RESEARCH ONLINE

University of Wollongong
Research Online

Faculty of Commerce - Papers (Archive)

Faculty of Business

2012

The contribution of vacations to quality of life

Sara Dolnicar
University of Wollongong, sarad@uow.edu.au

Venkata Yanamandram
University of Wollongong, venkaty@uow.edu.au

Katie Cliff
University of Wollongong, katiel@uow.edu.au

Publication Details

Dolnicar, S., Yanamandram, V. & Cliff, K. (2012). The contribution of vacations to quality of life. Annals of Tourism Research, 39 (1), 59-83.

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

RESEARCH ONLINE

The contribution of vacations to quality of life

Abstract
The contribution of vacations to people's life satisfaction and Quality of Life (QOL) has recently attracted substantial attention among tourism researchers. Yet, most QOL scales do not include vacations: 7% explicitly measure vacations whereas 42% only include items relating to vacations within the broader Leisure domain. Leisure and vacations, however, differ substantially in nature with leisure referring to regular home-based activities and vacations being infrequent leisure activities away from home. As a consequence of the common amalgamation of vacations with leisure, there is limited knowledge about the specific contribution of vacations to people's QOL. The present study (1) presents empirical evidence for the contribution of vacations to QOL, (2) determines the extent of this contribution, and (3) investigates variation in the extent to which vacations contribute to the QOL of different people. Results indicate that vacations contribute to the QOL of the majority of people, are as important a QOL domain as Leisure and People, and that QOL means different things to different people at different points in their life, representing an individual and dynamic concept.

Keywords
era2015

Disciplines
Business | Social and Behavioral Sciences

Publication Details
Dolnicar, S., Yanamandram, V. & Cliff, K. (2012). The contribution of vacations to quality of life. Annals of Tourism Research, 39 (1), 59-83.

This journal article is available at Research Online: http://ro.uow.edu.au/commpapers/953

THE CONTRIBUTION OF VACATIONS TO QUALITY OF LIFE

Abstract

The contribution of vacations to people's life satisfaction and Quality of Life (QOL) has recently attracted substantial attention among tourism researchers. Yet, most QOL scales do not include vacations: 7% explicitly measure vacations whereas 42% only include items relating to vacations within the broader Leisure domain. Leisure and vacations, however, differ substantially in nature with leisure referring to regular home-based activities and vacations being infrequent leisure activities away from home. As a consequence of the common amalgamation of vacations with leisure, there is limited knowledge about the specific contribution of vacations to people's QOL. The present study (1) presents empirical evidence for the contribution of vacations to QOL, (2) determines the extent of this contribution, and (3) investigates variation in the extent to which vacations contribute to the QOL of different people. Results indicate that vacations contribute to the QOL of the majority of people, are as important a QOL domain as Leisure and People, and that QOL means different things to different people at different points in their life, representing an individual and dynamic concept.

Keywords: Quality of Life, Life Satisfaction, Vacations, Holidays, Heterogeneity

1. INTRODUCTION

Vacations are an integral feature of modern life for many people in developed nations and represent a possible avenue for individuals to pursue life satisfaction (Rubenstein, 1980). Hobson and Dietrich (1994) observed that there is an "underlying assumption in our society that tourism is a mentally and physically healthy pursuit to follow in our leisure time" (p. 23), and therefore a factor in increasing QOL.

Yet it remains unclear whether vacations - as opposed to leisure time at home - contribute to people's QOL, to which extent, and whether people differ in the extent to which vacations contribute to their QOL. This is the contribution of the present study. Specifically, we will (1) provide empirical evidence for the contribution vacations make to people's QOL, (2) assess the extent to which, for the general population, vacations contribute to people's QOL, and (3) for the first time, investigate whether vacations affect the QOL of different market segments in different ways, indicating domain heterogeneity in the marketplace and, consequently, opening up opportunities for successful target marketing by tourism destinations and industry.

2. LITERATURE REVIEW

2.1 Quality-of-Life

QOL has been defined in many ways, as is the relationship between QOL and life satisfaction. Some researchers define QOL in terms of life satisfaction. For example, Meeberg (1993) views it as "a feeling of overall life satisfaction, as determined by the mentally alert individual whose life is being evaluated" (p. 37), while Rejeski and Mihalko (2001) suggest that QOL is "a conscious cognitive judgment of satisfaction with one's life" (p. 23). Others define life satisfaction to be a component of QOL: Cummins, McCabe, Romeo and Gullone

(1994) state that personal values, as well as life conditions and life satisfaction, interact to determine QOL, suggesting that the significance of either the objective or subjective assessment of a particular life domain is interpretable only in relation to the importance the individual places on it.

In this current study, we understand QOL to mean "an individual's subjective evaluations of the degree to which his or her most important needs, goals, and wishes have been fulfilled" (Frisch, 2000, p. 220). The present study is guided by the satisfaction hierarchy model (Lee & Sirgy, 1995), the premise of which is that overall life satisfaction is functionally related to satisfaction within a number of individual life domains (e.g., personal health, work, family, love, money).

Due to the fact that objective measures of life conditions account for only a modest proportion of individuals' subjectively reported QOL and/or well-being (Diener & Suh, 1997; Haas, 1999), we use the disaggregate, subjective well-being approach which focuses on "individuals' subjective experience of their lives" (Diener & Suh, 1997, p. 191); that is, their "own internal judgment of well-being" (p. 201) as opposed to using aggregate social indicators. This approach is justified by Campbell, Converse and Rogers' (1976) investigation that concludes that the subjective perception of well-being is not necessarily associated with objective criteria typically included in social indicator measures of QOL.

We limit our investigation to generic QOL measures, as opposed to specific QOL measures developed for people in very specific circumstances, for example, people with cancer.

2.2 Conceptualization of Vacations within the Leisure Domain

According to Hall and Page (2006), a universally accepted definition of leisure, tourism and recreation is impossible, because the definitions change according to their purpose and context. In addition:

> ...the complexity and heterogeneity of the field of tourism suggests that there is no point in searching for the theoretical approach to the study of tourism, just as there is no point in searching for the conceptualization of the tourist…the most fruitful work…will be accomplished by a skilful blending of different approaches for the elucidation of specific problems (Cohen, 1979, p.31).

Leisure and its importance to life satisfaction has been heavily researched in the general QOL literature: Diener and Suh (1997) and Karnitis (2006) acknowledge *Leisure & recreation* as a key domain in QOL. Silverstein and Parker (2002) and Dann (2001) argue the contribution of leisure to "successful" old age. Iwasaki, Mannell, Smale and Butcher (2005) and Jeffres and Dobos (1993) derive the importance of leisure for QOL from the relationship between leisure and stress relief.

