

**Psychometric Testing of a Person-Centred Care Scale – the Eden Warmth Survey in a
Long-Term Care Home in New Zealand**

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Abstract

Background: Internationally and in New Zealand, traditional nursing homes have been viewed as dominated by the medical model. Since the 1990s, the Eden Alternative™ has become a significant model in systemic transformations. The purpose of this study was to evaluate the psychometric performance of the 20 items of the Eden Warmth Survey – Residents (EWS-R) in an aged care home.

Design: A resident's satisfaction survey was used to collect a sample of 85 long-term care home residents in May, 2015.

Methods: Psychometric evaluation included item analyses, reliability including internal consistency and stability, criterion-related validity and construct validity.

Results: The reduced 13 items demonstrated adequate internal consistency reliability ($\alpha = 0.82$). Two factors, namely Trust and Connectedness with Others and Care Practices, were extracted and contributed to 57.9% of the total variance.

Conclusions: The 13-item of EWS-R can be considered as a reliable, valid and predictive scale for assessing quality of life and overall satisfaction on people living in long-term care facilities.

The world's population is rapidly ageing and is projected to rise to 2 billion by 2050 (Population Division Department of Economic and Social Affairs, UN 2009). By 2050, the segment of those 80 years and older will be 31% up from 18% in 1988 (OECD, 1988). Understanding the factors that contribute to longevity and predict optimal ageing in residential care for older people has been central to gerontology's scholarship and practice. Residential aged care services are an integral component of the accommodation and support systems available for older people who are unable to live independently at home. Moving into a care home involves life changes that significantly impact on an individual's quality of life and wellbeing. For example, changes occur in social interactions and there is a need to adapt to issues affecting one's privacy, dignity and independence (Abley, 2012; Brownie & Horstmanshof, 2012; Degenhotz, Kane, Kane, Bershadsky, & Kling, 2006; Duncan-Myers & Huebner, 2000; Rodgers, Wellford, Murphy, & Frauenlob, 2012).

Recent decades have seen a philosophical and practice shift in care, in response to increasing concerns and dissatisfaction among patients and their families about traditional nursing homes practice and delivery of care within the health system (Roshier & Robinson, 2005; Sharma, Bamford & Dodman, 2015). A range of new models of care have developed, which share a focus on person-centred care as "an approach to the planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships among health care providers, patients, and families." (Institute for Patient-and Family-Centered Care, n.d.).

Within the USA, some residential care facilities have abandoned the medical approach to aged care and replaced it with a more humanistic person-centred model (Baker, 2007; Rahman & Schnelle, 2008). This shift has seen the development of a number of models, such as the Eden Alternative (Eden Alternative, n.d.) and Green House (The Green House Project, n.d.). These models are adopted by organisations to facilitate a culture change shift away from an institutional model of aged care to one that is based on supporting positive

relationships between care providers and residents by promoting daily routines for residents that are tailored to their life experiences, abilities and preferences (Zimmerman, Shier, & Saliba, 2014). The Eden Alternative, which is based on ten principles (Table 1), aims to promote autonomy, independence and choice for residents so that they can pursue ‘a life worth living’ (Thomas & Johansson, 2003). It is increasingly adopted by service providers in Australia and New Zealand (Brownie, 2011; Koren, 2010; Petriwskyj, Parker, Wilson, & Gibson, 2015). Reflecting the international population trend, New Zealand’s ageing population (65+) is projected to grow to between 1.28-1.37 million in 2041 (Statistics New Zealand, 2014), which means it is anticipated that the need for aged residential care will also increase. Miller, Booth and Mor (2008) argue that New Zealand has a favourable policy context for improving long-term care through the culture change ethos, thereby placing caregivers in a better position to meet the current care challenges of the growing ageing population.

Insert Table 1 here

While the Eden Alternative™ has been put forward as an innovative model of care and has attracted interest from policy makers and providers within the sector, Petersen and Warbuton (2010) have criticised the lack of critical reflection of both the model and its operation. The Eden Alternative™ website (n.d.) notes that the set of Warmth Surveys were developed to assess residents, families and employees’ satisfaction with the organisation adopting person-centred care practices. These tools whilst briefly mentioned in the literature (Harris, Poulsen & Vlangas, 2006; Keefe, Stadnyk, White, & Fancey, 2009), did not have specific publications that detailed their development. Brownie (2011) argues that the successful implementation of this model requires a systematic approach, which involves validated instruments that evaluate the impact of this philosophy on the psychological and physical health profile of residents, and enable a comparison to be made with residents in traditional

aged care facilities. Instruments without established psychometric properties may provide useful information for quality improvement efforts within individual facilities; however, their use for facility benchmarking or comparative performance evaluation is questionable (Castle, 2007; Harris-Kojetin & Stone, 2007; Lowe et al., 2003). With limited research on the Warmth Surveys, the question remains as to whether the surveys are psychometrically sound and can be considered as well-established tools with which to assess resident, family and staff satisfaction.

