

## Personal Values of Wellingtonians: A Multi-dimensional Scaling Analysis

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A survey of the personal values of a cultural region gives an indication of important needs, motivations and social cognitions of individuals as well as the norms and goals of the group as a whole. Three-hundred and seventy-two respondents from the Wellington region completed a modified form of the Rokeach Value Survey. The most important values were Honesty, Self-respect, True Friendship and Family Security while the least important were Obedience, Salvation and Social Power. A multi-dimensional scaling analysis of the value items revealed two primary dimensions. The first dimension opposes Power Values with Self-direction and Connectedness. The second dimension is Excitement and Growth versus Accomplishment through Social Expectations. The nature of the dimensions is clarified with an examination of demographic group differences and dimensions found in other countries.

According to Rokeach (1968), personal values are centrally-held prescriptive beliefs about desired end-states (i.e., Freedom, Mature Love, Recognition) or preferred modes of behaviour (i.e., For-giving, Obedient, Ambitious). They can be thought of as simply verbalised manifestations of one's personality, motives, needs and social cognitions and since they are abstract they can be applied across a wide range of situations and experiences. In this way, personal values help the individual with evaluations of self and others, formation of attitudes, ego-defence, and guidance of behaviour (Kahle, 1983; Kluckhohn, 1951; Rokeach, 1968). On a cultural-level, values help coordinate social interaction by inculcating norms, standards and group goals (Schwartz & Bilsky, 1987). Thus, at both the individual and cultural levels, personal values help group members adapt their internal environment (personality, needs, etc.) to their external environment (norms, roles, institutions, etc.) and vice versa.

Value orientations are the hierarchical arrangement of specific values (Rokeach, 1968). For example, if a person valued Achievement most,

followed by Wisdom, then True Friendship, this, along with the ordering of dozens of other values, would constitute their value orientation. Although there is a possibility of a great many value orientations, in practice one's culture and other social forces limit the number to a handful. These primary value orientations not only represent the culture's view of what are acceptable desired end-states and modes of conduct they also indicate the predominate ways in which individuals vary.

Through dimensional extraction techniques such as factor analysis and multi-dimensional scaling these value orientations can be uncovered. Although factor analysis is useful for this purpose, multi-dimensional scaling has the advantage of portraying the interrelations among the values or sets of values on a single map. A multi-dimensional scaling map has two important interpretational features. First, one can examine a multi-dimensional scaling map and immediately determine which values are held by the society as compatible and which are opposite. Opposite values result from the society conceptualising them in such a way that a person can only endorse one value or the other, not both. For example, Schwartz and Bilsky (1990) found that in most Western countries restrictive conformity values (i.e., politeness, obedience) and self-direction values are held as opposite whereas in Hong Kong they are considered compatible—a fact Schwartz and Bilsky attribute to the influence of Confucianism.

### Author's Note

The author thanks Professor Ng for his supervision, Victoria University Internal Grant Committee, Michael Dunne for his comments, and Bridget Jones in Strategic Planning at Wellington City Council for her helpful insight.

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An additional feature of a multi-dimensional scaling map is that the dimensions indicate the primary value orientations and hence the essential ways in which individuals in the sample varied. Since culture and other social forces greatly limit the number of value orientations, the uncovering of dimensions reveals the organisation of the society as well as the motives, personality, social cognitions and other psychological processes of its members.

Unfortunately, to date there has been no multi-dimensional scaling analysis of New Zealanders' personal values. A number of cross-cultural studies of personal values have been performed some of which included New Zealand respondents (Bond, 1988; Hofstede, 1982; Ng, Hossain, Ball, Bond, Hayashi, Lim, O'Driscoll, Sinha & Yang, 1982). However, these cross-cultural studies were searching for universal dimensions of values rather than the dimensions in New Zealand per se. Thus, it is of interest to study the value dimensionality in a New Zealand sample. The importance of various values to Wellingtonians as well as their primary value orientations will be examined.