Kelly (1985) notes that tourism (vacations) is recreation on the move, engaging in activity away from home in which travel is at least part of the satisfaction sought. In a later review examining leisure behavior of individuals, Kelly (1999) argues that individuals seek to obtain two patterns of leisure behavior throughout their life – in one pattern, leisure is consistent, accessible and persists throughout the life course, and in the other, leisure has variety, is less accessible and changes throughout the life course. Zabriskie and McCormick (2001) combine Kelly's (1999) notion of two patterns of leisure behavior with Iso-Ahola's (1984) argument that individuals "seek stability and change, structure and variety, and familiarity and novelty in [their] leisure" (p. 98). The result of Zabriskie and McCormick's study is the Core and

Balance Model of Family Leisure Functioning. Within this model, core family leisure patterns are depicted by "common, everyday, low-cost, relatively accessible, and often home-based activities that many families do frequently" (Zabriskie & McCormick, 2003, p. 168). They include activities such as watching television together, playing board games, gardening, and family dinners. Core activities often require little planning and resources and are spontaneous and informal. Balance family leisure activities are more novel experiences, occurring less frequently. They are usually not home-based, and require a greater investment of time, effort, and other resources. Balance patterns include activities such as family vacations, most outdoor recreation such as camping, boating, and fishing, community-based events etc.

2.3 The Importance of Vacations to QOL

"Social interaction, personal development and individual identity formation" (Richards, 1999, p. 189) are some of the ways that vacations are seen to contribute to QOL. Hobson and Dietrich (1994) note that society assumes that tourism is healthy for people and therefore plays a role in raising an individual's QOL. Tinsley (1979) states that some psychological needs are satisfied through leisure, however, its contribution to life satisfaction depends on the amount of leisure time, the value people attach to leisure (Shaw, 1984), and the value people attach to their attainment of travel goals (Sirgy, 2010). Leisure experiences can affect the emotional, intellectual, spiritual, or physical aspects of an individual's life (Gilbert & Abdullah, 2004), and therefore represent one approach to assessing life satisfaction. Neal, Sirgy and Uysal (2007) demonstrate the association between overall life satisfaction and travel trip experiences.

In the leisure and tourism literature, the importance of vacations to QOL is examined from two different perspectives: (1) as a domain of the QOL of residents at a tourism destination;

and (2) as a domain of the QOL of tourists. Studies investigating the QOL of residents at a tourism destination (e.g., Bachleitner & Zins, 1999; Perdue, Long & Allen, 1990; Perdue, Long & Kang, 1999), are not reviewed in the present study because we focus on the QOL of those travelling away from home.

Few studies have investigated the contribution of vacations to tourists' QOL. Neal, Sirgy and Uysal (1999) are among the first to recognize the significance of vacations to QOL in their study of people's satisfaction with tourism experiences in the overall QOL context. While this study highlights the importance of satisfaction with tourism services, it is predominantly focused on service evaluations and satisfaction with the last trip. Therefore, overall life satisfaction constitutes only a small part of the study. Despite the focus on trip satisfaction, the study by Neal et al. (1999) pioneers QOL research within the sphere of tourism. Neal, Sirgy and Uysal (2004) extend their previous study by examining the role of tourism services in QOL and discover that satisfaction with tourism services and experiences, trip reflections, satisfaction with service aspects of tourism phases and non-leisure life domains, impact on satisfaction with life in general.

The link between satisfaction and aspects of the leisure trip, life satisfaction, and ultimately, QOL, is explored further by Sirgy, Kruger, Lee and Yu (2010) who study the role of positive and negative affect of trip experiences on 13 life domains. Their study is distinct from those in the tourism field, which focus predominantly on pure vacation satisfaction without making a connection to life satisfaction or QOL. Sirgy et al. (2010) find that positive affect in major life domains contribute to life satisfaction.

Gilbert and Abdullah (2004) also study vacations specifically, concluding that those who have recently taken a holiday experience a higher sense of well-being both before and after the vacation. Additionally, improved QOL is listed as a reason for taking a holiday by respondents who experience barriers to travelling (McCabe, 2009).

A number of studies investigating the role of vacations in QOL were conducted in disciplines other than tourism. These studies demonstrate further the potential for vacations to improve people's QOL. For example, vacations are shown to: play a role in improving the lives of people with a disability (Card, Cole & Humphrey, 2006): increase the intellectual functioning of women over 65 (Sands, 1981); foster greater independence and less wariness in institutionalized retarded children (Balla & Zigler, 1971); generate positive attitudes and greater QOL in hospitalized dialysis patients (Roy & Atherson, 1982); and improve the QOL of seniors (Lee & Tideswell, 2005).

From the review of QOL studies in tourism and elsewhere, it is apparent that studies which analyze vacations as a domain separate from leisure are sparse. As a consequence, there is little knowledge about the specific contribution of vacations to QOL.

2.4 QOL Domains

There is general agreement that the basic premise of subjective well-being research "is that in order to understand the well-being of an individual, it is important to directly measure the individual's cognitive and affective reactions to […] specific domains of life" (Diener & Suh, 1997, p. 200). Measuring subjective well-being, also referred to as "happiness" (Diener, 2000), encompasses the subjective evaluation of "longer-term pleasant affect, lack of unpleasant affect, and life satisfaction" (Diener, 2009, p. 25) and is necessary because social indicators alone are not adequate to determine QOL as they may not be an actual reflection of people's experience of well-being (Diener & Suh, 1997).

Yet, there appears to be surprisingly little agreement on which domains actually constitute QOL and should thus be included in QOL measures. To assess whether this is indeed the case and to identify key domains, we conduct a review of published QOL measures, limited to

measures designed for the general population of healthy adults (Appendix 1). Test batteries which measure general QOL are identified and original publications explaining the test battery are sourced. Fourteen of the test batteries identified in the overall search match the review criteria. For each one of these studies, we extract the domains included to derive the overall QOL score and determine whether leisure and vacations are included.

Five of the nine studies that included *Leisure* as a domain of QOL, measured vacations within *Leisure*; one study measured *Vacations* as a separate domain; and three studies did not measure vacations at all. Thus, whilst vacations when considered as part of the *Leisure* domain are included in 42% of test batteries, *Vacations* as a separate domain are included in only 7% of the batteries.

Review details (original articles, number of domains, names of the domains, whether leisure was included, whether vacations were implicitly or explicitly measured) are included in the Appendix, A summary is given in Table 1 which lists the domains in the left-hand column and the percentage of reviewed studies that include each one of those domains in their measure of QOL in the right-hand column. The review of test batteries is critical because it reflects how QOL is generally conceptualized and operationalized.

TABLE 1 HERE

As can be seen from Table 1, *Work and material well-being*, and *Health*, are both included in all item batteries. *Family and love*, *Leisure and recreational activities*, *Social life*, and

Education/learning are represented in most QOL measures. All other domains are included in less than half of the item batteries.

A number of key conclusions can be drawn:

1. There is general agreement that total perceived QOL is a composite of satisfaction with a number of domains in life.
2. There is little agreement on the key domains to include for measuring the construct of QOL in a satisfactory manner. The only undisputed domains are *Work and material well being*, and *Health*.
3. Almost two thirds of test batteries reviewed regard *Leisure and recreational experiences* as contributing to QOL.
4. While leisure is acknowledged as contributing to QOL, vacations tend to be either implicitly covered in the *Leisure* domain, or not covered at all.

