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A Cross-National Comparison of a Shorter Version of the Person's Relating to Others Questionnaire

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The shorter version of the Person's Relating to Others Questionnaire (PROQ3) is half the length of the earlier PROQ2. Both questionnaires were designed to measure negative relating as organized around a theoretical structure called the interpersonal octagon. Each questionnaire has an upper, lower, close and distant scale and four intermediate scales (e.g., upper close). As would be expected, moderately high positive correlations were observed between primary scales (upper, lower, close and distant) and neighbouring intermediate scales. Correlations diminished with increasing separation around the octagon. The psychometric properties of the PROQ3 were examined within four national samples. Alpha coefficients were consistently acceptable across samples. Gender differences varied between samples. Comparisons were made between the PROQ3 and a measure of the big five (International Personality Item Pool) and between the PROQ3 and two measures based upon the interpersonal circle (Revised Interpersonal Check List [ICL-R] and Circumplex Version of the Inventory of Interpersonal Problems [IIP-C]). It is important to note that, unlike with the PROQ3, significant negative correlations were observed between opposite scales of the ICL-R and opposite scales of the IIP-C. A confirmatory factor analysis provided support for most PROQ3 scales, although some overlap between scales was demonstrated. Correlations between the PROQ3 scales and the big five scales were either non-significant (two scales) or negative. Each PROQ3 scale correlated positively and meaningfully with a short sequence of scales of both the ICL-R and the IIP-C. Psychotherapy patients had higher mean scores than non-patients on four scales but non-patients had higher mean scores on two. Over the course of psychotherapy, the patients' mean score dropped significantly on six scales but rose significantly on one. Copyright © 2011 John Wiley & Sons, Ltd.

Key Practitioner Message:
- The PROQ3 is an effective self-rating measure of negative relating.
- It is half the length of previous versions of the PROQ but is equally sound psychometrically.
- It has been shown to differentiate significantly between psychotherapy patients and non-patients.
- It has revealed a significant reduction in scores over the course of psychotherapy.
- It has been successfully translated into other European languages.

Keywords: Cross-National Comparisons, Self-Administered Questionnaire, Negative Relating, the Interpersonal Octagon

INTRODUCTION

The Person's Relating to Others Questionnaire (PROQ) is an eight-scale, computer-scored questionnaire for measuring relating deficits. It has most frequently been used for assessing patients at the beginning and the end of psychotherapy (Birtchnell 2002a, 2002b; Birtchnell, Denman & Okhai, 2004). Its eight scales are based upon the eight octants of a theoretical structure called the interpersonal octagon (Birtchnell, 1994, 1996). This is organized around two intersecting axes: a horizontal one concerning close relating versus distant relating and a vertical one concerning relating from above downwards (from a position of relative strength) versus relating from below upwards (from a position of relative weakness). This creates the four polar positions of close, distant, upper and lower. The octagon is completed by inserting four intermediate positions between the four polar ones, and the characteristics of these are a blending of those of the polar positions

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to either side of them. Each octant has a two-word name, the first word applying to the vertical axis, the second applying to the horizontal axis. For the four polar octants, the word neutral is inserted where the word applying to the other axis would have been. Thus moving clockwise round the octagon, the octant names are upper neutral (UN), upper close (UC), neutral close (NC), lower close (LC), lower neutral (LN), lower distant (LD), neutral distant (ND) and upper distant (UD). Throughout the paper, these octants will be referred to in this sequence and only by their initials. It will help to remember that U equals upper, L equals lower, C equals close and D equals distant.

Each position of the octagon represents both a state of relatedness and a striving to attain that state. The underlying theory proposes that we are born only with a disposition to relate in each of the eight primary ways, but that during the course of maturation, we strive to become competent in each one of them, with varying degrees of success. The competent striving for, and attainment of, a state of relatedness has been called positive, and the less than competent striving for, and the less than perfect attainment of such a state has been called negative. The broad range of positive and negative relating for each one of the octants has been fully described in Birtchnell (1996, 2002a). This can only briefly be summarized in Figure 1. Because positive and negative relating are considered to be qualitatively different, there has to be both a positive and a negative octagon.

McCormick and Goldberg (1997) explain how a number of systems of personality have been set within a vertical and a horizontal theoretical framework. The interpersonal octagon shares certain features with the longer-established, interpersonal circle (Leary, 1957; Kiesler, 1996), but it has certain features that are different (see Birtchnell, 1996, 2002a; Birtchnell & Shine, 2000; Birtchnell & Evans, 2004). For the circle, but not for the octagon, each octant is represented as a gradient from adaptive behaviour located at the centre of the circle to maladaptive behaviour located at the periphery. A consequence of this is that the scales of the Interpersonal Check List (ICL; LaForge & Suczek, 1955), a measure that is based upon the circle, include half adaptive and half maladaptive items.

The PROQ was designed to be solely a measure of negative (i.e., maladaptive) relating. It does include some positive items, but these were introduced only to reduce the pervasively negative tone of the questionnaire, and they do not contribute to the scoring. An important difference between the circle and the octagon is that, whereas for the circle, diametrically opposite positions are assumed to exist in a bipolar relationship, for the octagon this is not a requirement. For the ICL, having a high score on a scale from one side of the circle should preclude a person from having a high score on a scale from the opposite side. Since, for the octagon, negative relating is considered to represent incompetent relating, it should be possible for a person to relate negatively—that is to be incompetent, in opposite forms of relating; so for the PROQ, a person can, and sometimes does, have high scores on scales from opposite sides of the octagon.

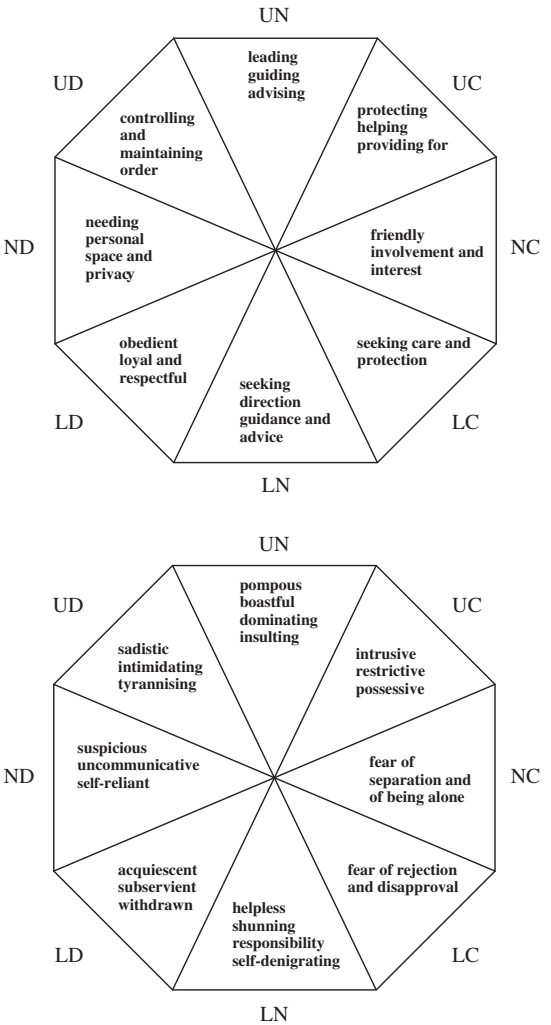

Figure 1. Positive (upper diagram) and negative (lower diagram) forms of relating. The pairs of initial letters are abbreviations for the full names of the octants given in the text. The diagrams first appeared in Birtchnell, (1994). Copyright The Tavistock Institute, 1994. Reproduced by permission

