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Demographic characteristics as predictors of quality of life in a population of psychiatric outpatients

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DEMOGRAPHIC CHARACTERISTICS AS PREDICTORS OF QUALITY OF LIFE IN A POPULATION OF PSYCHIATRIC OUTPATIENTS

ABSTRACT. Studies examining relationships between demographic variables in a general population of psychiatric outpatients and quality of life (QOL), in which QOL was assessed according to current recommendations, have not been performed yet. The aim of this study was to examine one particular aspect of this relationship: the question to what extent QOL scores can be predicted by demographic variables. In a sample of adult Dutch psychiatric outpatients ($n = 495$), demographics were recorded and the participants completed a questionnaire for measuring QOL (WHOQOL-100). The relationships of the demographic variables with the WHO-QOL-100 domains Social Relationships and Environment, were stronger than those with the domains Physical Health and Psychological Health. The latter had only significant relationships with educational level and sick leave, which explain little of the variance of the concerning QOL domain. In general, the demographic characteristics used, explained only a relatively small part of the variance in QOL scores. An exception was sick leave, which, in participants with a job, explained an extensive part (27.4%) of the variance of scores on the domain Physical Health.

INTRODUCTION

In psychiatric research, quality of life (QOL) has become an important outcome measure for medical interventions. One of the reasons for this development is that the predominance of classical medical endpoints, such as mortality and morbidity, was criticized for failing to represent adequately the potential outcomes of medical interventions (Gladis et al., 1999; Power et al., 1999). Another reason is that in Western industrialized countries, mental health care systems have undergone a fundamental change over the last three decades due to the introduction of antipsychotic medication and the focus moving from institutionalized care to community care. This change has led to

a growing interest in the effects of psychiatric disorders on aspects of everyday life (Katschnig and Krautgartner, 2002).

The Assessment of Quality of Life

Over the past three decades, there has been an ongoing scientific debate with regard to QOL on two important topics, namely in which way (1) to define and (2) to assess QOL. With regard to defining QOL, the World Health Organization (WHO) in 1994 formulated QOL as 'a person's perception of his/her position in life within the context of the culture and value systems in which he/she lives and in relation to his/her goals, expectations, standards, and concerns. It is a broadranging concept incorporating, in a complex way, the persons' physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to salient features of the environment' (WHOQOL group, 1994). The assessment of QOL has, over the past two decades, been the subject of an ongoing and vehement scientific debate. This debate has resulted in four principles. First, QOL should be measured in a *comprehensive* way, covering a broad range of domains and facets (Breslin, 1991; Jenkins et al., 1990). The second principle concerns the importance of *subjective measurement* by self-report questionnaires (Breslin, 1991; Laman and Lankhorst, 1994). A third principle reflects the conviction that the *relative importance of various facets* of QOL is a crucial issue for the accuracy of the overall assessment of QOL (Hays et al., 1993; Laman and Lankhorst, 1994). Finally, the instruments for the assessment of QOL need to be *culturally sensitive* and should contain questions that address culturally relevant issues and language (Bullinger et al., 1993; Kuyken et al., 1994; Sartorius and Kuyken, 1994). From the 1980s onwards, many instruments have been developed for the assessment of QOL, predominantly for patients with somatic diseases and, to a lesser extent, for patients with psychiatric disorders (Katschnig and Krautgartner, 2002; Van Nieuwenhuizen, 1998). Today, many instruments are available and the number of relevant studies has increased enormously (De Vries et al., 1999; Williams, 2000). In 1991, the WHO started a project entitled 'The assessment of QOL in health care', resulting in the development of the WHOQOL-100, an instrument meeting *all* of

the four principles mentioned above and having good psychometric properties (Masthoff et al., in press).

The Relationship Between Demographic Variables and Quality of Life

Taking the definition of QOL from the WHOQOL group as a reference point, it is reasonable to presume that QOL as an outcome measure is the result of a complex interplay of external as well as internal factors. Amongst these factors, demographic variables (e.g., age, gender, habitual status, level of education, having children and finances) seem to have a relationship with outcome scores of QOL or relating concepts, such as life satisfaction and well-being.

In populations of *healthy* people, Marks and Fleming (1999) and Kim and McKenry (2002) found that being married had a positive influence on well-being. Reviewing earlier studies, Barry (1997) concluded that there are modest relationships between demographic characteristiscs (e.g., finances, leisure, family, living situation and social relationships) and life satisfaction. Richmond et al. (2000) investigated Ontario non-farm rural residents' QOL and found demographic characteristics, such as income, presence or number of children in the home and township, gender, age, marital status, and education to be significantly associated with indicators of absolute and relative QOL.