Aims of the research

Previous research into use of the Eden Alternative™ has been conducted in full-time care facilities predominantly in the USA (see Barba et al., 2002; Bergman-Evans, 2004; Bruck, 1997; Chesteen, 2004). The purpose of this study was to evaluate the psychometric properties of the Warmth Survey for Residents, developed by the Eden Alternative™, as it pertains to resident satisfaction for those living in long-term care facilities in New Zealand. For this purpose, the specific aims were: (1) to evaluate the item analyses of the Eden Warmth Survey – Residents (EWS-R); (2) to evaluate the reliability of EWR-R using internal consistency and stability; and (3) to evaluate the validity using exploratory factor analysis (EFA). In addition, the study aimed to verify whether the impact of factors derived from EFA of EWS-R correlates with overall satisfaction with facilities and how this may relate to resident satisfaction as a driver for quality improvement in services.

Methods

Design and Setting

This study involved one of the largest residential care providers in New Zealand. This care provider was established in 1984 and it offers both independent living and assisted living options. Assisted living provides support options for residents who require regular help with

daily living; this can vary from basic support such as meals and cleaning in a serviced apartment, through to rest home or hospital level care. In 2015, this care provider announced its move to implement the Eden Alternative™ (n.d), a philosophy of person-centred care that focuses upon empowering residents, staff, families and other stakeholders to provide a better life for residents. Low-risk approval was given by the Massey University Research Human Ethics Committee on 24 June 2015 to conduct the study.

Sample

Survey data was collected for the organisation in April 2015 by an independent research agency, which was contracted to distribute and collate results via a self-completion mail back questionnaire. The questionnaires were distributed to eight care homes located in the North Island in New Zealand. A care home, according to the organisation, encompasses either only rest home or both a rest home and hospital level care. Surveys and reply-paid envelopes were sent to care homes for distribution. Using the existing medical records that have assessed cognitive function, the Nurse Manager at each of the eight care homes was responsible to identify any resident who may not be cognitively capable of completing the survey. In these cases a survey document was sent to a family representative of that resident. In addition, to determine resident “cognitive alertness” the Nurse Manager used his/her clinical judgement through the use of a single screening item (i.e., Can Mrs. Y be able to complete this questionnaire?) (Sikorska-Simmons, 2006). Only residents who completed survey themselves and returned to the external research agency in the reply-paid envelope were included in this study analysis.

Measures

The survey consisted of three parts. The first part of the survey comprised of the Eden Warmth Survey – Residents (EWR-R). According to the Eden Alternative™, the Eden Warmth Surveys (n.d) were developed to measure perceived satisfaction from residents,

families and employees about the organisation using person-centred care. There are three versions of Eden Warmth Surveys, which can be completed annually by families, residents and staff care providers. The resident satisfaction survey is the focus on this study.

The EWS-R consists of twenty statements which rate care home residents' perceived satisfaction to the levels of optimism, trust and generosity across an organisation to reduce loneliness, helplessness and boredom. The options for responding were 1=strongly disagree, 2= disagree, 3=neutral, 4=agree, and 5=strongly agree. This gave a total score of 20-100 on a forced response basis. Some examples of the statements are: *I am comfortable bringing my concerns to a staff member; I rarely see the administrator; I feel safe or I feel helpless at time*. As indicated earlier, no specific publication has detailed the development or interpretation of the scale and there is no clear evidence in the literature that any of these tools have been validated.

The second part of the survey involved asking residents two overall satisfaction questions, developed by the organisation, on *Your overall impression of the care facility or rest home/hospital and its services* and *This organisation understands the needs of older people*. The options for responding were 1=very dissatisfied, 2=dissatisfied, 3=neutral, 4=satisfied, 5=very satisfied, and 6=don't know.

In addition, the third part of the survey included a number of questions developed by the organisation relating to five areas: nursing care, medical attention, individual patient support, activities and meals. The following five items were chosen to be included in this study for criterion analysis: *your overall impression of the nursing care you receive; your overall impression of the medical care you receive; the manner in which your rights are met and respected overall; the staff support given to you that enables you to be involved in activities or therapies appropriate to your individual needs; and your impression of the general quality*

of meals provided. The options for responding were 1=very dissatisfied, 2=dissatisfied, 3=neutral, 4=satisfied, 5=very satisfied and 6=don't know.