A circumplex is a circular ordering of interpersonal attributes around two intersecting axes, so that there is a clearly defined bipolarity between opposite attributes. Because of the last sentence of the previous paragraph the octagon cannot be a circumplex. A more recent interpersonal measure is the Circumplex Version of the Inventory of Interpersonal Problems (IIP-C). This is a shortened version of an earlier measure that has been modified in

order to incorporate a circumplex structure. Although bipolarity between opposing scales is generally assumed to be a feature of the ICL, such bipolarity has been actually rigidly imposed in the IIP-C.

The Evolution of the PROQ3

The PROQ3 is the fourth version of the PROQ. The original PROQ (Birtchnell, Falkowski & Steffert, 1992) and the second version, the PROQ2 (Birtchnell & Evans, 2000, 2004), had 96 items, divided into eight scales comprising two positive items and 10 negative ones. In the PROQ2, a proportion of items had been replaced or rephrased, and the response options had been revised. There was a correlation of 0.40 between the total score of the PROQ2 and the Clinical Outcomes in Routine Evaluation (Evans, Connell & Barkham et al., 2002; Birtchnell, Denman & Okhai, 2004). The PROQ2a was half the length of the PROQ2 and retained the same revised, four response options. Its eight 6-item scales included one, unscored, positive item. It was derived from the items that loaded most heavily on the extracted factors and that loaded only on one factor. However, because the UC scale failed to differentiate between patients and non-patients and the LD scale continued to show a high correlation with LN, all the UC items and three LD items were replaced. This further revised version, called the PROQ3, is now the most widely used measure.

Comparing the Underlying Theories

The interpersonal circle and the interpersonal octagon are linked to the two theories called interpersonal theory and relating theory. Although these two theories have much in common, there are certain respects in which they differ. Both theories consider that relating is best described in terms of a vertical (upper–lower) axis and a horizontal (close–distant) one, and both theories place intermediate categories of relating between the two main axes. However, relating theory requires there to be only one intermediate position which, together with the four main positions, gives rise to the eight positions of the octagon. Different interpersonal theorists include various numbers of intermediate positions between the axes. Both theories consider the characteristics of opposite positions to be opposite in nature, but interpersonal theory is more inclined to view the characteristics of one side of an axis to be preferable to those of the opposite side. Relating theory stresses that all positions around the octagon are equally desirable but defines good (positive) and bad (negative) versions of each position. This gives rise to a positive octagon and a negative octagon (Figure 1).

Aims of the Study

The PROQs uniquely contribute to the study of interpersonal psychology because they are based upon the assumption that all positions of the octagon are equally desirable. There is therefore both a positive and a negative version of each position. The study aims to examine the psychometric properties of the PROQ3 in English, Irish, Dutch and Greek samples. In two English samples, scores were compared in psychotherapy patients and non-patients and in patients before and at the end of a course of psychotherapy. In the Irish sample, the PROQ3 was compared with a measure of the big five personality factors, the International Personality Item Pool—IPIP (Goldberg, 1999), and in the Dutch sample, the PROQ3 was compared with a 10-scale measure of interpersonal characteristics called the Revised Interpersonal Check List—ICL-R (De Jong, van den Brink & Jansma, 2000) and an eight-scale measure of interpersonal problems, the IIP-C (Alden, Wiggins & Pincus, 1990). The expectation is that there will be modest associations between the PROQ3 and the IPIP but stronger associations between the PROQ3 and the two interpersonal measures. This is because the IPIP is predominantly a measure of normality and the three interpersonal questionnaires are measures of pathology. A further expectation is that there will be relatively less bipolarity in the PROQ3 than in the other two interpersonal measures and that the most marked bipolarity will be apparent with the more circumplex-oriented IIP-C.

METHOD

Study Samples

Data were collected from a range of sources. These included 403 (268 men and 135 women) derived from a community survey carried out in Cork, the Republic of Ireland. Their ages ranged from 17 to 83 years, and their median age was 47 years. A second sample of 204 participants, comprising 85 men and 119 women, was derived from a community survey carried out in Nijmegen, the Netherlands. Their ages ranged from 18 to 76 years, and their median age was 41 years. A third sample of 994, comprising 276 men and 718 women, was derived from a Greek community survey. Their ages ranged from 18 to 40 years, and their median age was 20 years. Some data were also obtained from samples of 313 English non-patients (158 men and 155 women) and 467 English psychotherapy patients. Of those whose gender had been recorded, 96 were men and 334 were women. (Women are more inclined than men to seek psychotherapy.) Their age distribution had not been recorded. The psychotherapy patients were from three National Health Service

psychotherapy out-patient departments. The psychotherapy they received was psychodynamic and mainly individual (82.0%). For those who completed therapy, the mean number of sessions was 36.6 (standard deviation [SD] 16.9).

Measures

All samples completed the PROQ3. For the Dutch and Greek samples, translations were used. These were carried out by English-speaking psychologists. Back translations of consensus versions of the questionnaires were made by an English-speaking colleague. Discrepancies were discussed with the English originator of the questionnaire, and alternative translations were made until there was general agreement.

Specimen items for the eight PROQ3 scales are

UN: I try to arrange things so that people do what I want
UC: I keep a firm hold on someone who is close to me
NC: I have a tendency to cling to people
LC: I have a dread of being rejected
LN: I prefer it when someone else is in control
LD: I easily give in to people
ND: I do not let people get too close to me
UD: I tend to get back at people who offend me

Similar to the previous three versions of the PROQ, the PROQ3 is scored by computer, and the scores are represented both numerically and graphically (Figure 2). The response options are 'Nearly always true', 'Quite often true', 'Sometimes true' and 'Rarely true', which carry a score of 3, 2, 1 or 0. Thus each scale has a score range of 0–15, and there is a maximum total score of 120.

The Irish sample also completed a 50-item version of the IPIP (Goldberg, 1999). The 50 items used were a subset recommended by Goldberg (1999) to measure the big five personality factors. It is self-administered and has 10 items per factor. The reason for including it was to examine the role that personality might play in negative relating. The big five factors are widely viewed as the basic elements of personality structure. The first two, Stability (and its converse, Neuroticism) and Extraversion (and its converse, Introversion), were introduced by Eysenck (1967). The other three, Openness to Experience, Agreeableness and Conscientiousness, were added by McCrae and Costa (1987).

