of the scale

Sample

The initial pool of 27 items was tested in a population of nursing home residents in three nursing homes in the Netherlands (see Frijters *et al.* 2003). The research proposal was approved by the Medical Ethics Committee of the VU University Medical Center and the boards of the participating institutions. Residents or their family were given the opportunity to object to the anonymous use of their personal data, but none of them objected. Members of the nursing staff assessed all 306 residents in the three facilities. To establish test–retest reliability, all of 154 residents were assessed twice by one of the nurses within a two-week period; to establish inter-rater reliability, two different nurses independently assessed the other 152 residents. In total, 57 raters were involved in the double assessments. All raters were Licensed Practical Nurses, with at least a 0.8 fte contract. Moreover, all raters were involved in the daily care of the residents they assessed. The average age of the 306 residents was 78.7 years (range: 24–99 years) and the distribution of gender was 70% female and 30% male. According to three questions from the Resident Assessment Instrument (Morris et al. 1990), extensive assistance with bed mobility and transfers was needed in 60% and 64%, respectively, and cognitive skills for daily decision-making were independent in 15%, modified independent in 12%, moderately impaired in 30% and severely impaired in 43%. These characteristics largely resemble those of the general Dutch nursing home population (Mathijssen et al. 2004).

Analyses

First of all, if the 'not applicable' category of the 12 frequency items contained more than 20% of all responses, the item was excluded. Subsequently, all remaining items were entered into internal consistency analyses. The items for the three social needs (affection, behavioural confirmation and status) were analysed separately. In addition to determining Cronbach's alpha (Cronbach 1951) and optimising the properties of the scale by removing items until an optimal alpha value was reached, we applied two other considerations with respect to content. First, to separate the three need dimensions, an item belonging to one dimension was excluded if it correlated more strongly with one or more items of another dimension than with items of its own dimension. Second, for ease of assessment, it was decided that each need sub-scale should consist of items with the same type of response-categories. This means that in one subscale, only frequency items (with five response-categories) or only presence/absence items (with two or three responsecategories) could be used.

Additional internal consistency analyses were performed where the answer categories of the frequency items (fiveanswer categories) were recoded into three categories. The reason for this was to find out whether the frequency items (with five response-categories) appeared to be stronger in the analyses than the presence/absence items (with two or three response-categories) only because the former had more response-categories. This was not the case.

Inter-rater reliability and test-retest reliability of the individual items and of the scales were estimated by calculating the kappa values of the items (Cohen 1968) and the Intraclass Correlation Coefficient (ICC) of the scales (Shrout & Fleiss 1979). Finally, factor-analyses were performed.

Results

Applicability

Five of the 12 items with frequency response-categories had a 'not applicable' category that contained more than 20% of the responses and were thus excluded from the analyses. Of the remaining seven items, the 'not applicable' category was recoded as missing. This was because the 'not applicable' category was not necessary in the items that remained, as these items were applicable to all residents. Indeed, in these items, the 'not applicable' category had led to some confusion with regard to the response-category 'once a month or less', as these categories overlap. At this stage, there were 10 items remaining for the affection dimension, six for the behavioural confirmation dimension and six for the status dimension.

Internal consistency

Affection

Of the 10 remaining items relating to affection, three correlated more strongly with one or more items of the status dimension or the behavioural confirmation dimension than to the other affection items and were thus excluded. Cronbach's alpha of the seven remaining items was 0.60 (mean inter-item correlation – miic – was 0.17). By further omitting four items, the three remaining items formed a scale with a Cronbach's alpha of 0.77 and a miic of 0.53 (Table 1). One of the three items was an R item and the other two were O items.

Behavioural confirmation

Of the six remaining items, none correlated more strongly with affection items or status items than with the other behavioural confirmation items. They had an alpha of 0.53 (and a miic of 0.21). After discarding two items (which appeared to be the weakest after they had been recoded from five-answer categories to three-answer categories), a scale of three items remained, with a Cronbach's alpha of 0.82 and a miic of 0.60 (Table 1). In this sub-scale, only R items remained.