It can be concluded that vacations are not typically treated as a separate domain and are often not included in QOL measures. Even if vacation specific items are included in the *Leisure* domain, the amalgamation of vacations with leisure prevents understanding of the role of vacations as a contributor to QOL in its own right. The contribution of vacations to QOL should be of great interest to tourism destinations and the tourism industry, because it allows investigation into not only interesting target markets, but also into aspects such as elasticity of demand.

2.5 Heterogeneity in QOL

Heterogeneity with respect to QOL can be viewed from two perspectives. First, as heterogeneity in the actual total QOL score, indicating that, overall, some people are more

satisfied with their life than others. We refer to this kind of heterogeneity as "QOL Score Heterogeneity". This kind of heterogeneity is well established in the literature; evidence is provided by studies identifying situational and personality factors which affect people's QOL, for example external life circumstances and inter-personal factors such as personality, and more specifically, extraversion, optimism and self-esteem (Diener & Suh, 1997). Evidence is also provided by the large number of QOL studies which focus on subgroups of the population, such as Grenwald-Mayes' (2001) study exploring the QOL of college students with Attention-Deficit/Hyperactivity Disorder. This study finds that overall, college students with ADHD report a lower QOL.

Also, less than a quarter of measures suggested for measuring QOL by the Australian Centre on Quality of Life (2010) are developed for the healthy adult population, providing additional support for the fact that heterogeneity in QOL is acknowledged.

The second interpretation of heterogeneity in QOL is that people are likely not only to differ in their overall QOL score, but also with respect to the domains that contribute to their QOL. For example, for some people *Family* contributes more to QOL than *Work*. This interpretation of heterogeneity (which we refer to as "QOL Domain Importance Heterogeneity"), has to the authors' knowledge, not received much attention, although implicitly there is some acknowledgment that there is no one standard model of QOL that fits all people. For example, Mactavish, MacKay, Iwasaki and Betteridge (2007) explore the perspectives of caregivers of individuals with intellectual disability on QOL, concluding that personal health and basic need fulfillment are foundational elements, with QOL being an encompassing concept that integrates meaningful and enriching social connections with friends and family, with perceived control, freedom and independence. More generally, Diener and Suh (1997) state that measures within the subjective well-being tradition "examine how a person feels about life in the context of his or her own standards" (p. 191). Verdugo,

Schalock, Keith and Stancliffe (2005) call for a shift from domain specific assessments of QOL to one that considers experiences and contexts, thereby reflecting the full and interconnected nature of people's lives.

We illustrate the above two forms of heterogeneity using a hypothetical example: in Table 2 QOL is assumed to consist of four domains: *Material well-being*, *Health*, *Family*, and *Leisure*. Each person is defined by their self-assessment of how satisfied they are with each of these domains (score), as well as by the importance they attach to each of these domains (importance). The overall QOL score is computed by multiplying each satisfaction rating with its importance and summing across all domains. As can be seen, Person 1 and Person 2 both assign the same importance to all domains, but they differ in their domain satisfaction, leading to a lower overall QOL for Person 2 than for Person 1. This example illustrates the concept of "QOL Score Heterogeneity". Person 1 and Person 3 have identical domain satisfaction, but Person 3 – as opposed to Person 1 - feels that their QOL is primarily determined by *Health* and *Leisure*. This example illustrates "QOL Domain Importance Heterogeneity".

TABLE 2 HERE

To date, heterogeneity in QOL has been understood to refer mainly to differences in people's overall QOL rather than an acknowledgement that total QOL is influenced to different degrees by different domains. In the present study, we are particularly interested in differences of the importance of the *Vacation* domain among market segments.

3. METHODOLOGY

Based on the literature review it would be fair to assume that vacations play only a very marginal role in contributing to people's QOL. The key proposition of the present study contradicts this conclusion, suggesting that vacations play more than a marginal role and should be acknowledged as contributing to QOL and included in measures of QOL.

The study was conducted with Australian respondents. It was implemented in two stages (using a sequential mixed methods approach):

3.1 Stage 1: Qualitative Study

The small-scale qualitative study was conducted to check if there is any empirical support for the authors' assumption that vacations play a larger role than that attributed to them in commonly used QOL test batteries.

In order to avoid biasing respondents, a series of open ended questions was asked which became increasingly more specific. Respondents were first asked: "What affects your quality of life?" Respondents were instructed to list as many factors as they thought contributed to their QOL (note that technical terms were not used, instead questions were formulated using everyday language, for example, "factors" rather than "domains"). Respondents then allocated 100 points among the factors, representing the importance of each factor. Next, they were asked if any other factors enhance their QOL. Only in the fourth question were they asked directly about vacations: "What role do vacations (or travel) play in your quality of life?" Finally, respondents had the opportunity to reallocate the 100 points to the full set of factors.

All three interviewers (authors) followed the same interview protocol to ensure consistency of instructions. Interviews were conducted with a convenience sample of 20 respondents (friends, family, students and work colleagues of the authors living in a medium-

sized city in Australia), selected to be heterogeneous with respect to age, gender, life-cycle and financial standing. Representativeness was not required because the focus was a proof of principle (Do vacations contribute to QOL?) rather than, for example, population proportion (which might be represented by the question "For which people do vacations contribute to QOL, and to what extent?"). Transcripts were jointly analyzed by the three authors. Responses were very unambiguous (e.g. "family", "money", "vacations", "holidays", "friends"), not requiring any interpretation and not causing any disagreements in the assignment to categories.

3.2 Stage 2: Quantitative Study

Stage 2 aimed at determining whether different people perceive vacations as more or less important. QOL factors emerging from the review of QOL test batteries and the qualitative stage were used to develop the questionnaire for this stage.

The questionnaire was pre-tested with five respondents who were asked to talk out loud while completing the survey. These respondents were a convenience sample of adult people who had not been involved in the qualitative study phase and who the authors anticipated would have the most difficulty understanding and completing the questionnaire. This allowed identification of any problems with the questionnaire. Modifications were made in response to the pre-test results.

The final questionnaire listed the eight major QOL domains (*Family*, *Work*, *People*, *Leisure*, *Money*, *Health*, *Vacations* and *Spirituality*) and asked respondents to rank them according to how much each domain affects their QOL (1 = most, 8 = least). Respondents in the pre-test had no difficulties understanding these items and they reflected very well the open-ended responses provided by respondents in the qualitative phase.

In addition, respondents were asked a number of socio-demographic questions and questions about areas assumed to have a direct effect on the QOL domains of most importance to them, e.g. “In the past 12 months, have you had difficulties making ends meet financially?” (answer options: “Yes”, “No” and “I do not wish to disclose this information”).