The Dutch sample also completed a Dutch translation of two interpersonal measures: the ICL-R and the IIP-C. The ICL-R was selected because eight of its scales are based upon the original interpersonal circle of Leary (1957). It comprises the original eight scales of the ICL (LaForge & Suczek, 1955) plus two additional Dutch scales (De Jong, van den Brink & Jansma, 2000). Moving

	UN	UC	NC	LC	LN	LD	ND	UD	TOT
START	**7**	**12**	**12**	**15**	**8**	**14**	**13**	**3**	**84**
END	**2**	**1**	**1**	**2**	**11**	**7**	**11**	**6**	**41**

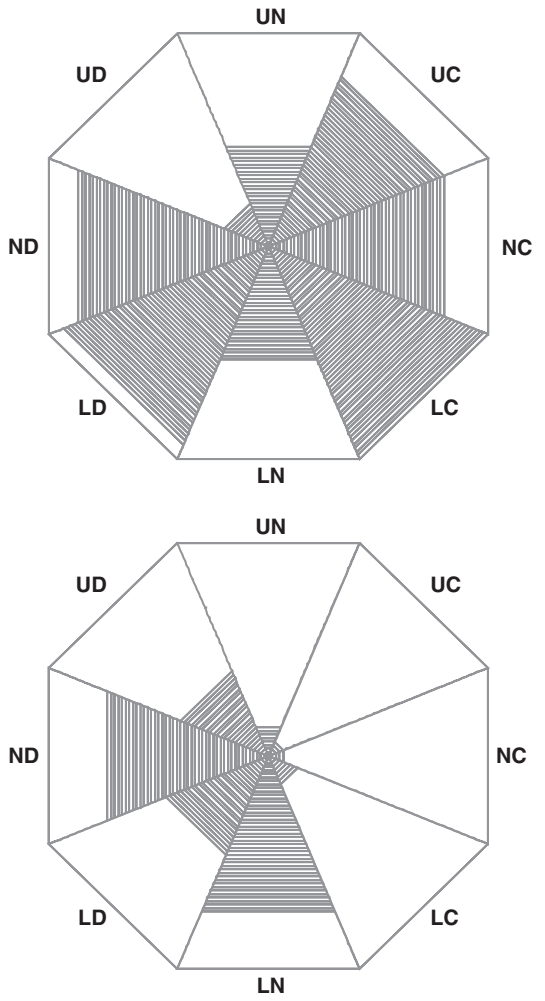

Figure 2. A computer print-out of Person's Relating to Others Questionnaire 3 scores at the start and end of psychotherapy. UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant

round the interpersonal circle in a clockwise direction, the original ICL scales are PA (managerial/autocratic), NO (hypernormal/responsible), LM (cooperative/conventional), JK (dependent/docile), HI (masochistic/self-effacing), FG (rebellious/distrustful), DE (sadistic/aggressive) and BC (narcissistic/competitive). The two new scales are nNnO (sociable/extravert), located between PA and NO on the interpersonal circle, and nFnG (reserved/silent) located between HI and FG. Thus they represent the extravert/introvert dimension. All scales, including the two new

ones, have 16 scored items, half adaptive and half maladaptive, with the response options of 'Agree' or 'Disagree'. Hence, they have a score range of 0–16.

The IIP-C (Alden, Wiggins & Pincus, 1990) was selected because it has been designed to represent a circumplex structure as proposed by Guttman (1954). Its eight scales bear the same initials as the original ICL but they have slightly different definitions. Again moving round the circle in a clockwise direction, they are PA (domineering/controlling), NO (intrusive/needy), LM (self-sacrificing), JK (overly accommodating), HI (non-assertive), FG (socially inhibited), DE (cold/distant) and BC (vindictive/self-centred). All scales have eight scored items with the response options of 'Not at all', 'A little bit', 'Moderately', 'Quite a lot' or 'Extremely', which carry a score of 0, 1, 2, 3 or 4. Hence, they have a score range of 0–32.

Analyses

Because of the large number of samples, not all the data will be presented here. Priority will be given to data from the larger samples. PROQ3 mean scores were compared in the Dutch, English, Greek and Irish samples. In the Irish sample, basic psychometric tests were carried out on the PROQ3, including an item-level confirmatory factor analysis using the multiple group method and a procrustean multidimensional scaling (MDS). Inter-scale correlations were examined for the PROQ3, the IPIP, the ICL-R and the IIP-C, and correlations between the scales of the PROQ3 and those of the other three measures were also examined. PROQ3 mean scores were compared in psychotherapy patients and non-patients, and mean score changes over the course of therapy were calculated. Initial analyses were carried out using SPSS version 12 (SPSS Inc., Chicago, IL, USA). The MDS was carried out on a software custom written by the second author.

RESULTS

Descriptive Statistics and Psychometric Properties

Table 1 presents the descriptive statistics for the PROQ3 scores from the four normative national samples. The alpha coefficients of internal consistency are shown for each scale with the genders merged. There was reasonably good general agreement across samples. LD was the only scale with an alpha of less than 0.70 in all four national samples, and UD was below 0.70 in three. The English sample had only one scale below 0.70, the Dutch and Irish had three, and the Greek sample had four. The English sample had no alpha below 0.6. The other three samples each had one (two LD and one UD).

The alpha coefficients for the psychotherapy sample were UN 0.72, UC 0.85, NC 0.83, LC 0.79, LN 0.82, LD 0.70, ND 0.78 and UD 0.74. These are generally higher than for the normative samples, and this presumably

Table 1. Mean Person's Relating to Others Questionnaire 3 scores by gender in four national samples and Cronbach's alpha for each scale