Status

Also for status, no items were identified that correlated more strongly with affection items or behavioural confirmation items than to the other status items. The six status items had an alpha of 0.28 (and a miic of 0.08), which could be

Table 1 Reliability of the items and factor-loading

Scale	Item	N resp cats	Alpha (miic) N _{range} = 252–306	Kappa (Pa) N _{range} = 127–151		ICC N _{range} = 106–151		Factor-loading N = 252			
				Test-retest	Inter-rater	Test-retest	Inter-rater	PCA	PAF, va	arimax ro	tation
Affection	1	5		0.76 (0.96)	0.44 (0.90)			0.68	0.16	0.62	0.26
	2	5	0.77 (0.53)	0.60 (0.94)	0.39 (0.91)	0.83	0.52	0.46	-0.19	0.67	0.19
	3	5		0.79 (0.96)	0.44 (0.92)			0.68	~ 0	0.84	0.18
Behavioural confirmation	4	2		0.70 (0.85)	0.32 (0.66)			0.58	0.73	~ 0	0.17
	5	2	0.82 (0.60)	0.67 (0.84)	0.43 (0.71)	0.77	0.55	0.61	0.76	0.15	0.12
	6	2		0.74 (0.87)	0.54 (0.77)			0.43	0.78	-0.11	0.12
Status	7	2		0.53 (0.80)	0.40 (0.74)			0.68	0.15	0.40	0.49
	8	3	0.69 (0.43)	0.69 (0.93)	0.50 (0.88)	0.74	0.55	0.65	0.32	0.13	0.59
	9	3		0.70 (0.95)	0.53 (0.90)			0.70	0.12	0.37	0.63
Social well-being			0.74 (0.30)			0.78	0.53				

Pa, percentage agreement; ICC, intraclass correlation coefficient; N resp cats, number of response-categories; miic, mean inter-item correlation; PCA, principal component analysis; PAF, varimax rotation= principal axis factoring with varimax rotation.

increased by removing three items. A scale of three items resulted, with an alpha of 0.69 and a miic of 0.43 (Table 1). One of the three items was an R item, the other two were O items.

Overall social well-being

The nine resulting items (reflecting the three dimensions of social needs) were also found to be an internally consistent overall scale with an alpha of 0.74 and a mile of 0.30. This means that not only the separate dimensions, but also overall social well-being can be measured with the nine resulting items. The final items of the overall scale and its sub-scales are presented in Appendix A.

Reliability

Inter-rater-reliability estimates of the scales (ICCs), their items (kappas) and test-retest estimates are presented in Table 1. Cohen's squared weighted kappa was used for items with more than two response-categories, and the Landis and Koch (1975)was used to interpret both the kappa results and the ICC coefficients (Montgomery *et al.* 2002): 0.00-0.20 =slight, 0.21-0.40 = fair, 0.41-0.60 = moderate, 0.61-0.80 =substantial & 0.81-1.0 = almost perfect. Inter-rater reliability estimates were moderate for six of the nine items 0.43-0.54) and fair for three items 0.32, 0.39, 0.40). The test-retest reliability estimates of the items ranged from moderate to substantial (kappa range: 0.53-0.79). The inter-rater ICCs were moderate and ranged from 0.52-0.55. The test-retest ICCs of the scales were substantial or almost perfect and ranged from 0.74-0.83.

Factor structure

In principal component analysis (n = 252), the nine items all loaded on the first factor with an Eigenvalue of 3·43, explaining 38% of the variance with loadings from 0·43– 0·70. Principal axis factoring with three factors and varimax rotation was used to further investigate the manifestation of the three theoretically expected dimensions of social wellbeing. The three sub-scales emerged on three distinct factors, on which none of the items of the other sub-scales loaded above 0·40 (total explained variance was 70%). The loadings on the factors are also presented in Table 1. Despite the afore-mentioned fair kappa value of three of the items, they appear to be important components of the scale, which is illustrated by their factor-loading. They have, therefore, been retained in the scale.

Scale characteristics

Given the fact that the items of each dimension loaded on one joint component and together formed an internally consistent scale, sum-scores can be calculated for the three sub-scales. However, because the three scales have different response-categories, a transformation was executed, to make summation possible. This was done by recoding the sumscores of each sub-scale: multiplying the score for behavioural confirmation and status by 2 and dividing the score for affection by 2 (Appendix A). Thus, each sub-scale has a theoretical range from 0–6.