The final data collection was conducted in January 2010 in Australia. Data was collected through an international, permission-based online panel company which maintains panels of people for market research purposes only, and currently has more than 200,000 panel members in Australia alone. Using an online panel was appropriate for this study because it enabled access to a large sample of respondents representative of the Australian population and because online panels do not suffer from higher levels of sample bias than traditional mail surveys (Dolnicar, Laesser & Matus, 2009). Panel members were invited to participate in the survey by the online panel company via email and were compensated according to a standard compensation schedule, based on the duration of the survey. Responses were collected from 1000 respondents (the number of invitation emails sent out is calculated by the panel company based on historic response rate data for questionnaires of certain duration). This sample size provided sufficient precision for the purpose of the study, and was affordable given the available research budget. Of the 1000 respondents, we required at least 100 to have experienced financial difficulties in the past 12 months. Nationally-representative quotas for Australia were set for gender and age. Note, however, that neither of the two analyses of heterogeneity (the comparison of people with and people without financial difficulties, and the segmentation on the importance of QOL domains) require the sample to be representative.

The final sample contains 50% men and 50% women, 13% in the age group between 18 and 24 years, 18% between 25 and 34 years, 19% between 35 and 44 years, 18% between 45 and 54 and 32% above 55 years of age. Both the age and the gender profile of the sample reflect the Australian population based on Australian Bureau of Statistics 2006 Census data

(excluding people under 18). Even with respect to other demographic criteria (which were not set as quotas), the sample reflects the Australian population well. For example, 28% have never been married, 57% are married, 13% separated or divorced and 2% widowed, compared to 33%, 50%, 11% and 6% of the Australian population, respectively. The sample was also representative of state populations.

Fifty percent of respondents reported having financial difficulties in the past 12 months, 48% stated that they had not, and 2% did not wish to disclose this information.

3.3 Stage 3: Investigation of Heterogeneity

We used two approaches to investigate heterogeneity. The first approach is traditionally referred to as *a priori* (Mazanec, 2000) or commonsense (Dolnicar, 2004) segmentation: a single piece of information is used to split consumers into groups for the purpose of comparison. We used the information about (not) having faced financial difficulties in the past 12 months. Respondents who faced financial difficulties were assigned to one group and respondents who had not were assigned to a second group. Differences between these two groups with respect to the rank that they assigned to each of the eight QOL domains were tested using Analysis of Variance.

The second approach we used is referred to as *a posteriori* (Mazanec, 2000) or data-driven (Dolnicar, 2004)segmentation where a set of variables is used to create and identify groups of respondents. We used the rankings of the eight QOL domains as variables. The aim was to identify ranking combinations which represented groups of respondents.

We used topology representing network (Martinetz & Schulten, 1994) for the analysis they outperformed most common partitioning algorithms in a tourism simulation study with a range of artificial data sets (Buchta, Dimitriadou, Dolnicar, Leisch & Weingessel,1997).

The basic steps in the algorithm are as follows: once the number of groups is determined (see below for the procedure used), the correct number of random data points from the data set (as many as the number of groups) are selected as starting points. Next, the Euclidean distance between all data points and the randomly selected starting points are computed and each data point (representing the eight answers given by one respondent to the ranking task) is assigned to the starting point closest to it. This assignment rule leads to a first grouping which is not optimal because the random starting points may not have been spread well across the entire data space. Once a middle (or centroid) for each group is determined, the centroid becomes the new "representative" for the group and, again, the distance between each data point and the centroid is computed and all data points are reallocated to the centroid nearest to them. This process continues until no more change occurs in subsequent assignment steps. We used Euclidean distance to determine proximity between centroids and data points.

Critical to the final solution is the choice of the number of segments. To determine the best number, we follow a procedure which assesses the comparative stability of different numbers of groups (Dolnicar & Leisch, 2010) by running 50 repeated calculations for each number of groups from 3 to 10 and assessing the similarity across the 50 repetitions. Similarity is measured by the number of pairs of respondents which are assigned to the same groups across repeated computations.

After the segments were created, descriptive statistics were used to determine whether the resulting segments differed in personal characteristics.

4. RESULTS

4.1 *Qualitative Study – Do Vacations Matter?*

When respondents were asked to list factors that contribute to their QOL, eight respondents (40% of the sample) listed vacations or holidays without being prompted. Two respondents added vacations / holidays when asked to list domains that would further enhance their QOL (above and beyond those stated in the first interview question), leading to 10 respondents (or 50% of the sample). Finally, when respondents were asked directly whether or not vacations contribute to their QOL, 18 respondents (or 90% of the sample) agreed that this was the case. On average, 11 points (out of 100), ranging from 1 to 30, were allocated to vacations by those respondents who stated that vacations did contribute to their QOL. Note, however, that this allocation task occurred after the prompted questions, which is likely to have inflated the points allocated to vacations.

4.2 Quantitative Study – Do Vacations Matter?

Two questions from the questionnaire were analyzed to determine the extent to which vacations are seen to contribute to a person's QOL. In both questions respondents were provided with a list which included the key domains known to impact QOL, as well as the domain *Vacations*. First, respondents ranked the domains according to the extent to which each impacts on their QOL. Later, respondents were asked to allocate a total of 100 points across the domains reflecting their relative importance.

As can be seen from Table 3, judging by the most frequent rank (given by the mode), the domains of *Health*, *Money* and *Family* are perceived by respondents to affect people's QOL most, followed by *Leisure*, *People*, and *Vacations*. Interestingly, both *Work* and *Spiritual Life* are viewed as contributing the least to QOL. This ranking is reflected well in the mean values for all domains except *Vacations* and *Work*: when judging by the mode, *Vacations* are more

important than *Work*; however, when judging by the mean, *Work* is more important than *Vacations*, indicating that a small segment of people rank *Work* very highly.

TABLE 3 HERE

Three key insights can be derived from Table 3: first, for the population at large, domains that contribute to QOL can be ranked and clear differences in rankings are visible, with *Health*, *Money* and *Family* being the most important areas. Second, *Vacations* have a role to play in contributing to people's QOL; this domain's mean rank indicates that it is of comparable importance to the domains of *Leisure* and *People*. Third, inspection of the minima and maxima in Table 3 indicates that substantial heterogeneity exists in how people assess the contributions of various domains on their QOL: for each domain, at least one respondent ranked it the most, and at least one ranked it the least, important.

These descriptive results: (1) highlight the importance of investigating heterogeneity with respect to the importance of various domains contributing to people's QOL; and (2) raise the question of whether specific circumstances in people's lives are responsible for the differences in assigned domain importance. We address this question in the following section.

4.3 What is the relative importance of the Vacation domain?

To answer this research question, the point allocations were analyzed. The average number of points allocated to the *Vacation* domain is 6 out of 100, indicating that, assuming market homogeneity, vacations make a 6% contribution to people's QOL.

4.4 Is there Heterogeneity in QOL Domains?

As discussed above, heterogeneity is investigated at two levels. The commonsense segmentation analysis is driven by the following core research question: if people are experiencing difficulties in a particular life domain, will this domain be perceived as contributing more to overall QOL? We test this in the area of money and expect that respondents who have experienced financial difficulties will rank *Money* as being significantly more important for QOL than other domains.

When asked "In the past 12 months have you had difficulties making ends meet financially?" respondents answered in the following ways: "Yes" (504 respondents), "No" (480 respondents), and "I do not wish to disclose this information" (16 respondents).