In people with *psychiatric disorders*, the relationship between demographic characteristics and QOL has been studied frequently. Mercier et al. (1998) studied the effects of age and gender on the subjective QOL of 165 people with severe and persistent mental illness and found that age was systematically related to satisfaction level, with older participants being more satisfied than the younger ones. Lam and Rosenheck (2000) performed a longitudinal study and derived data from 4331 homeless mentally ill patients. They found that, compared to baseline measurements, improvement of QOL was associated with decreased psychiatric symptoms, but also with increased social support, income, employment, and service use. Lang et al. (2002) performed a study in which one of the aims was to find predictors of overall life satisfaction. Prior to their study, they searched literature regarding their research questions and found that marital status, employment, superior economic status, high age, few medication side effects, and low

psychopathology were positively correlated with QOL amongst the mentally ill.

It can be expected that patients with (severe) psychiatric disorders use health care facilities in an intense way during a long period of their life. In the present time, the costs for (newly developed) psychiatric treatments (e.g. drugs, psychotherapies and specialized clinical care) are high, while at the same time the financial means are limited. In determining cost-effectiveness of psychiatric treatment policies and of utility studies, an outcome measure such as QOL can be of great value, the more so as, apart from alleviation of symptoms, improvement of QOL is an important goal of treatment. For QOL to be useful as an outcome measure, the relationships between several factors, such as demographic variables, and QOL should be determined in a profound way. As mentioned above, several studies concerning the relationships between demographic characteristics and QOL in samples of psychiatric patients are available. However, in many of these studies, QOL was not assessed according to the current recommendations and also, the described study samples mainly had quite specific characteristics, as a result of which clinical implications of the results of these studies remain unclear. The aim of the present study was to explicitly investigate the relationships between demographic characteristics and QOL scores in a general sample of psychiatric outpatients. The main hypothesis was that this relationship, in accordance with earlier research (Chan et al., 2003; Mercier, 1994), would be weak.

METHODS AND DATA COLLECTION

Patients

This study was conducted at GGZ-Midden Brabant, the community mental health centre in Tilburg, the Netherlands. Approval was received from the Medical Ethical Committee of the Southern Netherlands. Participants were outpatients of Dutch ethnic origin, aged 21–50 years, and referred to the centre in the period from March 1, 2001 till March 1, 2002. Potential participants could enter the study in two ways. They (1) could enter the study through a random selection procedure (i.e., a third of the referrals was directly selected

for psychiatric evaluation) or (2) through internal referral by colleagues (i.e., psychologists asking for psychiatric consultation). Internal referrals were considered in order to enlarge the sample size. After complete description of the study to the participants, written informed consent was obtained. Exclusion criteria were inability to undergo the various verbal and written parts of the investigation protocol (interviews and questionnaires) due to severe mental illness, illiteracy, dyslexia, mental retardation, problems with sight or hearing, cerebral damage, or refusal to participate.

Measurements

QOL was measured using the WHOQOL assessment instrument (WHOQOL-100; WHOQOL group, 1994, 1998; Dutch version; De Vries and Van Heck, 1995). The WHOQOL-100 is a generic, multidimensional measure to assess QOL. During the development, focus groups of patients, health professionals, and well people proposed items that were selected and attached to a 5-point Likert scale. The 100 items are organized in 24 facets, subsumed within six domains and one facet measuring overall QOL and general health. In this study, we used the four-factor structure of the WHOQOL-100 that was found in a previous study among a general population of psychiatric outpatients (Masthoff et al., in press). High scores indicate good QOL, except for the facets Pain and Discomfort, Negative Feelings, and Dependence on Medication or Treatments, which are negatively framed. The time of reference is the previous 2 weeks. The WHOQOL-100 has shown to have good to excellent psychometric properties in both populations of patients with somatic diseases (De Vries, 1996; Skevington, 1998; O'Carroll, 2000) as well as in populations of patients with psychiatric disorders (Skevington and Wright, 2001; Masthoff et al., in press).