	Dutch				English			
	Male (85)	Female (119)	*d*	Alpha (204)	Male (158)	Female (155)	*d*	Alpha (313)
UN	7.7 (3.9)	6.9 (3.8)	0.21	0.7	8.3 (3.4)*	7.7 (3.7)	0.17	0.75
UC	2.5 (2.7)	3.1 (3.6)	0.19	0.71	3.8 (3.3)	5.2 (3.8)*	0.39	0.79
NC	3.2 (2.7)	4.1 (3.0)*	0.31	0.6	3.7 (3.1)	5.5 (3.6)*	0.42	0.74
LC	4.0 (3.0)	5.0 (4.1)	0.28	0.75	5.9 (3.8)	7.4 (4.3)*	0.37	0.8
LN	5.0 (4.1)	6.0 (4.1)	0.24	0.8	4.8 (3.1)	5.1 (3.5)	0.09	0.8
LD	4.6 (6.3)	6.3 (4.1)*	0.31	0.69	5.2 (2.9)	6.5 (3.6)*	0.4	0.66
ND	5.6 (4.1)	5.0 (4.3)	0.14	0.78	6.6 (3.6)	5.6 (4.1)	0.26	0.8
UD	4.7 (3.6)*	3.3 (2.9)	0.43	0.59	6.7 (3.3)	7.2 (3.7)	0.14	0.7
	Irish				Greek			
	Male (268)	Female (135)	*d*	Alpha (403)	Male (276)	Female (718)	*d*	Alpha (994)
UN	7.5 (3.8)	8.4 (4.1)*	0.22	0.72	7.7 (3.3)*	6.3 (3.3)	0.42	0.74
UC	4.3 (4.0)	5.3 (3.7)*	0.23	0.78	5.1 (3.0)	5.0 (3.1)	0.03	0.64
NC	4.6 (3.5)	4.7 (3.5)	0.02	0.69	6.7 (3.1)	7.4 (3.4)*	0.21	0.7
LC	5.7 (3.9)	5.8 (4.0)	0.02	0.75	6.1 (3.1)	7.1 (3.5)*	0.3	0.71
LN	5.6 (3.9)	5.5 (3.7)	0.02	0.72	4.8 (2.9)	5.5 (3.0)*	0.24	0.68
LD	5.7 (3.6)	5.3 (3.0)	0.12	0.59	4.7 (2.9)	5.5 (2.8)*	0.27	0.57
ND	5.6 (4.3)	7.0 (3.8)	0.34	0.75	7.7 (2.9)	7.9 (3.0)	0.06	0.74
UD	6.0 (7.5)	7.5 (4.1)*	0.25	0.65	7.5 (3.1)*	5.8 (2.9)	0.57	0.63

*Indicates a statistically significant ($p < 0.05$) within-sample gender difference, *d* represents Cohen's effect size.
The numbers in parenthesis indicate sample size.
UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant.

Table 2. Mean Person's Relating to Others Questionnaire 3 scores for 313 non-patients and 467 patients pre-psychotherapy

	UN	UC	NC	LC	LN	LD	ND	UD	Total
Non-patients	7.9	4.5	4.6	6.7	5.0	5.9	6.1	7.0	47.6
SD	3.6	3.6	3.5	4.1	3.3	3.4	3.9	3.5	15.5
Patients	7.6	4.8	6.1	11.6	6.7	9.2	9.1	5.2	60.1
SD	4.1	4.6	4.6	3.8	4.5	4.1	4.6	5.4	16.8
95% CI	−0.9	−0.2	0.9	−5.8	2.3	3.9	−1.1	−1.1	−14.3
	0.1	1.0	2.1	−4.1	1.2	2.8	−2.4	−2.4	10.1
t	1.3	1.2	5.0	17.4	5.9	12.0	9.5	−5.1	10.5
p	0.180	0.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000

UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant. SD = standard deviation.

reflects the greater range of scores found in this sample. This was encouraging since the PROQ3 was designed primarily for use with this group of individuals.

There was a degree of variation in gender differences across samples. The women scored significantly higher than the men on LD in three samples and on NC in three samples. The Irish women scored significantly higher than the men on the three upper scales; the English women scored significantly higher than the men on the three close scales; and the Greek women scored significantly higher than the men on the three lower scales.

In Table 2, the mean scores of 476 English psychotherapy patients before the start of therapy were compared with those of the English normative sample. The mean total score of the patients was markedly and significantly higher than that of the non-patients. The mean UN and UC scores were practically identical in the two samples. The mean scores of the scales NC, LC, LN, LD and ND were all significantly higher for the patients (as they had been for the PROQ2). However, the mean UD score for the non-patients was significantly higher than that for the patients. This was not the case for the PROQ2 (Birtchnell & Evans, 2004). Therefore, negative upperness (bossiness/possessiveness), however undesirable it may be, is not a characteristic of patients seeking psychotherapy.

The means of the five IPIP scales ranged from 25.7, SD 6.7 for Stability, to 33.4, SD 4.7 for Agreeableness. The means of seven of the 10 ICL-R scales (Dutch sample) ranged from 5.4 (SD 2.3) to 8.2 (SD 2.5). NO (9.1, SD 2.4) was the highest. The mean of the introversion scale, nFnG (3.9, SD 2.2) contrasted with that of the extraversion scale, nNnO (9.0, SD 2.8). The means of five of the eight IIP-C scales ranged from 5.4 (SD 4.3) to 7.6 (SD 5.7). The three highest means were LM (9.2, SD 5.4), JK (9.3, SD 5.5) and HI (10.2, SD 6.5).

The alpha coefficients for the IPIP and the IIP-C were the most satisfactory, being above 0.8 for three of the IPIP scales and five of the IIP-C scales and above 0.7 for the remainder. For the ICL-R, there were none above 0.8 and only three above 0.7. Five were above 0.6, and two (DE and BC) were below 0.6 (0.57 and 0.58).

Table 3. Person's Relating to Others Questionnaire 3 inter-scale correlations of the Irish sample ($n = 403$)

	UN	UC	NC	LC	LN	LD	ND	UD
UN	1.00							
UC	0.31	1.00						
NC	0.18	0.56	1.00					
LC	0.10	0.40	0.50	1.00				
LN	−0.14	0.26	0.26	0.27	1.00			
LD	0.03	0.19	0.21	0.43	0.33	1.00		
ND	0.17	0.04	−0.05	0.13	0.07	0.15	1.00	
UD	0.38	0.15	0.01	−0.11	−0.19	−0.28	0.11	1.00

UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant.

Inter-Scale Correlations

The inter-scale correlations of the PROQ3 for the Irish sample are shown in Table 3. There were, as might be anticipated, high positive correlations between the polar scales and the intermediate scales adjoining them. The highest correlations were between the three lower scales and between the three close scales. The highest negative correlations were between the upper scales and the lower scales. Inter-scale correlations were also carried out on the Dutch, English and Greek samples, and the findings were similar.

The inter-scale correlations between the five scales of the IPIP were calculated for the Irish sample. They were all positive, the highest being between Openness to Experience and Agreeableness (0.34) and Extraversion (0.34) and between Agreeableness and Extraversion (0.32).

The inter-scale correlations between the scales of the ICL-R were calculated for the Dutch sample. The correlations between neighbouring scales were all positive and high, the highest being between NO and LM (0.67), JK and HI (0.62), HI and nFnG (0.55) and PA and nNnO (0.47). Of the four scales from opposite sides of the circle, the one between nNnO and nFnG (−0.53) was negative

and very high, another two were negative and moderately high: JK and BC (−0.27) and PA and HI (−0.21), but the remaining two between NO and FG (−0.10) and LM and DE (−0.04) were negative and low.

The inter-scale correlations between the scales of the IIP-C were also calculated for the Dutch sample. All the correlations were positive and many of them were very high and all were highly significant. The mean of the correlations was 0.56. We would consider this to be a consequence of the general complaint factor. The correlations between neighbouring octants were the highest and the mean for them was 0.64. The inter-scale correlations were repeated after ipsatization, in order to control for the general complaint factor. Now half the correlations were positive and half were negative. All the correlations between neighbouring octants were positive and high (mean 0.33), and all the correlations between the octants from opposite sides of the circle were negative and high (mean −0.40). These findings are strikingly similar to those published by Alden, Wiggins and Pincus (1990) on Canadian students.