An Analysis of Variance was conducted to compare the mean rank in all areas for those who did, and did not, experience financial pressures in the past year.

TABLE 4 HERE

Results (Table 4) indicate that significant differences exist between those who experienced financial difficulties and those who did not. Ranking differences occur in all domains apart from *People* and *Spiritual Life*, with the largest difference occurring in the *Money* domain which is ranked, on average, 2.4 by those under financial pressure, and 3.7 by the others. The *Work* domain also ranked higher for people experiencing financial stress. All the other domains, including *Leisure* and *Vacations,* drop in ranked importance.

It can be concluded that people's financial circumstances significantly influence the importance they assign to certain QOL domains. It is likely that other life circumstances will also affect individuals' perceptions of importance for QOL domains, thus explaining the dynamic quality of domain importance over time.

The data-driven segmentation analysis investigated the question: "Are there patterns of domain importance rankings that suggest heterogeneity?" If such patterns exist then an analysis of segments will determine whether certain personal characteristics determine such patterns.

For this analysis, we follow the recommendation of Dolnicar and Leisch (2010) to first conduct extensive data structure analysis in order to identify whether or not structure is in the data and, based on the nature of the structure, the number of segments that should be used. Rankings of domains by respondents are used for this analysis. The results from 20 independent calculations on separate bootstrap samples using the topology representing network algorithms (Martinetz & Schulten, 1994) indicate very clearly that the data can be segmented reliably into two or three segments. We chose three segments in order to arrive at a more differentiated solution. The profiles of the three segments are provided in Figure 1 (where smaller numbers indicate a higher level of importance).

FIGURE 1 HERE

As can be seen, the three segments differ substantially in their assignment of importance to the various domains contributing to QOL. The bars in Figure 1 indicate the average rank assigned to each domain by each segment, and the horizontal lines with a dot at the end indicate the total sample average.

Segment 1 (Cluster 1), which contains 20% of respondents, views *Family*, *Health* and *Spiritual Life* as most important for QOL, whereas they view *Work*, *Leisure*, *Money* and *Vacations* as less important than other respondents.

Segment 2 (Cluster 2) contains 43% of respondents. Members of this segment view *Family* and *Health* as the two most important domains for QOL. They also assign more importance to *Leisure* and *Vacations*, whereas they care less about *Work* and *Spiritual Life* than the total sample of respondents.

Segment 3 (Cluster 3) members, representing 36% of the sample, consider *Work* and *Money* to be the most important domains contributing to their QOL. *Family* does not play a prominent role for these people. With respect to *Vacations*, members of this segment reflect the total sample average, not deviating much either positively or negatively.

We tested for differences (using Chi-squared tests) between these segments in respect to other variables. Understanding these differences not only serves as a validation of the segmentation solution (Dolnicar, 2008) but also provides essential information for tourism

businesses or destinations wanting to target each segment. This information (the full table is available from the authors) can be used to develop a typical profile for each segment. For example, most Segment 1 members are older, more likely to be married and have children over 18. They are motivated to travel to develop their self-esteem and for self-development. Segment 2 represents the oldest group of respondents, the majority of whom are married and retired representing an attractive off-season segment. Many segment members have children over 18 and are motivated to travel for fun and entertainment. Segment 3 members are young, have never been married and are career-driven. They feel that they did not go on enough weekend trips away in the previous year, and want fun, exciting, adventurous holidays.

From the data-driven segmentation analysis, it can be concluded that there is substantial QOL Domain Importance Heterogeneity.

5. CONCLUSION

The study of QOL has a long history in the social sciences. Recently QOL research has received increased attention among tourism researchers who are interested in better understanding the contribution to people's overall QOL of vacation experiences that are satisfying to people as well as positive and negative affect resulting from such vacation experiences (Neal et al., 1999, 2007; Sirgy et al., 2010). However, development of knowledge in this area is hindered by a lack of understanding of the contribution of vacations to QOL, largely due to the fact that vacations are typically amalgamated with general leisure in QOL studies (Ferrans & Powers, 1985; Flanagan, 1978; Gall & Evans, 2000; Lance et al., 1995; Lever, 2000). More critically, reliance on current measures of QOL indicates that vacations do not contribute much to people's QOL because vacations are only measured in 7% of QOL

test batteries. If anything, current measures of QOL indicate that leisure more generally contributes to QOL. Vacations occur as a subset of leisure in 42% of test batteries.

Conceptually, however, such an amalgamation of leisure and vacations cannot be supported. The work of Kelly (1985, 1999) and Zabriskie and McCormick (2001) suggests that people are seeking two kinds of leisure experiences: regular, structured, home-based leisure (core leisure activities), and less frequent novel experiences away from home (balance leisure activities). One would assume, therefore, that core and balance leisure activities affect QOL independently. Yet, this proposition has not been empirically investigated to date.

The primary purpose of this current study was to investigate whether or not vacations warrant being treated as a separate QOL domain. An empirical study in Australia using a sequential mixed methods approach led to the following key conclusions:

Vacations contribute to people's QOL: Half of the respondents in the qualitative study phase mentioned vacations as contributing to their QOL without being prompted. When studied relatively to other QOL domains, vacations were perceived as similar in contribution (6% across all respondents) to that of leisure. These findings are consistent with Gilbert and Abdullah (2004), Neal, Sirgy and Uysal (2004) and Sirgy, Kruger, Lee and Yu (2010) regarding the influence of tourism services/vacations on quality of life of people.

The findings of this current study have theoretical and practical implications. Theoretically, they strengthen the argument that leisure at home is not the same as leisure away from home, and that these two kinds of leisure independently contribute to QOL. Therefore, vacations should be viewed as a separate QOL domain. Practically, the findings are useful to the tourism industry which is under constant pressure to demonstrate the value of tourism. These results provide an argument beyond tourism's contribution to national revenue and wealth generation, namely that tourism has a positive impact on people's QOL. The

findings can also be used in tourism marketing by emphasizing that vacations are not only fun; they are also good for ones QOL.

Substantial amounts of Domain Importance Heterogeneity exist in the contribution of vacations to people's QOL: Heterogeneity was demonstrated by specifically testing differences in perceived contribution of vacations to QOL between people facing and not facing financial difficulties, and by investigating patterns of QOL domain importance. In both cases substantial heterogeneity was detected. Vacations were seen by different people as contributing differently to QOL: some respondents ranked vacations as the single most important QOL domain, others as the least important. The findings add substantially to the current knowledge that only implicitly acknowledges heterogeneity of the importance of domains.

Our findings regarding Domain Importance Heterogeneity has major practical implications: it implies the existence of market segments which – given the difference in the importance they attribute to the contribution of vacations to QOL – are likely to differ substantially in their willingness to sacrifice vacations in times where they may have to prioritize other aspects of their lives. For example, the recent global financial crisis has caused financial stress to many people who were forced to spend their disposable income more carefully. The existence of Domain Importance Heterogeneity suggests that some market segments may prioritize vacations and maintain spending in this area even under adverse circumstances. Such "crisis resistant" segments are highly attractive to the tourism industry because they have the potential to reduce vulnerability to unpredictable external shocks. Also, understanding the different roles vacations play in the life of different market segments enables tourism marketers to customize the marketing mix and thus increase the effectiveness of marketing action.