Data analysis

With an alpha level of 0.05, the data in the study were analysed using the IBM SPSS 22 (IBM SPSS, Chicago, IL, USA). All variables of the study were calculated with descriptive analyses including mean, standard deviation and range. The psychometric properties of the EWS-R were determined with item analyses, reliability and validity. Item analyses were conducted with item-total correlations. To test the reliability of the EWS-R, internal consistency using Cronbach's alpha was performed. Criterion-related validity was tested with Spearman's rank correlation analysis in order to explore predictive validity of the scale between the EWS-R and the questions relating to overall impression, satisfaction and care areas. Given some of the items in the instruments are not normally distributed, Spearman's correlation test was used for analysis (Field, 2013). Spearman's correlation coefficient is more robust to outliers than is Pearson's correlation coefficient (Mukaka, 2012). Construct validity of the EWS-R was tested using Exploratory Factor Analysis (EFA). To explore the underlying structure of the instrument, EFA using unweighted least squares method with varimax rotation was conducted. The use of an unweighted least squares method to determine the factor structure was recommended when the sample size and expected number of factors are small (i.e. < 100) (de Winter, Dodou, & Wieringa, 2009; Juneg, 2013; Sapnas & Zeller, 2002). Exploratory Factor Analysis is a particular factor analysis method used to examine the relationships among variables without determining a particular hypothetical model (Bryman & Cramer, 2005). The use of varimax orthogonal rotations assumed the factors in the analysis are uncorrelated. Given the exploratory stage of analysis of the EWS-R, Kim and Mueller (1978) argue that employing a method of orthogonal rotation to maintain the arbitrary imposition that the factors remain orthogonal may be preferred over oblique rotation. The use

of these analyses were deemed appropriate to apply to the EWS-R because of the limited published knowledge on its proprietary nature, dimensions, number of items, scoring mechanism, validity and reliability testing. Both the Kaiser-Meyer-Olkin (KMO) value, which indicates the adequacy of sample size and the Bartlett's test of sphericity, which indicates the appropriateness of the factor model, were evaluated in the first step. In the next step, factors with an eigenvalue >1.00 were extracted, and items with a factors loading >0.40 were included in each factor (Polit & Beck, 2008).

Results

A total of 295 questionnaires were sent to residents or family members and 167 were returned, representing a response rate of 57%. Of the 167 questionnaires returned, 85 indicated that they were completed by the resident themselves; these were used in this validation study. The respondents' average age was 89.0 years and 73% were female. Over 50% of the respondents were New Zealand European. The length of stay in the care facilities spanned from 34 to 5817 days. Table 2 shows the EWS-R scores self-reported by the residents.

Insert Table 2 here

Item analyses

A bivariate correlation was run to check that all items were at least minimally [i.e., ≥ 0.3] correlated with *your overall impression of the care facility or rest home/hospital and its services* and that no other items were too highly correlated [i.e., ≥ 0.7] with one another. Six items (*I am lonely*; *I rarely see my manager*; *I can choose what I want to eat*; *I can get up and go to bed when I choose*; *I feel helpless*; and *I enjoy my bathing time*) were found not to meet the standard for being considered 'at least minimally correlated' with the overall satisfaction item and were therefore excluded from further analysis. Table 3 shows the results

of the remaining 14-item analyses using item-total correlation coefficients. There were no items that the correlation coefficients were <0.30 . The corrected item-total correlation coefficients of the EWS-R ranged from 0.34 to 0.77.

Insert Table 3 here

Reliability

The results of the internal consistency of the EWS-R are shown in Table 3. The Cronbach's alpha of the total 20 items was 0.77. After the correlation analysis, the Cronbach's alpha of the 14 items was 0.82.

Validity

The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.82, and the Bartlett's test of sphericity was statistically significant ($\chi^2 = 532.98, p < 0.01$); thus, the data of the study were considered to be appropriate for the factor analysis (Kim & Seo, 2007). Principal component factor analysis revealed the presence of three components accounting for 66.88% of the variance. Extraction of factors was based both upon Kaiser's criterion for Eigenvalues of equal to or greater than unity and Scree plot visual interpretation (Figure 1). This result was further examined by the results of Parallel Analysis (Hayton & Allen, 2004; Horn, 1965), which showed only two components with eigenvalues exceeding the corresponding criterion values for randomly generated data matrix of the same size. The next analysis involved forcing the 14 items into a two-factor analysis, based on the earlier results from Parallel Analysis. The two-factor solution results with an extraction of Eigenvalue > 1.0 . One item, *I am allowed to participate in decision-making about my care and resident related activities within the home* was dropped due to poor factor loadings <0.40 . Two factors of the EWS-R were extracted from the exploratory factor analysis: *Trust and Connectedness with Others* (factor 1) and *Care Practices* (factor 2) (see Table 4). The factor 1, *Trust and Connectedness*

with Others, consisted of seven items with a factor loading >0.50 and it accounted for 46.55% of the variance. The factor 2, *Care Practices*, consisted of six items; it accounted for 11.34% of the variance. The Cronbach's alpha of *Trust and Connectedness with Others* (factor 1) was reported at 0.87 and *Care Practices* (factor 2) was 0.85. The overall Cronbach's alpha of the 13-item was 0.80.