The Psychometric Structure of the PROQ3

The PROQ3 consists of 48 items but only 40 were used in the scoring and were keyed for eight underlying factors. In order to examine whether an eight-factor structure was appropriate, a restricted item-level factor analysis was carried out on three samples separately. In this analysis, the inter-item correlation matrix was fitted to the PROQ3 scoring key by a multiple group factor analysis method (Harman, 1976). Factors were free to correlate. A rotated component matrix of the English and Greek samples revealed strong support for seven scales, LD being the exception.

For brevity, in Table 4, only the factor matrix for the Irish sample is presented, but the full analyses for three of the samples are obtainable from the second author. Indices of fit were calculated for each item, each factor and for the overall solution using the signal-to-noise formula by Fleming (1985). A limitation of such an approach is that the procrustean nature of the analysis can produce convincing fit indices for poorly specified data. To mitigate against this, 5000 randomly generated models were applied to the data. The result, for the Irish sample, was an average fit of 0.744 (SD 0.022), the overall fit of the non-random pre-specified model was 0.93 which, assuming normality of fit distribution, greatly exceeds chance expectation.[1] Similar analyses for the four national samples are summarized in Table 5.

As with all confirmatory factor analysis techniques, it would be inappropriate to place too much trust in the statistical criteria of fit. However, the evidence for fit in these analyses is compelling. In all instances, the congruent item-factor loadings were consistent with the scoring key. In addition, in all cases the best fitting structure of the 5000 random structures generated by the computer program was that indicated by the scoring key.

The Octagon Structure

Examination of the factor correlations in Table 4 suggests a circumplex-type structure. This can be seen by the tendency for the size of the correlations to decrease and then increase with distance from the diagonal. However, this observation needs to be tested by a more sophisticated method than simply eyeballing the correlation matrix. A circumplex model implies that the scale scores may be represented as a circular pattern of points around a central nexus in two-dimensional space. A further implication is that the points are equidistant from each other and have similar radii. In fact, the theoretical model underlying the PROQ3 is an octagon. This differs from a circumplex in that its assumptions are purely ordinal. The scale scores are assumed to fit an ovoid pattern in which they conform to a pre-specified order. The octagon may be conceptualized as a simplex that is curved back on itself in two-dimensional space. There is no assumption of equidistance between points or of equivalent radii. In order to evaluate the octagon, it is sufficient to demonstrate a two-dimensional molar structure in which the order of the scale points conforms to the expected order.

In order to evaluate the octagon structure of the PROQ3 scales, multidimensional scaling analyses were carried out to examine inter-scale relationships in two-dimensional space. This approach does not try to fit the data into a two-component space as is typical with circumplex models, but rather seeks to minimize a distance function based upon the original correlations. A two-dimensional solution for each of three nationalities was derived using the smallest space method of Guttman (1968). This procedure is in keeping with the ordinal nature of the proposed octagonal model. The three solutions were then entered into a procrustean analysis to identify a common structure and to evaluate the degree of agreement across countries (Gower, 1975; Lingoes & Borg, 1978).[2] This aim of identifying a common solution that maximally fits three countries is achieved by rigid rotation and translation of the three solutions under a strict constraint that the relative

[1]The multiple group factor analysis program was written by the second author and is available upon request.

[2]A program to perform these analyses was written by the second author and is available upon request.

Table 4. Multiple group oblique factor pattern of Person's Relating to Others Questionnaire 3 items using the Irish sample ($n = 403$)

	UN	UC	NC	LC	LN	LD	ND	UD	Item fit
UN1	0.41	0.02	0.00	0.06	−0.19	−0.06	−0.02	0.09	0.75
UN2	0.64	−0.03	−0.04	0.06	0.14	0.04	−0.04	0.04	0.92
UN3	0.65	−0.07	0.03	−0.09	−0.04	0.02	0.06	−0.07	0.94
UN4	0.63	0.04	−0.07	0.00	0.10	0.01	0.00	−0.03	0.95
UN5	0.54	0.03	0.08	−0.04	−0.00	−0.00	−0.00	−0.03	0.95
UC1	−0.02	0.50	0.03	−0.03	−0.03	0.07	0.05	0.01	0.95
UC2	−0.01	0.58	−0.04	0.06	−0.02	−0.01	−0.05	−0.02	0.96
UC3	−0.03	0.55	0.00	−0.03	−0.01	0.01	−0.05	0.02	0.97
UC4	0.06	0.59	0.00	−0.01	−0.01	−0.06	0.11	−0.05	0.93
UC5	0.01	0.53	−0.00	0.02	0.08	−0.00	−0.05	0.04	0.95
NC1	0.00	−0.07	0.57	0.03	−0.01	−0.00	0.00	−0.01	0.97
NC2	−0.00	−0.08	0.56	−0.03	0.04	0.13	−0.02	−0.02	0.91
NC3	0.05	0.01	0.42	−0.00	0.03	−0.10	0.05	−0.06	0.88
NC4	0.01	−0.01	0.44	0.03	−0.04	0.02	−0.10	0.12	0.86
NC5	−0.07	0.16	0.51	−0.02	−0.02	−0.04	0.06	−0.02	0.86
LC1	−0.04	0.01	−0.06	0.56	−0.02	−0.07	0.02	−0.03	0.95
LC2	−0.06	−0.07	0.05	0.58	0.00	0.03	0.02	0.09	0.93
LC3	0.02	0.03	−0.04	0.59	0.00	−0.02	0.02	0.01	0.98
LC4	0.06	0.09	0.03	0.50	−0.00	0.04	−0.09	−0.09	0.88
LC5	0.01	−0.07	0.02	0.49	0.01	0.02	0.02	0.02	0.96
LN1	−0.09	−0.06	−0.03	0.03	0.66	0.00	−0.03	0.00	0.96
LN2	0.07	−0.08	0.03	−0.08	0.69	−0.02	−0.00	−0.03	0.95
LN3	0.03	−0.06	0.06	−0.06	0.67	0.05	0.02	0.02	0.96
LN4	0.08	0.14	−0.08	0.08	0.44	−0.11	−0.09	−0.05	0.74
LN5	−0.10	0.07	0.01	0.03	0.51	0.08	0.11	0.06	0.85
LD1	−0.01	−0.08	0.08	0.02	0.05	0.45	−0.10	0.03	0.87
LD2	0.00	0.01	0.02	−0.02	0.00	0.51	−0.06	−0.10	0.93
LD3	−0.02	−0.00	−0.01	0.07	0.01	0.50	0.04	−0.05	0.95
LD4	0.00	0.09	−0.09	−0.01	0.06	0.52	−0.01	0.01	0.92
LD5	0.02	−0.01	−0.00	−0.06	−0.13	0.54	0.14	0.11	0.83
ND1	−0.03	0.01	0.01	−0.03	0.04	−0.01	0.70	−0.04	0.98
ND2	0.08	0.01	−0.01	0.04	0.04	−0.08	0.58	0.03	0.94
ND3	−0.02	−0.02	−0.04	−0.00	0.04	−0.09	0.73	−0.09	0.95
ND4	−0.01	−0.02	−0.02	0.07	−0.10	0.06	0.64	0.02	0.94
ND5	−0.01	0.02	0.06	−0.08	−0.02	0.14	0.66	0.08	0.91
UD1	0.02	−0.05	0.00	−0.04	0.00	−0.02	−0.06	0.54	0.96
UD2	−0.05	0.08	−0.11	0.06	−0.12	0.04	0.05	0.55	0.86
UD3	0.02	−0.01	−0.01	0.02	0.00	0.13	−0.00	0.57	0.94
UD4	−0.05	−0.04	0.06	−0.08	0.11	−0.03	−0.00	0.55	0.91
UD5	0.05	0.03	0.05	0.03	−0.00	−0.12	0.02	0.52	0.92
Factor fit	0.95	0.91	0.93	0.94	0.92	0.89	0.94	0.92	0.93
Factor correlation matrix									
UN	1.00								
UC	0.32	1.00							
NC	0.18	0.57	1.00						
LC	0.10	0.40	0.50	1.00					
LN	−0.14	0.27	0.27	0.28	1.00				
LD	0.03	0.20	0.21	0.44	0.34	1.00			
ND	0.17	0.05	−0.05	0.13	0.07	0.15	1.00		
UD	0.39	0.15	0.02	−0.10	−0.19	−0.29	0.11	1.00	

UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant.

distances between the points in space would not be altered. The resulting common space is presented in Figure 3.

The solution supports an octagonal arrangement of scales. The resulting solution manifests a clearly ordered modular structure and, although the space is not divided equally, the octagon order is clearly revealed. In considering the fit of each national sample to this common structure, the stress index shows how well the data from each sample fit into two-dimensional space. This ranges

Table 5. Summary of factor fit indices for four national samples

	Dutch	English	Irish	Greek
UN	0.92	0.97	0.95	0.97
UC	0.89	0.94	0.96	0.87
NC	0.91	0.92	0.95	0.83
LC	0.89	0.97	0.95	0.93
LN	0.84	0.95	0.95	0.93
LD	0.89	0.90	0.93	0.95
ND	0.89	0.91	0.93	0.96
UD	0.90	0.97	0.93	0.95
Total	0.89	0.94	0.93	0.93
Random fit				
Minimum	0.65	0.69	0.69	0.65
Maximum	0.89	0.94	0.93	0.78
z	7.87	9.96	10.59	8.31

UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant.

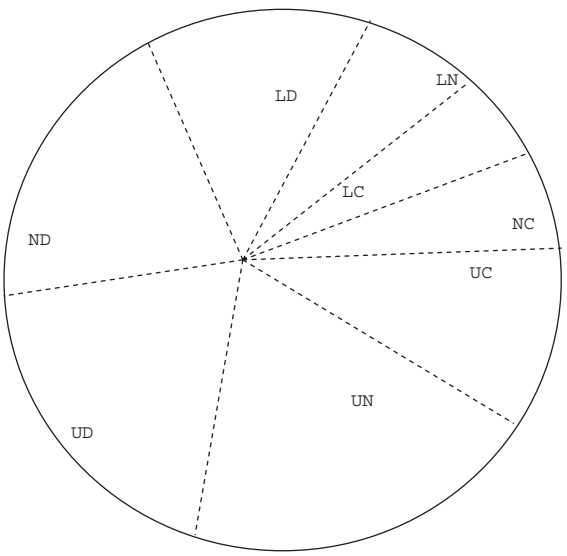

Figure 3. Multidimensional scaling analysis of eight Person's Relating to Others Questionnaire scales across four nationalities, centroid solution. UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant

between 0 and 1, and the smaller the value the better the fit. It was 0.1 for all four samples. The communality index reveals the degree of fit that each sample has to the common solution. Again, this ranges between 0 and 1 but a high value indicates a strong fit. It was 0.95 for all three samples. This evidence supports the contention that the common solution presented in Figure 3 is consistent across national samples.

Correlation Between the PROQ3 and the Other Three Measures

The correlations of the PROQ3 scales with those of the big five (IPIP) and the ICL-R are presented in Table 6. Correlations manifesting values greater than zero to a statistically significant degree (5%) are highlighted in bold face. There were no significant correlations between the UN scale and any of the IPIP scales. There were minimal correlations between the PROQ3 scales and Agreeableness, Conscientiousness and Openness to Experience, but fairly high negative correlations between the three close scales and Stability and between LC, LN, LD and ND with Extraversion.

Correlations between the PROQ3 and the ICL-R revealed a pattern in which each scale of the PROQ3 correlated positively with a short sequence of scales from the ICL-R. UN correlated with DE to PA, UC correlated with LM to JK, NC correlated with NO to HI, LC correlated with JK to FG, LN correlated with JK to nFnG, LD correlated with JK to FG, ND correlated with HI to FG and UD correlated with FG to PA. What is impressive here is that all of these significant sequences correspond to clear-cut segments of the interpersonal circle, which make sense in terms of the definitions of the ICL-R scales. There were two sequences of negative correlations which also made sense in terms of the definition of the ICL-R scales. LN and LD showed negative correlations with the scales DE to nNnO. These four scales extend round the dominant aggressive sector of the circle which could reasonably be considered the opposite of these two lower scales.

The correlations of the PROQ3 scales with those of the IIP-C are presented in Table 7. The pattern of the PROQ3 scales correlating positively with a sequence of scales was again apparent, although the LC scale correlated positively with every one of the IIP-C scales. This may be because the LC scale has been shown to differentiate most markedly between psychotherapy patients and non-patients (Table 2) and the IIP item are based upon statements made by psychotherapy patients (Horowitz et al., 1988). The sequences of IIP-C scales with which the PROQ3 scales correlate are not exactly the same as those of the ICL-R with which they correlate, but they come very close.