Individual QOL is a dynamic concept: The dynamic quality of domain importance over time was demonstrated through the finding that people's financial circumstances significantly influenced the importance they assigned to certain QOL domains. It is likely that other life circumstances also affect individuals' perceptions of importance for QOL domains. Thus, QOL at the individual level is dynamic: at different stages of people's lives and in different situations the importance assigned to certain QOL domains will change. This current finding is consistent with Pearce and his colleagues (Lee and Pearce, 2002; Pearce and Lee, 2005) who argued that it is the dynamic, multilevel motivational structure that is seen as critical in understanding travel motivation.

Our findings regarding the dynamic quality of domain importance over time has two major practical implications. Firstly, for the social sciences more broadly, it is critical not to rely only on the measurement of people's satisfaction with QOL domains. Instead, both satisfaction and importance of each domain must be measured to derive a valid QOL value for a person. Second, for tourism, further research should investigate whether there are any typical life events which lead to adjustments of QOL domain weightings. Identifying such events would lead to a better understanding of systematic differences between segments.

QOL is a dynamic concept regardless of inconsistencies in definitions. Optimally, one would expect agreement on a definition and operationalization of QOL. However, even then, QOL would remain a dynamic concept which would change for each person over their lifetime. Our conclusions are limited to Australia, although we expect similar results in other developed countries.

6. ACKNOWLEDGEMENTS

We thank the Faculty of Commerce at the University of Wollongong for their support under the Mentoring and Pilot Project Scheme which funded the data collection. We thank Angelique Kelly for providing feedback on the manuscript.

REFERENCES

Australian Bureau of Statistics (2006). 2914.0 – 2006 Census of Population and Housing. Retrieved 16 December 2010 from http://www.abs.gov.au/Ausstats/abs@.nsf/Latestproducts/2914.0Main%20Features12006?opendocument&tabname=Summary&prodno=2914.0&issue=2006&num=&view=

Australian Centre on Quality of Life (2010). Instruments. Retrieved 16 December 2010 from http://www.deakin.edu.au/research/acqol/instruments/.

Bachleitner, R., & Zins, A. H. (1999). Cultural tourism in rural communities: The residents' perspective. *Journal of Business Research, 44*, 199–209.

Balla, D., & Zigler, E. (1971). The therapeutic role of visits and vacations for institutionalized retarded children. *Mental Retardation, 5,* 7–9.

Buchta, C., Dimitriadou, E., Dolnicar, S., Leisch, F. & Weingessel, A., (1997). A Comparison of Several Cluster Algorithms on Artificial Binary Data Scenarios from Travel Market Segmentation. Working Paper # 7, SFB 'Adaptive Information Systems and Modelling in Economics and Management Science', Vienna.

Campbell, A., Converse, P. E., & Rogers, W. L. (1976). *The Quality of American Life.* New York: Russell Sage Foundation.

Card, J., Cole, S., & Humphrey, A. (2006). A comparison of the Accessibility and Attitudinal Barriers Model: Travel providers and travelers with physical disabilities. *Asia Pacific Journal of Tourism Research, 11*, 161–175.

Cohen, E. (1979). Rethinking the sociology of tourism. *Annals of Tourism Research, 6*, 18–35.

Dann, G. M. S. (2001). Senior tourism and quality of life. *Annals of Tourism Research, 28*, 235–238.

Diener, E. (2009) Assessing Subjective Well-Being: Progress and Opportunities. In Diener, E. (Ed.), *Assessing Well-Being: The Collected Works of Ed Diener.* Social Indicators Research Series 39. New York: Springer.

Diener, E. (2000). Subjective well-being: The science of happiness, and a proposal for a national index. *American Psychologist, 55,* 34–43.

Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research, 40*, 189–216.

Dolnicar, S. (2004). Beyond "commonsense segmentation": A systematics of segmentation approaches in tourism. *Journal of Travel Research, 42*, 244–250.

Dolnicar, S. (2008). Market segmentation in tourism. In A. Woodside & D. Martin (Eds.), *Tourism Management, Analysis, Behaviour and Strategy* (p. 592). Cambridge: CABI.

Dolnicar, S., Laesser, C. & Matus, K. (2009). Online Versus Paper - Format Effects in Tourism Surveys. *Journal of Travel Research, 47*, 295–316.

Dolnicar, S., & Leisch, F. (2010). Evaluation of structure and reproducibility of cluster solutions using the bootstrap. *Marketing Letters, 21*, 83–101.

Frisch, M. B. (2000). Improving mental and physical health care through quality of life therapy and assessment. In E. Diener and D.R. Rahtz (Eds.), *Advances in Quality of Life Theory and Research* (pp. 207–241). Dordrecht, Netherlands: Kluwer Academic Press.

Gilbert, D., & Abdullah, J. (2004). Holiday taking and the sense of wellbeing. *Annals of Tourism Research, 31*, 103–121.

Grenwald-Mayes, G. (2001). Relationship between current quality of life and family of origin dynamics for college students with Attention-Deficit/Hyperactivity Disorder. *Journal of Attention Disorders, 5*, 211–222.

Haas, B. (1999). A multidisciplinary concept analysis of quality of life. *Western Journal of Nursing Research. 21*, 728–742.

Hall, C & Page, S. (2006). *The Geography of Tourism and Recreation: Environment, Place and Space*, 3rd ed., New York: Routledge.

Hobson, J., & Dietrich, U. (1994). Tourism, health and quality of life: Challenging the responsibility of using the traditional tenets of sun, sea, sand, and sex in tourism marketing. *Journal of Travel and Tourism Marketing, 3*, 21–38.

Iso-Ahola, S. E. (1984). *Social psychological foundations of leisure and resultant implications for leisure counseling*. In E. T. Dowd (Ed.), Leisure counseling: Concepts and applications (97-125). Springfield, IL: Charles C. Thomas.

Iwasaki, Y., Mannell, R. C., Smale, B. J. A., & Butcher, J. (2005). Contributions of leisure participation in predicting stress coping and health among police and emergency response services workers. *Journal of Health Psychology, 10*, 79–99.

Jeffres, L. W., & Dobos, J. (1993). Perceptions of leisure opportunities and the quality of life in a metropolitan area. *Journal of Leisure Research, 25*, 203–217.

Karnitis, E. (2006). Increasing quality of life as the goal for development of Latvia. *Applied Research in Quality of Life, 1*, 125–138.

Kelly, J.R. (1985). *Recreation Business*. New York: John Wiley & Sons.

Kelly, J. R. (1999). Leisure behaviors and styles: Social economic and cultural factors. In E. L. Jackson and Burton, T. L. (Eds.), *Leisure Studies: prospects for the twenty-first century*, (pp. 135-150). State College, PA: Venture.

Lee, U-I., & Pearce, P.L. (2002). Travel motivation and travel career patterns. *Paper presented at the First Asia Pacific Forum for Graduate Students Research in Tourism*, 22 May 2002, Macao (pp. 17-35). Hong Kong: The Hong Kong Polytechnic University.