Insert Figure 1 here

Insert Table 4 here

Criterion-related validity

The two factors (Factor 1: *Trust and Connectedness with Others*; Factor 2: *Care Practices*) produced a strong and significant correlation with *your overall impression of the care facility or rest home/hospital and its services* ($r = 0.51$ and 0.67 respectively) and *this organisation understands the needs of older people* ($r = 0.43$ and 0.64 respectively). Factor 1 and Factor 2 also correlated significantly with the other five items: *your overall impression of the nursing care you receive* ($r = 0.41$ and 0.52 respectively); *your overall impression of the medical care you receive* ($r = 0.50$ and 0.49 respectively); *the manner in which your rights are met and respected overall* ($r = 0.41$ and 0.51 respectively); *the staff support given to you that enables you to be involved in activities or therapies appropriate to your individual needs* ($r = 0.30$ and 0.45 respectively); and *your impression of the general quality of meals provided* ($r = 0.44$ and 0.64 respectively) (see Table 5). Overall, these results support the predictive validity of the EWS-R indicating that there were strong correlations between variables, with high level of resident satisfaction with the two factors (*Trust and Connectedness with Others*, and *Care Practices*) associated with higher levels of overall impression and satisfaction of services provided by the organisation.

Insert Table 5 here

Discussion

The purpose of this study was to examine initial psychometric validation of the EWS-R with people who are living in care facilities of one of the major residential care providers in New Zealand. The study tested the association of the 20 items of the EWS-R to an overall satisfaction score for residents. These items reflected the values important to the person-centred philosophy of the Eden Alternative™ framework (i.e. identity, growth, autonomy, security, respect, connectedness, meaning, joy). Item analyses showed that the reduced 13-items were correlated with each other. The 13-item EWS-R had good internal consistency with a good level of Cronbach's alpha at 0.82. Thus, the psychometric evaluation indicated that the items of the EWS-R could be summed to reflect a two-dimension scale.

In this study, EFA revealed that the EWS-R had a two-factor structure and that the total amount of variance explained was 57.9%. Emphasis on positive resident-outcomes (enhanced quality of life or overall satisfaction) has generally been aligned to residents' rights to make choices about their daily life activities, which is suggested as being grounded in cognitive stimulation and social engagement (Bowers et al., 2007). The first factor (*Trust and Connected with Others*) accounted for 47% of the variance in overall satisfaction and included items related to trusting relationships, comfort and contentment. Being 'listened to' indicated that staff took the time to be with residents. Caring relationships existed with staff suggesting that through conversations and time spent together, residents were 'known' to staff. There was a sense of meaningful, positive social interaction rather than a perfunctory, task-oriented focus to these times that correlated to low report of boredom for residents that was not activity-related. Furthermore, these conversations included sharing of concerns with staff, who residents indicated were trusted to advocate on behalf of those resident-concerns. These times of 'listening' and conversation provide an opportunity for the older person to become known as an individual with a history, needs and preferences. Taken together, these trusting relationships meant that residents felt comfortable with staff being their 'voice' or

advocating for their wellbeing. The doctor-resident relationship was also reported as being trusting and implied positive wellbeing outcomes. These perceptions align with strong resident reports of being content, which can be taken as synonymous with satisfaction. Several studies have demonstrated that connectedness and involvement with others was integral for good care home life (Ball, Whittington, Perkins, Patterson, Hollingsworth, King & Combs, 2000; Bergland & Kirkevold, 2006; Riazi, Bradshaw & Playford, 2012).

The second factor (*Care Practices*) brought together items related to physical care, respect and dignity and explained a further 12% of the variance in overall satisfaction. Kindness, humanity and respect are core values of health care professionalism and dignity conserving care (Chochinov, 2007). The relation to and the behaviour of the care home staff would influence the feeling of dignity. Relationships with both administration and care staff were reported as being respectful. It was important to residents to be known by name and to be treated respectfully. Attention to privacy was a strong indicator of being respected and maintaining dignity. Similarly the perception that staff were well-trained and 'know what they're doing' was correlated to residents feeling safe. This competent level of physical care was provided in an environment described as 'caring' and indicated a quality of relationship that went beyond perfunctory task-orientation. Several studies have confirmed that how care is provided has significant influence on residents' experiences (Ball et al., 2000; Boyle, 2004; Edwards, Courtney & O'Reilly, 2003; Herzberg, 1997; Riazi et al., 2012). Residents need to feel that their needs are adequately met without care staff rushing off to the next task, as this can leave residents feeling vulnerable and helpless, particularly those who require a higher level of care. Care staff's competence and caring attitude can contribute to positive care home experiences. Residents in a care home are limited in terms of the availability and variety of relationships. Managers, nurses and other care staff who provide a flexible, empathetic and congruent manner in an emotionally safe environment are more likely to help residents to

confirm their worthiness and in return residents are more likely to make their needs known (Rockwell, 2012; Roos & Du Toit, 2014). When the two factors are considered together, the social and professional interaction with staff who provide a safe, comfortable environment and experience that engenders a sense of dignity, respect and security is perceived as being important to the overall satisfaction for older people who are resident in a care homes.