Demographical variables. Data concerning the participants' age and sex were collected. Furthermore, participants were asked whether they currently were involved in a partner relationship, lived together with at least one other person (e.g., partner, parents, child), had children, and whether they had a job. Sick leave (reported sick at work; yes or no), and duration of sick leave (in weeks) were noted. Finally, the level of education was asked and subsequently classified using the following categories: 'low' (i.e., no education completed at

all, primary school, individual teaching and lower vocational train-
ing), 'middle' (i.e., lower general secondary education, higher general
secondary education, pre-university education and intermediate
vocational education), and 'high' (i.e., higher vocational education
and university).

Statistical Procedures

To compare the differences in QOL-scores in terms of each major
demographic variable (e.g., sex, having children, partner relationship,
habitual status, etc.), Student's *t*-tests were performed ($p < 0.05$).
The relationships between the WHOQOL-100 and age ($p < 0.01$)
and duration of sick leave ($p < 0.05$) were examined using Pearson
correlations. The relationship between the WHOQOL-100 and level
of education of the participants was determined using analyses of
variance (One-Way ANOVA's with Post Hoc Scheffé multiple com-
parison tests). To determine the amount of variance of the four do-
main scores of the WHOQOL-100 (dependent variables) explained by
the demographic variables (independent variables), three series of
multiple regression analyses (method stepwise) were performed. First,
the demographics sex, age, having children, partner relationship,
habitual status, work and educational level were examined for the
whole group of participants ($n = 495$). Second, regression analyses
were carried out for the group of participants with a job ($n = 330$)
with the variable work replaced by sick leave. Finally, in the
regression analyses for the group of participants with a job who
reported sick at work ($n = 143$), the variable duration of sick leave
was used in stead of sick leave. The data were processed using the
Statistical Package for the Social Sciences (SPSS, version 10.0 for
Windows).

RESULTS

Sample Characteristics

During the 1 year period, 3892 people (male: 40.4%; female: 59.6%)
were referred to the outpatient clinic of the centre. About half of
them ($n = 1559$) were potential participants (male: 42.2%; female:
57.8%). The total group that entered the study contained 533

participants (male: 46.2%; female: 53.8%); 438 participants (82.2%) entered the study through random selection (male: 42.7%; female: 57.3%), and 95 through internal referral (male: 62.1%; female: 37.9%). From the 438 randomly selected participants, 20 were unable to undergo the research protocol, due to severe psychotic disorder ($n = 7$), major depressive episode ($n = 9$), dyslexia ($n = 2$), mental retardation ($n = 2$), and 8 refused to participate (4 diagnosed with antisocial personality disorder; 4 with substance related disorder). From the 95 internally referred participants, six were unable to undergo the research protocol, due to severe psychotic disorder ($n = 1$), substance related disorder ($n = 2$), mental retardation ($n = 1$), and severe visual handicap ($n = 2$). Four refused to participate (all diagnosed with antisocial personality disorder). Thus, from the total group of 533 participants, 495 fully completed the test booklet (92.9%; 410 randomly selected and 85 by internal referral; 44.2% male, mean age 34.6 years, SD = 8.6, range 21–50 years; 55.8% female, mean age 32.6 years, SD = 8.5, range 21–50 years).

At the moment of the study, 66.5% of the participants was involved in a partner relationship (lasting more than 4 weeks), 75.4% was living together with at least one other person (72.3% with partner (and children), 14.6% with parent(s), 7.8% with child(ren), 5.3% with others). An overlap of 79.4% existed between partner relationship and habitual status. Of the participants 42.2% had at least one child, 57.8% had none at all. An educational level with the qualification 'low' was noted for 43.4% of the participants. 45.3% were qualified as 'middle', and the remaining 11.3% as 'high'. The majority of the participants (66.7%) had a job. However, 43.3% of them ($n = 143$) had reported sick at work. Of those 143 people, the mean duration of sick leave at the moment of investigation was 16 weeks (SD = 13.4; range 1–50 weeks).

Relationship Between Separate Demographic Characteristics and QOL

Male participants had significantly higher scores on the QOL facets Energy and Fatigue ($t = 2.95$, $p < 0.01$) and Body Image and Appearance ($t = 5.25$, $p < 0.001$). Female participants had significantly higher scores on the facets Positive Feelings ($t = -2.42$,

$p < 0.05$), Personal Relationships ($t = -2.06$, $p < 0.05$), and the domain Social Relationships ($t = -2.10$, $p < 0.05$).