Lee, D. J., & M. J. Sirgy. (1995). Determinants of involvement in the consumer/marketing life domain in relation to quality of life: A theoretical model and research agenda. In H. L. Meadow, M. J. Sirgy, & D. Rahtz (Eds.), *Development in Quality of Life Studies in Marketing* (pp. 13–18). Dekalb, IL: Academy of Marketing Science.

Lee, S. H., & Tideswell, C. (2005). Understanding attitudes towards leisure travel and the constraints faced by senior Koreans. *Journal of Vacation Marketing, 11*, 249–263.

Mactavish, J., MacKay, K., Iwasaki, Y., & Betteridge, D. (2007). Family caregivers of individuals with intellectual disability: Perspectives on life quality and the role of vacations. *Journal of Leisure Research, 39*, 127–155.

Martinetz, T. M., & Schulten, K. J. (1994). Topology representing networks. *Neural Networks, 7*, 507–522.

Mazanec, J. A. (2000). Market Segmentation. In J. Jafari (Ed.), *Encyclopedia of Tourism*. London: Routledge.

McCabe, S. (2009). Who needs a holiday? Evaluating social tourism. *Annals of Tourism Research, 36*, 667–688.

Meeberg, G. (1993). Quality of Life: a Concept Analysis. *Journal of Advanced Nursing, 18*, 32–38.

Neal, J. D., Sirgy, M. J., & Uysal, M. (1999). The role of satisfaction with leisure travel/tourism services and expenditure in satisfaction with leisure life and overall life. *Journal of Business Research, 44*, 153–163.

Neal, J. D., Sirgy, M. J., & Uysal, M. (2004). Measuring the effect of tourism services on travelers' quality of life: Further validation. *Social Indicators Research, 69*, 243–277.

Neal, J. D., M. Uysal, and M. J. Sirgy (2007). "The Effect of Tourism Services on Travelers' Quality of Life." *Journal of Travel Research, 46*: 154–63.

Olson, D. H., & Barnes, H. L. (1992). Quality of Life Scale. In D. H. Olson, H. I. McCubbin, H. Barnes, A. Larsen, M. Muxen, & M. Wilson (Eds.), *Family Inventories* (3rd ed.; pp. 55-67). Minneapolis, MN: Life Innovations.

Pearce, P.L. and Lee, U-I. (2005). Developing the travel career approach to tourist motivation. *Journal of Travel Research, 43*, 226–237.

Perdue, R. R., Long, P. T., & Allen, L. (1990). Resident support for tourism development. *Annals of Tourism Research, 17*, 586–599.

Perdue, R. R., Long, P. T., & Kang, Y. S. (1999). Boomtown tourism and resident quality of life: The marketing of gaming to host community residents. *Journal of Business Research, 44*, 165–177.

Rejeski, W. & Mihalko, S. (2001). Physical activity and quality of life in older adults. *Journals of Gerontology: Series A: Biological Sciences & Medical Sciences, 56*, 23–35.

Richards, G. (1999). Vacations and the Quality of Life: Patterns and Structures. *Journal of Business Research, 44*, 189–198.

Roy, C., & Atherson, E. (1982). Mini-vacations with center dialysis patients: A three year summary. *Social Work in Health Care, 8*, 117–123.

Rubenstein, C. (1980). Vacations: expectations, satisfactions, frustrations, fantasies. *Psychology Today, 14*, 62–76.

Sands, J. D. (1981). The relationship of stressful life events to intellectual functioning in women over 65. *International Journal of Aging and Human Development, 74*, 11–22.

Shaw, S. (1984). The measurement of leisure: A quality of life issue. *Society and Leisure, 7*, 91–107.

Silverstein, M., & Parker, M. (2002). Leisure activities and quality of life among the oldest old in Sweden. *Research on Aging, 24*, 528–547.

Sirgy, M. (2010). Toward a Quality-of-Life theory of leisure travel satisfaction. *Journal of Travel Research, 49*, 246–260.

Sirgy, M., Kruger, P., Lee, D., Yu, G. (2010). How does a travel trip affect tourists' life satisfaction? Journal of Travel Research, doi:10.1177/0047287510362784.

Tinsley, H. (1979). The latent structure of the need satisfying properties of leisure activities. *Journal of Leisure Research, 11*, 278–291.

Verdugo, M. A. Schalock, R. L., Keith, K. D., & Stancliffe, R. J. (2005). Quality of life and its measurement: Important principles and guidelines. *Journal of Intellectual Disability Research, 49*, 707–717.

Zabriskie, R., & McCormick, B. (2001). The influences of family leisure patterns on perceptions of family functioning. *Family Relations, 50*, 281–289.

Zabriskie, R. & McCormick, B. (2003). Parent and child perspectives of family leisure involvement and satisfaction with family life. *Journal of Leisure Research, 35*, 163–189.

TABLES AND FIGURES

Table 1*: Frequency of occurrence of Quality of Life domains*

Domain	*% of Test Batteries Including Domain*
Work and material well being	100%
Health	100%
Family and love	79%
Leisure and recreational experiences	64%
Social life	57%
Education/learning	50%
Neighbourhood/community	36%
Spiritual life	29%
Goals/hopes for the future	21%
Self-esteem/acceptance	14%
Safety	14%
Stress	14%
Transport	14%
Standard of living	14%
Vacations	7% (as a separate domain); 42% (when included as part of Leisure domain)

Table 2: Illustration of two kinds of heterogeneity in QOL

Person	**Person 1**		**Person 2**		**Person 3**	
Domain	**Domain Score**	**Domain Importance**	**Domain Score**	**Domain Importance**	**Domain Score**	**Domain Importance**
Material well-being	50	0.25	50	0.25	50	0.1
Health	90	0.25	50	0.25	90	0.4
Family	20	0.25	30	0.25	20	0.1
Leisure	80	0.25	60	0.25	80	0.4
QOL SCORE sum (score *imp)	60		47.5		75	