While the two factors (*Trust and Connected with Others*, and *Caring Practices*) emerged from this study confirm the importance of relational care on the residents within a cycle of family, caregivers and community of living as per literature (Gubrium, 1993; Rockwell, 2012), there were some surprising results, which may warrant further explanation. The results found that the items related to autonomy (e.g. *I can choose what I want to eat* and *I am allowed to participate in decision-making about my care and resident related activities within the home*) were only minimally related to overall satisfaction and were not included in further analyses. It is also interesting to note that while correlation between overall satisfaction and *the staff support given to you that enables you to be involved in activities or therapies appropriate to your individual needs* was medium strong and significant, the strength was the weakest compared to the other items. These findings suggest that to be respected and treated with dignity is what is meaningful in the perception of overall satisfaction for care residents who rely on staff to provide for their care and wellbeing. Similar findings to those of this study were reported by Burack et al. (2012) who found that dignity, security, individuality and relationships were the main predictors of resident satisfaction in their study of maximising quality of life among care residents. The exercise of autonomy was found to be a weaker predictor of overall satisfaction in their study. They suggest that ‘issues of dignity are enmeshed in daily interaction’ (p.51) and cite interpersonal communication and physical care as being essential examples of how these predictors are operationalised. The importance of these seemingly mundane contributors might therefore hold a more prominent place in

residents' perceptions of satisfaction than choices related to activities they may no longer be functionally able to participate in. The social construction of autonomy may not be as strongly associated with satisfaction for older residents as has previously been thought, or in the same way as for more able-bodied or independently-living elders.

Based on the results of this study, most residents seem to be positive and fairly satisfied about various aspects of their living within the facilities where they reside. However, the findings also point to other aspects of residents' experience that require particular attention. For instance, while the residents in general felt comfortable and trusting with staff, their sense of being listened to was rated the third lowest. The relationship to staff has been documented as of utmost importance and could either reinforce acceptance or distance residents from care home life (Bollig, Gjengedal & Rosland, 2014). Residents of long-term care facilities are highly vulnerable and their sense of worth can be challenged by illness and care needs (Pleschberger, 2007). A safe environment with high quality care provision, enjoyable food, self-determination, regular activity and social contact are necessary to ensure residents are able to live a good life. The development of trusting relationships between staff and residents appears to be closely aligned to the principle that being listened to and known would result in positive outcomes for the residents. Bollig et al. (2014) strongly state that having contact and receiving empathic communication should be a human right for care residents, that is additional to the need of being dry, clean and fed. Where staff provided emotional or psychosocial care, residents reported this affirmed respect and feeling worthiness (Bergland & Kirkevold, 2006; Cooney, Murphy & O'Shea, 2009; Coughlan & Ward, 2007).

Resident satisfaction in the 'home-like environment' domain also requires particular attention considering the care facilities are mandated to be resident-directed in their care planning. Having a home contributes to the 'ontological security' in which home is a place where people feel in control of their lives, free from surveillance and external expectations (Cook,

Thompson & Reed, 2015). Giddens (1990) viewed security as more than physical security but the confidence that people have in the continuity of their self-identity and in the stability of surrounding environment. For people living in residential care facilities, the situation becomes complex as not only are they long-term tenants who require privacy, dignity and safety, but they are also care recipients bound by a contractual arrangement with the care home (Howe, Jones & Tilse, 2013). This ambiguous status of the residents (i.e., tension involved in trying to live an autonomous, private life, within a public environment dominated by routine and organisational structure) can have a negative impact on their satisfaction with care services and subsequently their overall quality of life (Cook et al., 2015). The implementation of the Eden AlternativeTM in residential care services strives to focus on the person in what are essentially communal living care environments that are moving toward relation-based care (Davies, 2001; Nolan, Davies & Grant, 2001). This involves communication and partnership between residents, families and staff in order to improve and enhance QoL experienced by the residents. Cook et al. (2015) argue that older people who relocate to care facilities because they are no longer able to independently meet their fundamental human needs are sacrificing ontological security in favour of physical security. Therefore, in order to enable residents to regard care facilities as 'home', staff need to be more focused on recognising, acknowledging and supporting residents' aspirations to living in care, rather than existing in care. Results from this study confirm that an important part of ontological security is the trust or confidence people can have in the relationships that form part of their everyday existence.