The overall social well-being scale ranged from 0-18 and had a normal distribution. Scores on the affection scale

Table 2 Spearman's correlation coefficients of the new scales (N_{range} 252–307)

	Social well-being	Affection	Behavioural confirmation
Affection	0.61**		
Behavioural confirmation	0.78**	0.11	
Status	0.79**	0.53**	0.38**

**p < 0.01.

ranged from 0–6, with a mean value of 3.2; scores on the behavioural confirmation scale ranged from 0–6, with a mean value of 2.9 and scores on the status-scale also ranged from 0–6, with a mean value of 2.3. The distribution of the behavioural confirmation sub-scale was somewhat negatively skewed, but the affection and status sub-scales had a normal distribution.

The calculation of Spearman's correlation coefficients between the overall scale and the sub-scales showed substantial and significant correlations (Table 2). Although affection correlated with status (rho = 0.53), it did not correlate significantly with behavioural confirmation (rho = 0.11). However, behavioural confirmation and status did correlate significantly (rho = 0.38).

In conclusion, the results demonstrated that it was possible to construct three parsimonious and sufficiently reliable scales for the three social needs dimensions, each consisting of three items. Moreover, it was possible to combine the social behaviour of the residents and the social behaviour of others in one scale. Together, the three sub-scales also measure overall social well-being.

Discussion

The aim of this study was to construct an observational measure for social well-being in nursing home residents, assessing both the social behaviour of the resident towards others and the social behaviour of others towards the resident. Moreover, we conceptualised the construct of social well-being as consisting of three dimensions of social needs that, when fulfilled, enhance the overall social wellbeing of residents. The overall scale, which we refer to as the Social Well-being Of Nursing home residents-scale (SWON scale), consists of nine items and has been found to have satisfactory psychometric properties, including inter-rater reliability and test-retest reliability. Moreover, in the factoranalyses, each of the three dimensions of social well-being (i.e. fulfilment of the need for affection, behavioural confirmation and status) was found to be separate factors, which is testimony that the three theoretically specified dimensions are empirically valid.

In addition to the strengths of the study, some weaknesses must also be mentioned. First of all, at the end of the study, there were no O items left in the behavioural confirmation sub-scale. Although this may not be problematic with regard to the use of the overall scale, which includes four O items and five R items, it is not consistent with the original aim, which was to include both the social behaviour of the residents and the social behaviour of others towards the resident. It may indicate that the provision of behavioural confirmation, in particular, is difficult to conceptualise, and subsequently difficult to measure. Further research is needed to investigate this aspect of social well-being.

The inter-rater reliability estimates were not very high. Therefore, we recommend the involvement of two raters who score the SWON independently and then reach consensus on any differences in scores. In the context of care in a residential setting, the number of hours a member of nursing staff works and the nature of the relationship of the nurse with the resident will contribute to the error variance. Reducing this error by involving two nurses will, therefore, improve the reliability (e.g. Ettema 2007).

Although the strategy that was applied in the development of the SWON supports the content validity of the scale, further study is needed to confirm its construct validity. Among other things, the relationship of the scales with cognition and physical functioning also needs to be investigated. The 'patterned change' prediction of social need fulfilment (Steverink 2001, Steverink & Lindenberg 2006) states that the need for status fulfilment will be the first social need that becomes hard to fulfil for most people when physical and other resources are lost. The theory proposes that for most people, the need for affection will be the need that can be fulfilled the longest, because it depends very little on physical and other resources (i.e. most people keep on loving their mother, even when she is old, sick and frail). Fulfilment of the need for behavioural confirmation lies in between these two other needs, so for most nursing home residents (most of whom have lost many physical and other resources), it is predicted that status will be the first social need that becomes hard to fulfil and the need for affection the last. Thus, it is to be expected that with increasing impairments in cognition and activities of daily living (which often coincide with loss of resources for status fulfilment), the overall score for social well-being will depend more on fulfilment of the need for affection than on fulfilment of the need for status or behavioural confirmation. This, however, needs to be confirmed empirically. Lastly, the items also need to be tested in English.