Age had positive correlations with the QOL facets Body Image and Appearance ($r = 0.l3$, $p < 0.01$) and Dependence on Medication or Treatments ($r = 0.22$, $p < 0.001$). Negative correlations were found with the facets Personal Relationships ($r = -0.12$; $p < 0.01$), Social Support ($r = -0.17$, $p < 0.001$), and Sexual Activity ($r = -0.l3$, $p < 0.01$). At the domain level, age was negatively associated with Physical Health ($r = -0.12$, $p < 0.01$) and Social Relationships ($r = -0.18$, $p < 0.001$).

Participants having at least one child had significantly higher scores on the QOL facets Overall Quality of Life and General Health ($t = 2.00$, $p < 0.05$), Physical Safety and Security ($t = 2.19$, $p < 0.05$), Dependence on Medication or Treatments ($t = 2.95$, $p < 0.01$), Home Environment ($t = 3.04$, $p < 0.01$) and Financial Resources ($t = 2.04$, $p < 0.05$). Participants without children had a significantly higher score on the facet Social Support ($t = -2.81$, $p < 0.01$).

The results concerning the relationship between QOL and partner relationship are presented in Table I.

Participants involved in a partner relationship ($n = 329$) had significantly ($p < 0.05$) higher scores on the domains Physical Health, Social Relationships, and Environment. In addition, they had higher scores on a large number of QOL facets, amongst which were all the facets of the domains Social Relationships and Environment. There was no significant difference between the two groups on the domain Psychological Health and its facets, with the exception of the facet Positive Feelings, on which participants with a partner scored significantly higher ($p < 0.001$), and the facet Spirituality, religion and personal beliefs, on which participants who were single scored higher ($p < 0.05$).

Participants living together with at least one other person ($n = 373$) had significantly ($p < 0.05$) higher scores on the domains Social Relationships and Environment and all its facets. No significant difference was found with regard to the domains Physical Health and Psychological Health. However, cohabitating participants did have significantly higher scores on some of the facets belonging to these domains and on the facet Overall Quality of Life and General Health (see Table I).

Participants with a job ($n = 330$) had significantly higher scores on the domain Physical Health and its facets Energy and Fatigue and Activities of Daily Living. They also scored significantly higher on the domain Environment and its facets Financial Resources, Health and Social Care, Availability and Quality, and Opportunities for

TABLE I

Student *t*-tests: Relationships between WHOQOL-100 and Partner Relationship, Habitual Status, Work, and Sick Leave

WHOQOL-100 Domains and Facets	P. Relationship		Habitual S.		Work		Sick leave	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*
Overall quality of life and General health	4.34	**< 0.001**	4.07	**< 0.001**	2.46	**0.01**	−5.62	**< 0.001**
Physical Health	2.33	**< 0.05**	1.90	0.06	2.74	**< 0.01**	−11.31	**< 0.001**
Pain and discomfort	−1.39	0.17	−1.84	0.07	−2.43	**< 0.05**	6.71	**< 0.001**
Energy and fatigue	1.63	0.11	1.98	**< 0.05**	2.02	**< 0.05**	−7.23	**< 0.001**
Sleep and rest	3.84	**< 0.001**	1.86	0.06	1.79	0.07	−6.00	**< 0.001**
Mobility	0.71	0.48	0.40	0.69	1.04	0.30	−5.57	**< 0.001**
Activities of daily living	2.48	**< 0.05**	2.19	**< 0.05**	2.44	**< 0.05**	−10.23	**< 0.001**
Dependence on medication or treatments	0.27	0.78	0.70	0.48	−2.37	**< 0.05**	4.84	**< 0.001**
Working capacity	1.39	0.16	2.19	**< 0.05**	1.82	0.07	−14.27	**< 0.001**
Psychological Health	1.44	0.15	1.35	0.18	1.16	0.27	−5.35	**< 0.001**
Positive feelings	4.12	**< 0.001**	2.27	**< 0.05**	1.10	0.27	−4.31	**< 0.001**
Cognitive functions	1.78	0.08	1.00	0.32	0.68	0.50	−5.47	**< 0.001**
Self esteem	1.21	0.23	1.45	0.15	0.87	0.39	−4.01	**< 0.001**
Body image and appearance	0.54	0.59	0.87	0.39	0.47	0.64	−1.49	0.14
Negative feelings	−1.14	0.26	−0.98	0.33	−3.36	**< 0.01**	7.66	**< 0.001**
Spirituality, religion, and personal beliefs	−2.00	**< 0.05**	−0.58	0.57	−1.14	0.26	−1.58	0.12
Social Relationships	6.91	**< 0.001**	5.45	**< 0.001**	1.43	0.15	−1.83	0.07
Personal relationships	6.01	**< 0.001**	5.81	**< 0.001**	1.53	0.13	−2.16	**< 0.05**
Social support	2.00	**< 0.05**	2.64	**< 0.01**	1.47	0.14	−2.99	**< 0.01**
Sexual activity	8.00	**< 0.001**	4.39	**< 0.001**	0.54	0.59	0.29	0.77