#### Method

This study was part of a larger project that examined the structural relationship between personal values, consumption values, evaluation of product attributes and purchasing behaviour (Allen & Ng, 1994). Due to its empirical validity and prior use with New Zealanders the Rokeach Value Survey was selected as the personal values measure. The values of Social Justice, Equity, Social Power and Self-determination were added using definitions supplied by Ng et al. (1982). Respondents evaluated instrumental (preferred modes of behaviour) and terminal values (desired end-states) simultaneously. Both sets of values were inter-mixed in the same alphabetically ordered list. Respondents indicated the importance of the values in a forced-distribution format. This format was selected because it maximises variability with ease of use (Allen, 1993). This method entailed respondent's first selecting the 13 most, then 13 least, important values. Those values selected as most important were coded as a 3, those selected as least important were coded as 1 and the remainder were coded as 2.

In November and December of 1993 the survey was distributed to adult members of households in the Wellington region. The target areas included urban, near and far suburbs and dwellings ranged from individual to multi-family. Out of 2050 surveys distributed, 381 (18.6%) were returned with 372 useable. The sample is composed of 43% males and 57% females and is well distributed among age, ethnic and educational

Table 1: *Means and Standard Deviations of Personal Values*

Personal Value	Mean	SD
Honesty	2.63	.53
Self-respect	2.58	.57
True friendship	2.54	.64
Family security	2.51	.64
Happiness	2.43	.64
Freedom	2.39	.74
World of peace	2.39	.70
Loving	2.36	.63
Responsible	2.34	.65
Equality	2.29	.75
Wisdom	2.26	.78
Broad-minded	2.25	.70
Courageous	2.22	.69
Accomplishment	2.15	.83
Independent	2.11	.75
World of beauty	2.11	.76
Capable	2.08	.69
Cheerful	2.04	.68
Forgiving	2.03	.78
Mature love	2.03	.67
Inner harmony	2.02	.82
Helpful	1.99	.66
Exciting life	1.97	.85
Comfortable life	1.96	.89
Social justice	1.95	.85
Intellectual	1.92	.80
Self-determination	1.89	.77
Polite	1.89	.72
Pleasurable	1.84	.79
Imaginative	1.83	.78
Self-controlled	1.74	.73
Equity	1.69	.75
Logical	1.69	.76
Social recognition	1.69	.80
Ambitious	1.59	.70
Clean	1.55	.74
National security	1.49	.66
Obedient	1.33	.53
Salvation	1.29	.63
Social power	1.19	.47

groups. A comparison with census data for the region suggests that it is generally representative with the exception of being above average in education.

Distance (similarity) measures between the 40 value items generated by PROXIMITIES in SPSS\* (1986) formed the input for non-metric (ordinal scale) multi-dimensional scaling by ALSCAL. Instrumental and terminal values were not separated because previous studies have been unable to demonstrate their independence (see for example, Crosby, Bitner & Gill, 1990; Heath & Fogel, 1978).

#### Results and Discussion

Table 1 contains the means and standard deviations of the personal values. As can be seen, the most important values include Honesty, Self-re-

Table 2: *Multi-dimensional Scaling Coordinates of Personal Values*

Personal Value	Dimension	
	One	Two
Comfortable life	0.54	1.58
Accomplishment	-0.70	-1.06
World of peace	-1.71	-0.36
World of beauty	-0.54	-0.47
Ambitious	1.56	0.12
Exciting life	-0.07	1.46
Broad-minded	-0.99	0.06
Capable	-0.03	-0.38
Cheerful	0.06	-0.10
Clean	1.90	-0.70
Courageous	-0.67	-0.53
Equality	-1.40	0.29
Equity	1.41	0.36
Family security	-1.61	-0.57
Forgiving	0.02	-0.49
Freedom	-1.47	0.41
Happiness	-1.36	0.23
Helpful	0.06	-0.35
Honest	-1.82	-0.45
Imaginative	0.57	0.84
Independent	-0.35	-0.63
Inner-harmony	-0.56	0.92
Intellectual	0.42	0.69
Logical	1.23	-0.73
Loving	-1.12	0.28
Mature Love	-0.26	0.87
National security	1.74	-0.28
Obedient	2.05	-0.19
Pleasurable	0.56	1.03
Polite	0.40	-0.71
Responsible	-0.88	-0.71
Salvation	2.46	-0.16
Self-control	1.04	-0.67
Self-determination	0.38	0.61
Self-respect	-1.79	0.05
Recognition	1.40	-0.90
Social justice	-0.11	1.40
Social power	2.44	0.23
True friendship	-1.82	0.03
Wisdom	-0.99	-1.00