Table 3*: Ranking of Quality of Life domains*

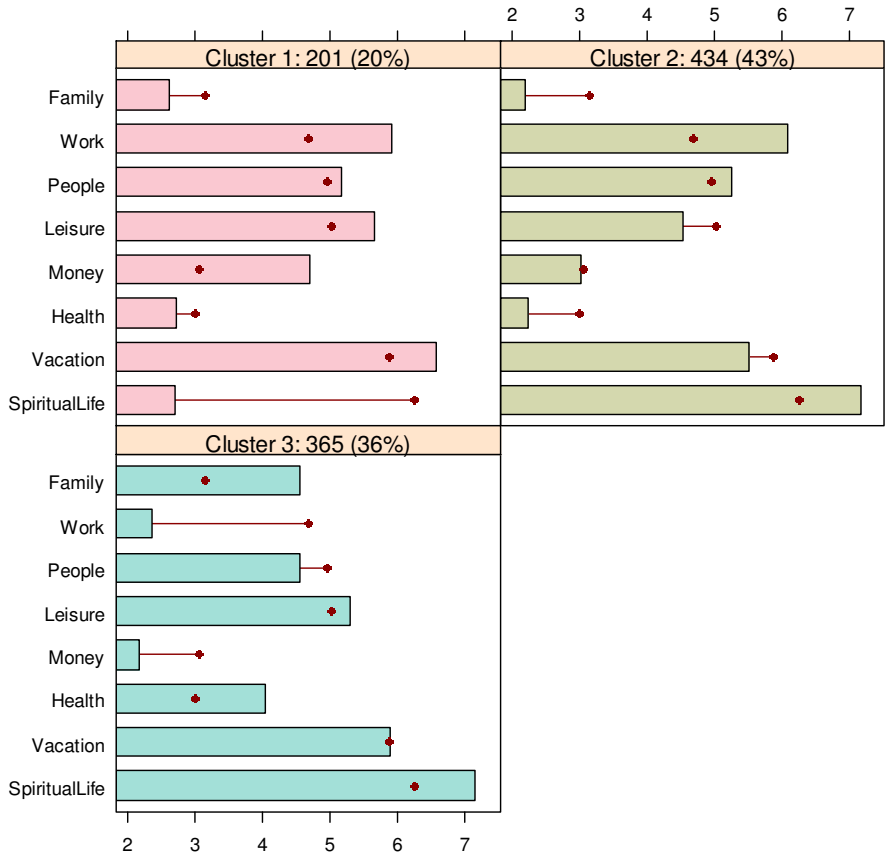
	Mode	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Health	1	3.0	2	1.9	1	8
Money	1	3.1	3	1.9	1	8
Family	1	3.1	3	2.1	1	8
Leisure	5	5.0	5	1.5	1	8
People	7	5.0	5	2.0	1	8
Vacations	7	5.9	6	1.6	1	8
Work	8	4.7	4	2.4	1	8
Spiritual Life	8	6.3	7	2.2	1	8

Table 4*: Differences in ranking between those facing financial pressures and those who did not (note that lower numbers indicate higher ranks)*

	No financial difficulties		*Financial difficulties*		
	Mean	SD	Mean	SD	p-value
Money	3.7	1.9	2.4	1.6	0.000**
Family	2.9	2.0	3.4	2.1	0.000**
Leisure	4.8	1.6	5.2	1.5	0.000**
Work	4.9	2.4	4.5	2.3	0.029**
Health	2.9	1.9	3.1	2.0	0.019**
Vacations	5.8	1.6	6.0	1.5	0.026**
People (not family)	4.9	2.0	5.0	1.9	0.151
Spiritual Life	6.2	2.3	6.3	2.0	0.519

** Significant at the 99% significance level.

Figure 1: Domain heterogeneity patterns



7. APPENDIX

Publication Details	***No. of Domains***	***Domains***	***Leisure***	***Vacation Included? (part of leisure?)***
Cummins, McCabe, Romeo & Gullone (1994) Educational and Psychological Measurement, 54, 372–382.	7 domains	Material well-being, health, productivity, intimacy, safety, place in society, emotional well-being.	No	No
Dazord, Gerin & Boissel (1994) In Orley & Kuyken (Eds.), Measurement of Quality of Life in health care settings. Berlin: Springer-Verlag.	5 domains; 15 sub-domains	Functional life (motor function, psychological life, sensory function, sexual life, sleep, digestion, pain), social life (specific relationships, social roles, interest), material life (income, housing), spiritual life (religious beliefs, faith, inner life), fifth unspecified domain (what is the most important thing in your current life?).	Yes	No
Dunbar, Stoker, Hodges & Beaumont (1992) British J. of Medical Economics, 2, 65-74.	10 domains; 28 sub-domains	Psychic well-being, physical well-being, social relationships, activities/hobbies/interests, mood, locus of control, sexual function, work/employment, religion, finances.	Yes	No
Gall & Evans (2000) Canadian J. of Behavioural Sciences. 32, 187-197.	5 domains; 15 sub-domains	General well-being (material well-being, physical well-being, personal growth), interpersonal relations (marital relations, parent-child relations, extended family relations, extra familial relations), organizational activity (altruistic behavior, political behavior), occupational activity (job characteristics, occupational relations, job satisfiers), leisure and recreational activity (creative/aesthetic behavior, sports activity, vacation behavior).	Yes	Yes; part of leisure

Ferrans & Powers (1985) Advances in Nursing Science, 8, 15-24.	16 sub-domains	Health care, physical health and functioning, marriage, family, friends, stress, standard of living, occupation, education, leisure, future retirement, peace of mind, personal faith, life goals, personal appearance, self-acceptance.	Yes	Yes; part of leisure
Flanagan (1978) American Psychologist, 33, 138-147.	5 domains	Physical and material well-being, relations with other people, social, community, and civic activities, personal development and fulfillment, recreation.	Yes	Yes; part of leisure
Frisch (1994) National Computer systems, Product Number 02104, Minneapolis.	16 domains	Love, work, health, goals & values, play, creativity, helping, friends, relatives, home, money, children, learning, neighbourhood, community, self-esteem.	No	No
Johnston (1988) Social Indicators Research, 20, 473-496.	9 sub-domains	Family stability, earnings and income, housing, health, employment, education, poverty, equality, public safety.	No	No
Kreitler & Kreitler (2006) Social Indicators Research, 76, 5–33.	17 sub-domains	Functioning in the family, physical health, physical functioning, active living, sexuality, body image, cognitive functioning, work and profession, social functioning, positive emotions, negative emotions, meaningfulness in life, confusion and bewilderment, ability to cope, stress, self-image, living conditions.	No	No
Lance, Mallard & Michalos (1995) Social Indicators Research, 34, 69–92.	11 domains	Health, finances, family relations, paid employment, friendships, housing, life partner, recreational activity, religion, transportation and education.	Yes	Yes; part of recreation

Lazim & Osman (2009) Social Indicators Research, 94, 499-508.	11 domains	Income and distribution, working life, transport and communications, health, education, housing, environment, family life, social participation, public safety, culture and leisure.	Yes	No
Lever (2000) Social Indicators Research, 50, 187-208.	19 sub-domains	Work, children, couple relationship, economic well-being, physical well-being, family, environment, sociability, close friends, social aspects, personal development, self-image, social surroundings, recreational activities, housework, losses (deaths), moral and religious dimensions, personal expression and creativity, personal knowledge.	Yes	Yes; part of recreation
Neal, Sirgy & Uysal (2004) Social Indicators Research, 69, 243-277.	Leisure and non-leisure domains	Trip experience, leisure, job, family situation, personal health, relationships with people, community and neighbourhood, standard of living and financial situation.	Yes	Yes; separate domain
Olson & Barnes (1992) In Olson, McCubbin, Barnes, Larsen, Muxen, & Wilson (Eds.), Family Inventories (3rd ed.; pp. 55-67). Minneapolis: Life Innovations.	12 domains	Marriage and family life, friends, extended family, health, home, education, time, religion, employment, mass media, financial wellbeing, neighbourhood/community.	No	No