TABLE I

Continued

WHOQOL-100 Domains and Facets	P. Relationship		Habitual S.		Work		Sick Leave	
	t	p	t	p	t	p	t	p
Environment	5.08	**< 0.001**	5.34	**< 0.001**	3.24	**< 0.01**	−5.13	**< 0.001**
Physical safety and security	3.37	**< 0.01**	3.14	**< 0.01**	1.78	0.08	−3.32	**< 0.01**
Home environment	4.82	**< 0.001**	5.82	**< 0.001**	1.63	0.10	−1.90	0.06
Financial resources	3.54	**< 0.001**	3.79	**< 0.001**	3.39	**< 0.01**	−2.68	**< 0.01**
Health and social care	2.18	**< 0.05**	2.63	**< 0.01**	2.06	**< 0.05**	−4.61	**< 0.001**
New information and skills	2.53	**< 0.05**	2.19	**< 0.05**	1.98	**< 0.05**	−4.02	**< 0.001**
Recreation	3.45	**< 0.01**	3.08	**< 0.01**	1.83	0.07	−4.52	**< 0.001**

[a]t-Values are positive when participants who have a partner relationship have a higher mean score than those who are single, when participants who are living together with at least one other person have a higher mean score than those living alone, when participants with a job have a higher mean score than those without a job and when participants who reported sick at work have a higher mean score than those who didn't.
[b]Facets Pain and Discomfort, Negative Feelings, and Dependence on Medication or Treatments are negatively framed and have been re-coded for use in the calculation of the domain scores.
[c]Domains are presented in Italics, p values < 0.05 are in bold.
[d]Cognitive functions = thinking, learning, memory and concentration; Health and Social care = health and social care, availability and quality; New Information and Skills = opportunities for acquiring new information and skills; Recreation = participation in and opportunities for recreation, P. Relationship = partner relationship, Habitual S. = habitual status.

Acquiring New Information and Skills. Finally, having a job was related to higher scores on the facet Overall Quality of Life and General Health. Participants without a job scored significantly higher on the facets Pain and Discomfort, Dependence on Medication or Treatments, and Negative Feelings (see Table II).

As shown in Table I, participants who had reported sick at work ($n = 143$) had significantly lower scores on the domains Physical Health, Psychological Health, and Environment and on a large number of QOL facets, as compared with those who had not

reported sick. Particularly, differences were found in favour of the participants who did not report sick on the domain Physical Health and the facets Working Capacity, Activities of Daily Living, Sleep and Rest, and Energy and Fatigue. For the group of participants who reported sick at work, duration of sick leave was negatively correlated with the QOL facets Social Support ($r = -0.17$, $p < 0.05$), Financial Resources ($r = -0.30$, $p < 0.0l$), Health and Social Care, Availability and Quality ($r = -0.17$, $p < 0.05$), and the domain Environment ($r = -0.23$, $p < 0.01$).

The results concerning the relationship between QOL and level of education are presented in Table II. The significant differences that were found, mainly existed between low educational level, on the one hand, and middle and high educational levels, on the other hand. In general, compared with individuals with a low education level, the results showed that a higher (middle or high) level of education was associated with higher QOL scores. The significant differences mainly concerned the domains Physical Health and Environment and some of the facets belonging to these domains. In particular, notable differences were found with respect to the facet Mobility and the facet Opportunities for Acquiring New Information and Skills.

Multiple Regression Analyses

The results of the three series of multiple regression analyses are shown in Table III.