spect, True Friendship and Family Security. The least important values are Obedience, Salvation and Social Power. The values seem to emphasise a self-originating guidance of behaviour (i.e., Honesty, Self-respect), recognise the importance of social relationships (True Friendship, Family Security) and resist authoritarianism (Obedience) and other forms of social power. This resistance of traditional authority was also found by Gold and Webster's (1990) study of New Zealand values,

One to four multi-dimensional scaling analyses were performed which resulted in *s*-stress indices of .319, .208, .142 and .098, respectively. The

plotting of these indices against the number of dimensions reveals an elbow at the two-dimension solution. For this reason a two-dimensional solution was selected. The *s*-stress index of .208 corresponds to an  $R^2$  of .794 which surpasses the .600 criterion suggested by Hair, Anderson, Tatham and Black (1992, pg 329). The multi-dimensional scaling coordinates are presented in Table 2 and the map in Figure 1.

Recall that a multi-dimensional scaling map has two important interpretational features. First, values that are closer to each other are held by the sample as more compatible. For example, in the lower left quadrant the values of Wisdom and Accomplishment are close to each other. Thus, those people in the sample who believed that Wisdom was important also tended to believe that Accomplishment was important. Another interesting compatibility is between Freedom and Equality (left portion of the map). Past research on the values of Freedom and Equality has shown that, at least in America, people tend to systematically differ and as such Rokeach (1973) formulated the two-factor theory of political orientation. Economic conservatives (or strong capitalists) prefer Freedom much more than Equality. Those with more communist leanings value Equality more than Freedom while fascists value neither. For this sample Freedom and Equality are both adjacent (on the map) and important (for examining means). This is similar to the orientation of socialists. This social emphasis is also evident from a comparison between Equality and Equity (reward based on effort). These values are polarised on the map and Equality is accorded a much higher importance. Taken together, these relationships seem to indicate that while New Zealanders place some importance on economic freedom they are still very concerned about equality.

A second and more theoretically important aspect of the multi-dimensional scaling map is that the two dimensions (one horizontal and one vertical) reveal the primary value orientations. Examining dimension one, which is the horizontal line, the right side contains values such as Social-power, Salvation, Obedience, Cleanliness and National-security. All these values seem to emphasise a desire for power and hierarchical, boundary-laden relationships, hence it will be termed 'Power Values'. The left side of dimension one contains values such as True Friendship, Self-respect, Freedom, World of Peace, Honesty and