The authors acknowledge some limitations to this study. One limitation was the exclusion of residents deemed unable to complete the questionnaire. Perceptions of independent residents may be different from perceptions of their more impaired counterparts. Further studies should examine whether the relationship between overall-satisfaction is consistent across cognitive

status. While the design of this study is appropriate to meet the stated psychometric objectives, the cross-sectional nature of the data and a small sample size provide only a snapshot picture of resident satisfaction. Future research will provide a comparison across time of residents' perceptions of overall satisfaction in LTC facilities.

Another limitation of this study is related to the assessment of resident satisfaction as quality of care indicator. Research suggests that satisfaction, as a subjective evaluation, is influenced by psychological well-being and functional ability, and it may not truly reflect as a valid indicator of the quality of care (Owens & Batchelor, 1996). In assisted living, residents with depression or with disabilities tend to be less satisfied than their more independent counterparts (Sikorska, 1999). Because the present study did not ask for resident psychological wellbeing or functional ability in the assessment of satisfaction, it is unknown to what extent these characteristics influenced resident perceptions. The study reported here is part of a one-year research project examining the implementation of the Eden AlternativeTM principles in residential aged-care facilities. The next phase of the study has included resident psychological wellbeing and functional ability (i.e. Geriatric Depression Scale, UCLA Loneliness Scale and Quality of Life measure) in the assessment of resident satisfaction to better understand how they evaluate quality, and perception of services.

While the results here provide an indicative support of using EWS-R as a baseline measure for assessing overall satisfaction among residents across an organisation, it is anticipated that test-retest reliability would be required to ensure good stability of the EWS-R according to Rosner's (2010) recommendation. Furthermore, confirmatory factor analysis should be employed in a new setting to test how well the measured variables represent that emerged constructs derived from EFA in this study. While the use of standardised instruments will ensure consistency of reporting of long-term care facility performance, caution is required to

consider the impact of confounding factors for benchmarking and quality assurance (Mor, Angelelli, Gifford, Morris, & Moore, 2003; Rosen et al., 2001).

In conclusion, the results of this study are of particular relevance to long-term care facility staff. Information from this study will benefit facility care staff by continuing to raise awareness of the importance of residents' self-reported satisfaction and what residents have to say about their life in the facility as well as how this contributes to enhancing their overall quality of life. Domains of resident satisfaction that did not receive high rating could be targets for intervention as noted above. The findings also have practical implications for administrators and policy makers who are interested in increasing resident satisfaction with long-term care facilities. Because resident satisfaction is related to staff perceptions of the work environment, efforts to increase resident satisfaction should also focus on improving the quality of the work environment for staff. Eaton (2000) has claimed that work environments that value and respect staff are likely to foster positive work-related attitudes and good-quality services, which residents seek.

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CONFLICT OF INTERESTS

The authors declare that they have no conflict of interests.