Conclusion

The first results concerning this new observational scale for the assessment of social well-being show that it may be a valuable instrument in nursing home practice. Moreover, because it addresses the social behaviour of the resident and also the social behaviour of others, it may give a more comprehensive indication of the social well-being of nursing home residents than that obtained from measures that only address the behaviour of residents. Finally, because it is based on the perspective of social needs, it explicitly focuses on various social needs that are relevant for all human beings – thus also for nursing home residents – but that often do not receive adequate attention in the nursing home.

Relevance to clinical practice

It is possible that this measurement instrument can increase the range of care targets, especially in the domain of social well-being, for all residents. It may help to identify residents whose social well-being is at risk and subsequently help to improve one or more dimensions of their social well-being. For example, affection may be especially important to cognitively impaired residents, whereas behavioural confirmation may be an additional target for less cognitively impaired residents. The need for status, although generally hard to fulfil in the nursing home, may still be important for residents who, for instance, strongly identify with an earlier social role that implied a certain status. By using the SWONscale, including looking on item-level, nursing staff can focus on specific aspects of social well-being for the individual resident and examine on which dimensions and items improvement is possible. These aspects include behaviour of the resident, but also their own behaviour may be a target for their actions.

As a final conclusion, the measurement of social well-being adds to emotion-oriented and client- centred approaches in long-term care, where an attempt is made to link up with the experiences and perceptions of the residents. Expressing affection, endorsing the resident's behaviour and supporting the resident's initiatives are important targets in these approaches (Finnema *et al.* 2000). By explicitly including the behaviour of people around the resident, even more can be gained in terms of the overall social well-being of nursing home residents.

Acknowledgements

This study was funded by the Dutch Ministry of Health, Welfare and Sport, ActiZ – the Dutch trade association and employers' organization for providers of care – and the Institute for Research in Extramural Medicine, the Netherlands.

Contributions

Study design: MO, MR, NS, DG; data collection and analysis: DF, DG, NS; manuscript preparation: DG, NS, DF, MO, MR.

Conflict of interest

The authors declare that they have no competing interests.

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Appendix A The SWON-scales¹

Assessment Information

The following questions concern social interactions of and with a resident in the past three months. These interactions involve the nursing staff, visitors, volunteers, other residents and any other staff. When the words 'nursing staff and others' are used, all of these people are included. Choose the response-category that most applies to this resident.

		Scoring	
Affection			
How often does this resident show appreciation or	1) once a month or less	0	
affection towards the nursing staff?	2) once a week	1	
	3) several times a week	2	
	4) once a day	3	
	5) several times a day or the entire day	4	
How often does this resident get a hug (or a cuddle, etc.)	1) once a month or less	0	
from the nursing staff and others?	2) once a week	1	
0	3) several times a week	2	
	4) once a day	3	
	5) several times a day or the entire day	4	
How often is there humour in the contact with	1) once a month or less	0	
this resident (nursing staff and others)?	2) once a week	1	
	3) several times a week	2	
	4) once a day	3	
	5) several times a day or the entire day	4	
	Subtotal	/2 =	
Behavioral confirmation			
Does this resident usually try to take others	1) Yes	1	
into consideration?	2) No	0	
Is this resident sympathetic towards others?	1) Yes	1	
7 1	2) No	0	
Does this resident usually try to keep to the	1) Yes	1	
agreements made?	2) No	0	
agreements made.	Subtotal	*2 -	
Status	Subtotal	2 =	
Does this resident have a positive presence on the ward	1) Yes	1	
(a - human - have a positive presence on the ward	1) 105	1	
(e.g. numour, always nappy, a special talent)?	2))]	0	
	2) No	0	
Is this resident popular with the other residents?	1) Yes, with most	1	
	2) Yes, with some	0.5	
	3) No	0	
is this resident popular with the nursing staff?	1) Yes, with most	1	
	2) res, with some	0.2	
	3) NO	U *2	
	Subtotal	*2 =	
	SWON-scale	Total	0

¹Note that the translation of the items from Dutch into English was validated, but the English items still need to be tested.