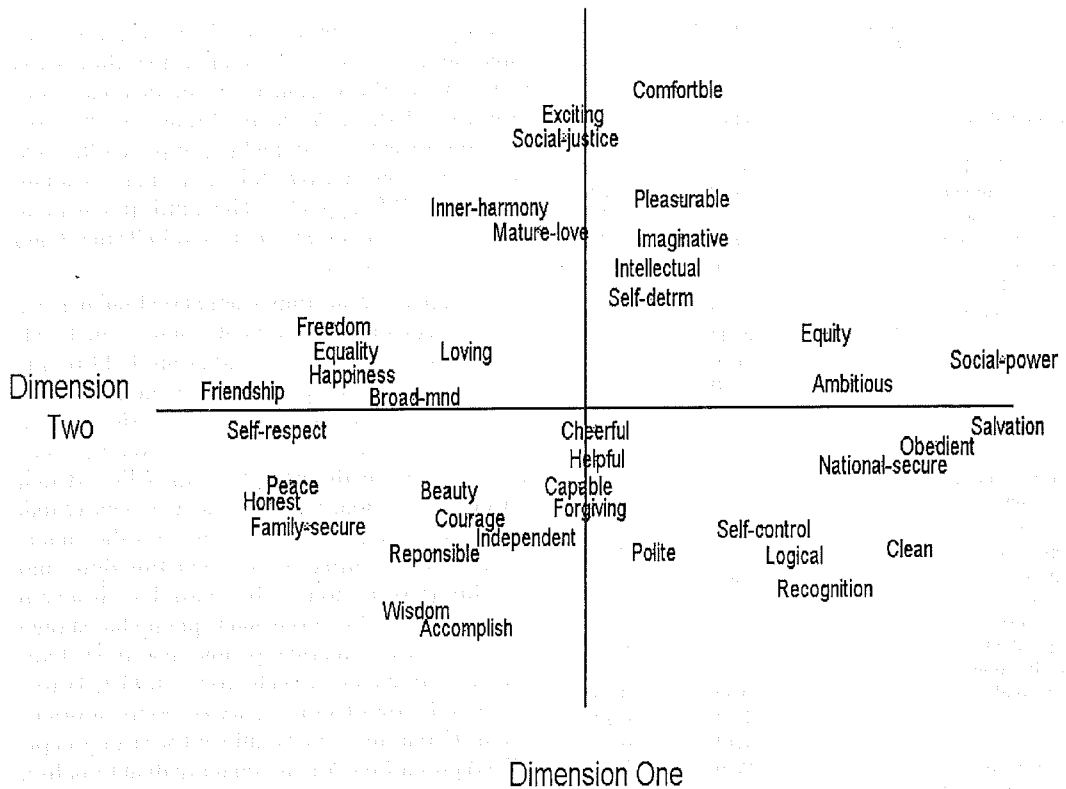


Fig. 1 Multi-dimensional Scaling Map of Wellingtonians' Personal Values.

Family Security. This seems to emphasise less rigid boundaries (Freedom), a concern for others (True Friendship and Family Security) as well as personal integrity (Honesty and Self-respect). Thus, it will be termed 'Self-direction and Connectedness'.

This dimension, Power Values versus Self-direction and Connectedness is very similar, in fact, nearly identical to the first dimension in Allen's (1994) study of American students' values. The rank-order correlation of the value item coordinates in this dimension with the value coordinates Allen's is very significant ( $\rho = -.81$ ,  $df = 38$ ,  $p < .0001$ ) (Note the poles were reversed from the Allen study.) Thus, the cultural importance of the opposition of Power and Self-direction and Connectedness values is a somewhat robust phenomenon. This dimension is also similar in theory to Alisjahbana's (1966) value dimension of solidarity versus power. Alisjahbana hypothesised that this dimension results from individuals balancing the need to form attachments to their environment versus the need for self-awareness, self-assertion and urge for superiority. However, the solidarity

pole is more than just a connectedness to others, it is also a desire for freedom, independence and personal integrity. Thus, the similarity of these dimensions is unclear.

For an adequate interpretation of dimension one, a query into systematic differences between demographic groups is needed. Some demographic groups represent distinct psycho-social patterns which should be evidenced in personal value dimensions. As with Allen's (1994) study, gender differences are strongly associated with this dimension. The mean for males is 4.14 (SD = 9.86) putting them in the Power Values side while females are in the Self-direction and Connectedness side with a mean of -3.19 (SD = 9.30)<sup>1</sup>. A one-tail t-test of this difference is 7.20 ( $df = 355$ ,  $p < .001$ ). It should be noted, however, that this difference in dimension means does not mean that males do not value Self-direction and Connectedness values. Self-direction and Con-

<sup>1</sup>Scores on the dimensions were calculated as the sum of the products of each standardised value item and its dimension loading (coordinate).

nectedness values were among the most important for both males and females. The dimension mean difference instead indicates that males place more importance on Power values and less importance on Self-direction and Connectedness values than did females.