Although demographics explained some variance of QOL, the amount of variance did not exceed 16%. An exception was the domain Physical Health in participants with work, where sick leave, educational level, and partner relationship together explained a substantial percentage of the variance (30.2%). In the analyses comprising all participants, demographic variables explained the variance of scores on the domains Physical Health (7.2%) and Psychological Health (1.3%) to a lesser extent than the variance concerning the domains. Social Relationships (14.0%) and Environment (13.7%). The overall strongest relationship was found between sick leave and the domain Physical Health in participants having a job (27.4%). Having children did not play a role in predicting QOL scores. In general, the demographic char-

TABLE II

One -Way ANOVA concerning WHOQOL-100 and Educational Level

Dependent variable	F	Significant	Educational level (mean)	Educational level (mean)
Physical Health	10.32	<0.001	Low (11.50)	Middle (12.40)
			Low (11.50)	High (13.09)
Sleep and rest	5.54	<0.01	Low (11.25)	Middle (12.33)
			Low (11.25)	High (13.16)
Mobility	16.15	<0.001	Low (13.78)	Middle (15.50)
			Low (13.78)	High (16.20)
Activities of daily living	5.36	<0.01	Low (11.12)	Middle (11.99)
			Low (11.12)	High (12.52)
Dependence on medication or treatments	8.18	<0.001	Low (12.96)	Middle (14.25)
			Low (12.96)	High (15.05)
Psychological Health	3.65	<0.05	Low (10.75)	High (11.66)
Negative feelings	4.85	<0.01	Low (9.11)	High (10.39)
Social support	3.67	<0.05	Low (12.32)	Middle (13.15)
Environment	12.10	<0.001	Low (12.66)	Middle (13.34)
			Low (12.66)	High (14.04)
Financial resources	6.94	<0.01	Low (12.84)	High (15.11)
			Middle (13.42)	High (15.11)
Health and social care, availability and quality	8.21	<0.001	Low (12.69)	Middle (13.58)
			Low (12.69)	High (13.75)
Opportunities for acquiring new information and skills	14.16	<0.001	Low (12.73)	Middle (13.62)
			Low (12.73)	High (14.80)
			Middle (13.62)	High (14.80)
Participation in and opportunities for recreation	7.45	<0.01	Low (10.66)	Middle (11.58)
			Low (10.66)	High (12.07)

[a]Only domains and facets of the WHOQOL-100 with significant mean differences between educational levels at the 0.05 or 0.01 level (2-tailed), are reported.
[b]Domains are presented in Italics.

acteristic partner relationship was a better predictor of QOL (mainly regarding the domain Social Relationships) than habitual status.

DISCUSSION

In this study, relationships between QOL and the following demographic characteristics were investigated in a population of psychiatric outpatients: age, sex, having children, partner relationship, habitual status, work, sick leave (including duration), and level of education. QOL was assessed using the WHOQOL-100, a generic measure with good psychometric properties, designed for use in a wide spectrum of psychological and physical disorders.

Main Results of this Study

With regard to sex and QOL, male participants had more energy and were more positive about their physical appearance. Female participants were more satisfied with their social relationships. This also was the case for scores on the facet Positive Feelings, which corresponds with the conclusion of a previous study that women tend to report higher levels of well-being on indices that measure positive emotions (Wood et al., 1989). Overall, gender had little influence on subjective perception of QOL, which is in accordance with earlier findings regarding both the general population as well as people with severe mental health problems (Mercier et al., 1998).

In the present study, only a few statistically significant (but weak) correlations were found between age and QOL. With higher age, people got more satisfied with their body image and appearance, felt more dependent on medication and/or treatments and were less satisfied with physical health and social relationships. Earlier studies, both in general populations as well as in samples of people with severe mental health problems, have shown that older individuals express higher levels of satisfaction with subjective quality of life than their younger counterparts (Mercier et al., 1998). These findings do not necessarily contradict those of the present study, although comparisons are difficult, due to differences in assessement of QOL.

Concerning QOL, participants having at least one child had some benefits over those who did not have a child, although the latter scored higher on perceived social support. Concerning the relation-

TABLE III

Multiple Regression Analyses (Stepwise method), with QOL Domains as Dependent Variables and Demographic Variables as Independent Variables