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TABLE 1: THE TEN EDEN ALTERNATIVE™ PRINCIPLES

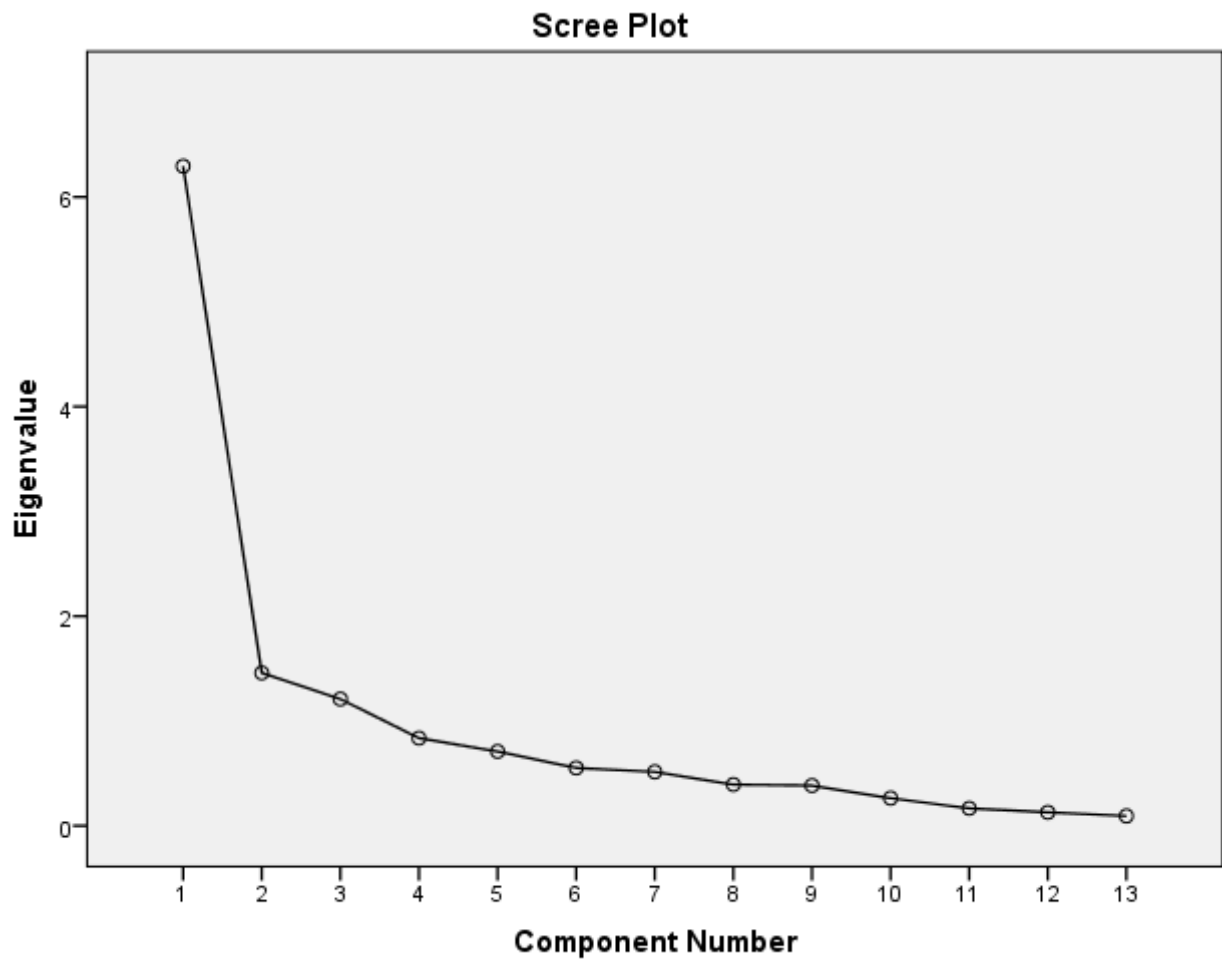
1.	The three plagues of loneliness, helplessness, and boredom account for the bulk of suffering among our Elders.
2.	An Elder-centered community commits to creating a Human Habitat where life revolves around close and continuing contact with plants, animals, and children. It is these relationships that provide the young and old alike with a pathway to a life worth living.
3.	Loving companionship is the antidote to loneliness. Elders deserve easy access to human and animal companionship.
4.	An Elder-centered community creates opportunity to give as well as receive care. This is the antidote to helplessness.
5.	An Elder-centered community imbues daily life with variety and spontaneity by creating an environment in which unexpected and unpredictable interactions and happenings can take place. This is the antidote to boredom.
6.	Meaningless activity corrodes the human spirit. The opportunity to do things that we find meaningful is essential to human health.
7.	Medical treatment should be the servant of genuine human caring, never its master.
8.	An Elder-centered community honors its Elders by de-emphasizing top-down, bureaucratic authority, seeking instead to place the maximum possible decision-making authority into the hands of the Elders or into the hands of those closest to them.
9.	Creating an Elder-centered community is a never-ending process. Human growth must never be separated from human life.
10.	Wise leadership is the lifeblood of any struggle against the three plagues. For it, there can be no substitute.

Note: Information retrieved from <http://www.edenalt.org/about-the-eden-alternative/mission-vision-values/>

TABLE 2: EDEN ALTERNATIVE™ WARMTH SURVEY – RESIDENT QUESTIONNAIRE (N = 85)

EWR-S Items	Mean (SD)	Min to Max
The administrator knows my name	4.53 (0.55)	3-5
The staff cares about me	4.49 (0.55)	3-5
I feel safe	4.44 (0.77)	1-5
Staff members are respectful to me	4.38 (0.67)	2-5
The staff are well-trained and know what they are doing	4.29 (0.75)	2-5
I am given privacy	4.25 (0.75)	2-5
I am comfortable bringing my concerns to a staff member	4.20 (0.86)	2-5
I trust staff to advocate on my behalf	4.14 (0.86)	1-5
I trust my doctor	4.11 (0.95)	1-5
I am allowed to participate in decision-making about my care and resident related activities within the home	4.07 (0.84)	1-5
I am content here	4.05 (1.02)	1-5
Staff members take time to talk and listen to me	3.89 (0.99)	1-5
I can get up and go to bed when I choose	3.88 (1.03)	1-5
I enjoy my bathing time	3.88 (1.11)	1-5
My room looks much like a room in someone's home	3.77 (1.10)	1-5
I can choose what I want to eat	3.58 (1.11)	1-5
I rarely see the administrator	3.20 (1.29)	1-5
I feel helpless at times	2.51 (1.12)	1-5
I am bored	2.51 (1.21)	1-5
I am lonely	2.49 (1.24)	1-5
Total summated score	75.26 (9.19)	50-100
Cronbach's alpha	0.77	