Therapeutic Change as Measured by the PROQ3

A sample of English psychotherapy patients ($n = 380$) completed the PROQ3 at the start and at the end of therapy. Changes in mean scores are summarized in Table 8. The score had dropped significantly on six of the eight scales, including one scale (UC) on which the patients had not scored significantly higher than the non-patients. On the other two upper scales, the before and end of therapy mean score remained strikingly similar. There was a

Table 6. Correlations between the eight Person's Relating to Others Questionnaire 3 scales and the International Personality Item Pool (IPIP) and Revised Interpersonal Check List (ICL-R) scales

Scale	UN	UC	NC	LC	LN	LD	ND	UD
IPIP Irish sample ($n = 403$)								
Extraversion	0.03	−0.0	−0.02	**−0.20**	**−0.28**	**−0.24**	**−0.50**	**0.20**
Agreeableness	−0.11	−0.15	−0.01	−0.02	−0.08	0.02	**−0.29**	−0.01
Conscientiousness	0.10	−0.10	0.04	−0.09	−0.09	−0.08	0.04	0.07
Stability	−0.16	**−0.30**	**−0.34**	**−0.44**	−0.19	**−0.25**	−0.13	−0.05
Openness to Experience	0.02	−0.04	0.00	0.07	−0.18	0.06	−0.06	0.12
ICL-R Dutch sample ($n = 204$)								
PA	**0.38**	0.15	−0.04	−0.11	−0.57	−0.37	−0.16	**0.25**
nNnO	0.05	0.13	0.07	−0.25	−0.22	−0.29	−0.37	0.12
NO	−0.04	0.19	**0.27**	0.13	0.14	0.15	−0.04	−0.21
LM	−0.06	**0.30**	**0.24**	0.04	0.14	0.11	−0.15	−0.17
JK	0.11	**0.31**	**0.30**	**0.37**	**0.31**	**0.34**	0.08	−0.06
HI	0.01	0.20	**0.21**	**0.47**	**0.35**	**0.51**	**0.30**	−0.09
nFnG	0.09	0.03	0.00	**0.33**	**0.26**	**0.43**	**0.57**	0.01
FG	0.19	0.24	0.13	**0.42**	0.04	**0.31**	**0.36**	**0.31**
DE	**0.32**	0.14	−0.04	−0.01	−0.28	−0.26	0.09	**0.44**
BC	**0.24**	0.15	−0.13	−0.13	−0.29	−0.33	−0.02	**0.38**

UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant. PA = managerial/autocratic. NO = hypernormal/responsible. LM = cooperative/conventional. JK = dependent/docile. HI = masochistic/self-effacing. FG = rebellious/distrustful. DE = sadistic/aggressive. BC = narcissistic/competitive. nNnO = sociable/extravert. nFnG = reserved/silent.

Table 7. Correlation between the Person's Relating to Others Questionnaire 3 and the Circumplex Version of the Inventory of Interpersonal Problems scales. Dutch sample ($N = 204$)

	UN	UC	NC	LC	LN	LD	ND	UD
PA	**0.29**	**0.26**	**0.22**	**0.28**	0.01	0.14	**0.20**	**0.23**
NO	**0.22**	**0.35**	**0.33**	**0.23**	0.04	0.14	0.02	0.12
LM	0.08	**0.31**	**0.40**	**0.38**	0.18	**0.35**	**0.24**	−0.08
JK	0.01	**0.28**	**0.35**	**0.41**	**0.32**	**0.52**	**0.21**	−0.18
HI	−0.13	**0.23**	**0.28**	**0.35**	**0.42**	**0.54**	**0.33**	−0.17
FG	0.05	0.17	**0.19**	**0.41**	**0.18**	**0.38**	**0.53**	−0.00
DE	0.17	0.15	0.08	**0.32**	0.12	0.15	**0.47**	0.19
BC	0.18	**0.27**	0.17	**0.33**	0.13	**0.21**	**0.41**	**0.24**

UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant. PA = domineering/controlling. NO = intrusive/needy. LM = self-sacrificing. JK = overly accommodating. HI = non-assertive. FG = socially inhibited. DE = cold/distant. BC = vindictive/self-centred.

Table 8. Mean Person's Relating to Others Questionnaire 3 (English) scores at start and end of psychotherapy ($n = 380$)

	UN	UC	NC	LC	LN	LD	ND	UD	Total
Start	6.7	4.8	5.5	10.2	6.4	8.1	8.6	5.9	56.1
SD	4.1	4.3	4.5	4.5	4.2	4.3	4.3	4.3	18.7
End	6.4	3.0	3.9	7.2	5.0	6.2	6.9	6.0	44.4
SD	3.9	3.7	3.9	4.8	3.6	3.7	4.4	3.6	18.8
95% CI	−0.4	1.2	1.0	2.3	0.8	1.4	1.1	−0.7	9.0
	0.8	2.3	2.2	3.6	1.9	2.5	2.4	0.4	14.4
t	0.8	6.2	5.4	8.7	4.9	6.7	5.5	−0.6	8.6
p	0.449	0.000	0.000	0.000	0.000	0.000	0.000	0.548	0.000

UN = upper neutral. UC = upper close. NC = neutral close. LC = lower close. LN = lower neutral. LD = lower distant. ND = neutral distant. UD = upper distant. SD = standard deviation.

significant drop in the mean total score, from above the proposed cut-off point of 50 to below it. In one psychotherapy department, 69 patients had completed the PROQ3 again 3–6 months after the end of therapy. The mean score on four scales and the mean total score had remained very significantly lower than at the start of therapy, but for LD, the drop was no longer significant, and for LN, it was only just significant. Although the lower *n* might have had some effect upon this, it seems likely that there had been a degree of slipping back. A Greek sample of 40 patients was tested at the start of psychotherapy and after 2 months. The total mean score had dropped from 56.0 to 52.0 ($p = 0.017$), and there were significant drops on UN, NC, LC and ND.

DISCUSSION

A longer version of the PROQ, the PROQ2, has been in clinical use, largely for the assessment of psychotherapy patients, over a number of years. A shorter version was considered desirable because (1) psychotherapy patients would be expected to be more tolerant of it and to respond more thoughtfully to the smaller number of items presented to them, and (2) it would provide an opportunity to select out the most discriminating items of the PROQ2. It was acknowledged that having smaller numbers of items per scale would carry the risk of lower reliability. However, in the English normative sample and in the psychotherapy sample, the alpha coefficients of the PROQ3 compared reasonably well with those in equivalent samples of the longer PROQ2 (Birtchnell & Evans, 2004). It was disappointing that the alpha for the revised LD scale remained relatively low. In a factor analysis of the English sample, the factor loadings for the LD scale were consistently lower than those for the remaining seven scales. This may be because lower distance has been found to be the most difficult octant to define. What does it mean if you are both inferior and detached? As with the PROQ2, the alphas were generally higher for the patients than for the non-patients, and this is likely to be due to the greater variability in responses.

The mean scores were generally lower for the Dutch sample, for both men and women. There is no obvious explanation for this although there may be cultural reasons that would require further examination. The LD score was higher for women in three samples, which provides strong evidence that women really do score higher on this scale. The mean scores were higher for women in both the English and the Greek normative samples. Similar, although not identical, gender differences had been observed with the PROQ2 (Birtchnell & Evans, 2004). A surprising and unexpected finding was the higher mean score for women on all three upper scales in the Irish sample, although Irish women are not normally considered to be domineering. Apart from these variations, the PROQ3 emerged as reasonably robust across all four national samples.