Group of participants	Dependent variable	F	p	Independent Variable	R^2 total	Beta
All participants ($n = 495$)	Physical Health	9.46	<0.001	Educational Level	0.04	0.18
				Work	0.05	0.11
				Partner Relationship	0.06	0.11
				Age	0.07	-0.10
	Psychological Health	6.30	<0.05	Educational Level	0.01	0.11
	Social Relationships	26.63	<0.001	Partner Relationship	0.09	0.26
				Age	0.13	-0.21
				Habitual Status	0.14	0.10
	Environment	19.41	<0.001	Habitual Status	0.06	0.17
				Educational Level	0.11	0.23
				Work	0.12	0.13
				Partner Relationship	0.14	0.13
Participants with work ($n = 330$)	Physical Health	47.01	<0.001	Sick Leave	0.27	-0.51
				Educational Level	0.29	0.14
				Partner Relationship	0.30	0.09
	Psychological Health	28.65	<0.001	Sick Leave	0.08	-0.28
	Social Relationships	15.96	<0.001	Partner Relationship	0.06	0.26
				Age	0.09	-0.16
	Environment	20.67	<0.001	Sick Leave	0.07	-0.26

	Domain	F	p	Predictor		
Participants with work who reported sick (n = 143)	Physical Health	6.02	<.01	Partner Relationship	0.12	0.21
				Educational Level	0.16	0.20
	Social Relationships	11.49	<0.01	Educational Level	0.05	0.24
				Sex	0.08	0.17
	Environment	6.98	<0.001	Partner Relationship	0.08	0.28
				Habitual Status	0.06	0.20
				Educational Level	0.10	0.19
				Duration of Sick Leave	0.13	−0.19

ship between having children and well-being, findings of earlier studies are inconsistent (Marks and Fleming, 1999). Having a partner relationship was more beneficial for QOL than just living with another person, although both variables had (positive) relationships with QOL. The relationship between marriage and psychological well-being, has been well documented in the literature. In general, it is found to be strong and positive (Kim and McKenry, 2002). The results of our study seem alike. With regard to positive feelings, participants with a partner scored higher than those without. This was not the case for negative feelings, supporting previous findings that positive feelings and negative feelings are two independent dimensions (Almagor and Ben-Porath, 1989; Watson et al., 1988).

Participants with a job scored significantly higher than unemployed participants on physical health and environment. The latter participants reported more pain and discomfort, dependence on medication or treatments, as well as more negative feelings. These findings are in accordance with Winefield et al. (1991), Lahelma (1992), and Pugliesi (1995). Sick leave was negatively correlated with, in particular, physical health, working capacity, activities of daily living, sleep and rest, and energy and fatigue. Correlations of QOL with duration of sick leave were sparse and relative low.

Concerning the relationship between QOL and educational level, the results showed that, in general, a higher (middle or high) level of education was related to higher QOL scores. This result is in accordance with the finding of McCoy and Filson (1996), who found that education was positively correlated with a higher sense of well-being.

In general, the demographic characteristics used, explained only a relatively small part of the variance in QOL scores, with the exception of sick leave which explained an extensive part of the variance of scores on the domain Physical Health in participants with a job. The relationships of the demographic variables with the WHOQOL-100 domains Social Relationships and Environment, were stronger than those with the domains Physical Health and Psychological Health. The latter had only significant relationships with educational level and sick leave, which explained little of the variance of the concerning domain score.

QOL can be used by researchers, mental health practitioners and policy makers as an outcome measure in assessing the (cost)effec-

tiveness and relative merits of different treatments of psychiatric patients, in health services evaluation, and in clinical (psychopharmacological) trials. Necessary conditions for using QOL for such purposes are the identification of the internal and external factors that determine QOL and the quantification of their relationships with QOL. The present study provides insights into the relationships between demographic characteristics and QOL as measured with the WHOQOL-100 in general sample of Dutch adult psychiatric outpatients. Only a relatively small part of the variance of the QOL scores was explained by demographic characteristics, the only exception being sick leave in patients with a job. The results of the present study are not fully comparable with those of earlier research due to sample characteristics and the way QOL was assessed. Nevertheless, our results generally are in accordance with prior findings. The added value of the present study to the current body of knowledge on the relationships between demographics and QOL results from the way QOL was assessed in the present study (in a comprehensive, culturally sensitive, and subjective way, paying attention to the relative importance of its various facets) and from the study sample (a general population of psychiatric outpatients). Following the results of the present study, it is likely that putting emphasis on demographics during psychiatric treatment will have little effect on the improvement of QOL. It is recommended that this hypothesis is subject for further research as the effect of socio-demographic characteristics on treatment and that of treatment on QOL has not been investigated exclusively in this study. Also, further research is needed to determine the relationships between QOL and other variables (e.g., psychopathology, coping styles, stress, etc.) so that QOL can be used as an efficient outcome measure in research, clinical practise and policy making.

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