FIGURE 1: SCREE PLOT FOR THE WARMTH SURVEY – RESIDENTS



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TABLE 3: ITEM ANALYSES AND RELIABILITY OF THE WARMTH SURVEY - RESIDENTS

Item	Agree & Strongly Agree (%)	Mean (SD)	Corrected item-total correlation
1. The administration staff know my name	88.2	4.54 (0.55)	0.48
2. The staff care about me	87.1	4.49 (0.55)	0.75
3. I feel safe	85.9	4.44 (0.77)	0.76
4. Staff members are respectful to me	83.6	4.38 (0.67)	0.64
5. I am given privacy	81.2	4.25 (0.75)	0.59
6. The staff are well trained and know what they are doing	78.8	4.29 (0.73)	0.59
7. I am comfortable bringing my concerns to a staff member	78.8	4.20 (0.82)	0.77
8. I trust staff to advocate on my behalf	77.7	4.14 (0.86)	0.75
9. I am allowed to participate in decision-making about my care and resident related activities within the home	75.3	4.06 (0.84)	0.34
10. I trust my doctor	70.6	4.11 (0.95)	0.56
11. I am content here	69.4	4.05 (1.02)	0.73
12. Staff members take time to talk and listen to me	65.9	3.89 (0.99)	0.44
13. My room looks much like a room in someone's home	62.3	3.78 (1.10)	0.56
14. I am bored	16.5	2.51 (1.21)	0.52
Cronbach's alpha (original 20-item)	0.77		
Cronbach's alpha (14-item)	0.82		

TABLE 4: EXPLORATORY FACTOR ANALYSIS OF THE WARMTH SURVEY – RESIDENTS WITH ROTATED MATRIX FROM VARIMAX

Item	Communalities	Factor 1*	Factor 2#
1. I am comfortable bringing my concerns to a staff member	0.80	0.92	
2. I trust staff to advocate on my behalf	0.76	0.80	
3. My room looks much like a room in someone's home	0.53	0.67	
4. I trust my doctor	0.48	0.61	
5. I am content here	0.72	0.62	
6. Staff members take time to talk and listen to me	0.60	0.60	
7. I am bored	0.42	0.50	
8. I feel safe	0.84		0.86
9. The staff care about me	0.79		0.84
10. The staff are well trained and know what they are doing	0.64		0.76
11. Staff members are respectful to me	0.67		0.64
12. The administration staff know my name	0.45		0.62
13. I am given privacy	0.57		0.46
Eigenvalue		6.12	1.23
Variance explained (%)		46.55	11.34
Cumulative variance explained (%)		46.55	57.89
Cronbach's Alpha		0.87	0.85
Cronbach's Alpha (13-item)		0.80	

*Trust and Connectedness with Others

#Caring Practices

TABLE 5: CORRELATION BETWEEN THE WARMTH SURVEY – RESIDENTS AND OVERALL SATISFACTION WITH FACILITIES SERVICES

Scale	M(SD)	1	2	3	4	5	6	7	8
1. Overall satisfaction from Metlifecare services	4.44 (0.67)	--							
2. Metlifecare understands older people's need	4.12 (0.88)	0.50**	--						
3. Your overall impression of the nursing care you receive	4.43 (7.49)	0.68**	0.38**	--					
4. Your overall impression of the medical care you receive	4.21 (0.90)	0.59**	0.31**	0.46**	--				
5. The manner in which your rights are met and respected overall	4.41 (0.74)	0.50**	0.24*	0.51**	0.38**	--			
6. The staff support given to you that enables you to be involved in activities or therapies appropriate to your individual needs	4.26 (0.87)	0.41**	0.41**	0.22*	0.24*	0.41**	--		
7. Your impression of the general quality of the meals provided	4.04 (1.07)	0.55**	0.53**	0.47**	0.26*	0.52**	0.49**	--	
8. Trust and Connectedness with Others (factor 1)	3.71 (0.65)	0.51**	0.43**	0.41**	0.50**	0.41**	0.30*	0.44**	--
9. Care Practices (factor 2)	4.35 (0.60)	0.67**	0.64**	0.52**	0.49**	0.51**	0.45**	0.64**	0.56**

* $p < 0.05$; ** $p < 0.01$

Psychometric testing of a person-centred care scale the Eden Warmth Survey in a long-term care home in New Zealand

Yeung, P

2016