All three of the interpersonal questionnaires revealed high positive correlations between neighbouring scales. This is because the scales around both the octagon and the circle merge into each other. The relative absence of negative correlations between the opposite scales of the PROQ3 accords with the understanding that a high score on a scale from one side of the octagon is not incompatible with a high score on one from the opposite side. This is because high scores on the PROQ3 are intended to indicate the imperfect attainment of particular states of relatedness, and it should be possible to attain imperfectly any number of states of relatedness, even from opposite sides of the octagon. There were negative correlations between the opposite scales of the ICL-R, but they were not as clear-cut as for the IIP-C. This, we would suggest, is because the items of the IIP-C were selected (from the original 127-item version of Horowitz et al., 1988) in order to conform to a bipolar arrangement, which is a requirement of the concept of the circumplex of Guttman (1954). This argument also explains the high negative correlation between the two more recently added scales of nFnG and nNnO of the ICL-R. LaForge and Suczek would not have been aware of the circumplex concept when they designed the original ICL.

The multiple group factor analyses supported the proposed eight-factor structure of the PROQ3, and the method employed here had the benefit of producing indices of factor fit for each of the samples. These may be interpreted as a measure of factor reliability and, in contrast to the alpha coefficients, provided support for the model that underlies the PROQ3. Furthermore, the structure was shown to be remarkably stable across the four national samples. It might be mentioned here that, although normally only negative item scores are include in the analyses, in both the Irish and the Dutch samples, when positive items had accidentally been left in the factor analysis, the positive items of a number of scales loaded positively on separate factors, confirming that positive relating is qualitatively different from negative relating.

Further support of the measurement properties of the PROQ3 came with the multidimensional scaling analyses. Here it was apparent that the arrangement of the eight scales in Euclidean space did indeed reflect the proposed octagonal order, and this solution was highly consistent across national samples. The overlap between the LC and LD regions does appear to have led to some distortion of the space, indicating that the revision of the items of LD scale to make them more distinct has not been as successful as was hoped. However, the contiguity of the LC and LD scales might be explicable in terms of attachment theory (Bowlby, 1969). A person who clings

anxiously to an attachment figure (LC) will sometimes swing to a defensive position of avoidance (LD).

In the Irish sample, the PROQ3 was administered together with the IPIP. This is not an ideal comparison measure because it is an acknowledged measure of personality. The PROQ is a measure of negative relating, which comes closer to personality disorder than to personality. Birtchnell and Shine (2000) demonstrated a correlation of 0.65 between the total scores of the PROQ2 and the Personality Diagnostic Questionnaire-IV (Hyler, 1994), a questionnaire designed to measure the 10 Diagnostic and Statistical Manual of Mental Disorders-IV personality disorders. Significant correlations were recorded between most of the individual scales of both these measures, but personality is not the same as personality disorder. Where personality is adaptive, personality disorder is maladaptive. Beyond this, where the PROQ3 is designed to measure interpersonal characteristics, only two of the IPIP scales (Agreeableness and Extraversion) could be regarded as interpersonal (Ansell & Pincus, 2004), and even these are likely to be positive interpersonal rather than negative interpersonal (Figure 1). This was borne out by the fact that there were no significant positive correlations between any of the scales of the two measures. The high negative correlation between Extraversion and the ND scale is as would be expected since Extraversion (reaching out to people) would be construed as the opposite of distance. The high negative correlation between LC and stability accords with the fact that LC is the scale that differentiates most markedly between psychotherapy patients and non-patients (Table 2).

The ICL-R and the IIP-C were the most appropriate comparison measures, because the PROQ3, the ICL-R and the IIP-C are based upon similar theories. The interpersonal octagon, upon which the PROQ3 is based (Birtchnell, 1996), has a horizontal axis extending from close to distant, and the interpersonal circle, upon which the ICL-R and the IIP-C are based (Leary, 1957), has a horizontal axis extending from love to hate. Close and love are related as are distant and hate. The octagon has a vertical axis extending from upper to lower, and the circle has a vertical axis extending from dominate to submit. Upper and dominate are related as are lower and submit. Since the two theories were arrived at quite independently, any similarities between the scores of the three measures provide validation for all three. It is clear from Tables 6 and 7 that there were close correspondences between the four sets of scores, although there was not a direct, one-to-one relationship between the score of a scale from the PROQ3 and the score of a scale from one of the other two measures. Instead, each PROQ3 scale showed correlations with a sequence of scores from each of the other two measures. What was important was that the high correlations, whether positive or negative, were what would be predicted from the theories upon which the measures were based. A similar correspondence between the equivalent scales of an octagon-based measure and those of the ICL-R was observed in a recent study of the Couple's Relating to Each Other Questionnaire (CREOQ) (Birtchnell, Voortman, De Jong & Gordon, 2006). The CREOQ is designed specifically for measuring interrelating between partners.

The question arises, which of the three interpersonal questionnaires is preferable? The ICL-R is almost four times longer than the PROQ3, has lower alphas and higher inter-scale correlations. The IIP-C is also longer, although there is a 32-item version. A complication of the IIP-C is that the scores require the procedure of ipsatization in order to control for the large, general complaint factor. This requires reference to American norms, which may not be appropriate in European countries. The procedure of ipsatization is not without its critics (Johnson, Wood and Blinkhorn, 1988; Dunlap & Cornwell, 1994). The PROQ3 does not have a general complaint factor. The ICL-R and the IIP-C are based upon interpersonal theory. The IIP-C in particular requires conformity to a circumplex structure. The PROQ3 is based upon relating theory, which does not place the same emphasis upon a circumplex structure. At the end of the day, it depends which theory you find the most appealing.

Comparable results have now been obtained using three versions of the PROQ with three separate samples of psychotherapy patients and non-patients. The shorter PROQ3 has proved to be almost as effective as the PROQ2 in establishing the relating characteristics of patients seeking psychotherapy and in assessing change in relating over the course of psychotherapy. As was the case with the longer PROQ2 (Birtchnell & Evans, 2004), the psychotherapy patients scored significantly higher than the non-patients on the three lower scales and on NC and ND.

Over the course of psychotherapy, for both the PROQ2 (Birtchnell, 2002b) and the PROQ3, there were significant drops on UC, NC, LC, LN, LD and ND. For the PROQ2 only, there was a significant drop on UN. These differences represent an important shift, more clearly aligning psychotherapy patients with negative lowerness. Some therapists may encourage their patients to become more upper, since it is a safer position to be in. Although negative upperness undoubtedly is an undesirable characteristic, it seems not to be one to cause its possessor to seek help. Rather, it may be that negatively upper people cause other people to suffer by their dominating behaviour. In a recent study (Birtchnell, Shuker, Newberry & Duggan, 2009), comparable drops in PROQ2 and PROQ3 scores were demonstrated, over time, in two separate forensic therapeutic communities.

No attempt was made to determine the stability of PROQ3 scores over time. However, with the PROQ2, in one department, patients were tested at the time of

assessment for therapy and again at the start of therapy, approximately 9 months later. There was no significant change in scores (Birtchnell, 2002b). This suggests that, without therapy, negative relating does not change. For the PROQ3, the standard error of measurement across time is not yet available. In a future study, the significance of gain scores could be explored using such methods and the reliable change index (Jacobson, Follette & Revenstorf, 1984).

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