Looking now to dimension two (the vertical line) the positive direction (top portion) contains values such as A Comfortable Life, An Exciting Life, Social Justice, A Pleasurable Life and Inner-harmony. This seems to emphasise a desire to enjoy life yet still have some interest in inner-growth and a concern about others less fortunate. Thus, it will be termed 'Enjoyment and Growth'. The negative end of dimension two contains the values of Accomplishment, Wisdom, Recognition, Responsible, Polite and Logical. This appears to be emphasising a desire for achievement but through satisfying social expectations, self-control and traditional means. Thus, it will be named 'Accomplishment through Social Expectations'.

This dimension is somewhat similar to two dimensions of previous research. In an American sample analysis Rokeach (1973) found a dimension which he termed 'Immediate versus Delayed Gratification'. While immediate gratification is consistent with the Enjoyment aspect of this dimension it does not capture the inner-growth and social justice concerns. In addition, delayed gratification is similar to the negative end of this dimension except that this dimension suggests that gratification is being delayed in accordance with satisfying social expectations. Thus, while Rokeach's dimension bears some resemblance to dimension two, it does not capture the full meaning. This dimension is also similar to Schwartz and Bilsky's (1990) cross-cultural dimension of Individualist versus Collectivist. Individualism versus Collectivism is defined in terms of whose interests are served by the values—the individual (i.e., A Comfortable Life, Inner-harmony, An Exciting Life) or the group (i.e. Polite, Self-control, Responsible). A correlation of respondents' scores on dimension two with their score on an Individualist versus Collectivist scale (created from Schwartz and Bilsky's [1987] typology) is .538 ( $df=355, p<.0001$ ). Thus, the universal value dimension of Individualist versus Collectivist appears to be represented in this dimension although it does not explain all, or even a majority, of the variance.

As with the effect of gender in dimension one, demographic group differences are related to this

dimension. An examination of means by age groups reveals a pattern but this pattern is not consistent throughout the age ranges. The primary age gap appears to be at 50. Thus, a t-test was computed on the means on dimension two for those below 50 (mean = 2.30, SD = 6.22,  $n=241$ ) and those above 50 (mean = -4.78, SD = 6.12,  $n=116$ ) which resulted in a t-value of 10.12 ( $df=355, p<.0001$ ). Dimension one was also tested for age differences with the below 50 age group (mean = -1.36, SD = 9.87) and the older age group (mean = 2.82, SD = 10.35). This was also significant ( $t=3.69, df=355, p<.001$ ) but not as strong as dimension two. Overall, the younger age group emphasises Enjoyment and Growth values as well as Self-direction and Connectedness while the older group places greater importance in Power values and Accomplishment through Social Expectations. This pattern could actually be a cohort effect (i.e., each generation has its own values) or a result of the aging process.

A survey of the personal values of a cultural region indicates the important beliefs, norms motivations and ways individuals adapt to society. The dimensions found in this study, Power versus Self-direction and Connectedness, and Excitement and Growth versus Accomplishment through Social Expectations, reveals the organisation and structure of this cultural group. Unlike examining means, which represent the acceptable desired end-states and modes of behaviour, multi-dimensional scaling uncovers the predominant ways in which people varied. These two dimensions were able to capture a substantial percentage of the variance with gender and age being strongly related. The importance of these dimensions, as well as values themselves, should not be overlooked. As previously noted, among other functions, personal values help individuals to adapt to their environment and make behavioural decisions. In a study by Allen and Ng (1994) with this same sample, personal values were shown to be both directly and indirectly (via evaluation of product attributes) related to purchasing behaviour. Since personal values are tapping into the major differences among individuals, it is sensible that these dimensions would be related to a wide range of individual differences from personality to consumer behaviours.

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