Who are our guests?

A quantitative social study about the social stratum of patients consulting an osteopath in private practice in Vienna and their subjective physical and mental wellbeing

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09.12.2007 *Agnes Sumesgutner*

Abstract

Who are our guests?

A quantitative social study about the social class of patients frequenting the office of practising osteopaths in Vienna and their subjective physical and psychological wellbeing

by Agnes Sumesgutner

Design of the study

The study presented is considered to be quantitative research.

Problem definition / outline

The structure and the composition of the group of patients in the office of practising osteopaths in Vienna have not been adequately explored to date.

Research question & objective

Based on the standardised questionnaires patients who are consulting a practising osteopath in Vienna will be examined thoroughly.
On the one hand the stratum index by Winkler is applied, in order to classify patients according to their level of living. On the other hand the mental and physical health conditions are reflected in questionnaire SF- 36.

Hypothesis

Not only the upper-class of the population in Vienna consults a practising osteopath, but also a fraction of the middle class. With regard to the subjective physical and mental health conditions those patients differ only in specific subscales from the norm population.

Relevance for the patients

The investigation in the field of patients as part of the basic research provides a deeper understanding of the needs of the patients and enables a discussion about the focused inclusion of potentially undersupplied groups of patient.

Relevance for osteopathy

The results of this work can also be used for socio-political, labour-political and educational discussions.

Methodology

A questionnaire consisting of two parts has been compiled. The first part relates to the stratum index by Winkler, the second is based on the self assessment form SF-36.

SF-36 is a multi-purpose instrument to measure the subjective health conditions in eight subdivisions. Furthermore, these subdivisions are merged into two indicators named „physical" and „mental health".

Average population data is available for variance analysis.

Results

Most patients consulting an osteopath practising in Vienna are primarily from the middle-class, namely 49, 7 %. It became evident that patients from the lower class rarely have access to osteopathic treatment.

The result of the research of the subjective health condition of the patients did not show any deviation from the norm in relation to "general health" as in SF-36. However, there was significant influence on the subjective well-being in relation to "bodily pain" and "role emotional". With regard to the gender related evaluation the strongest deviation from the norm was the negative influence of "role-emotion" among women.

Critical reflection

The shortcomings of the stratum index according to Winkler became obvious as certain parameters selected turned out to be too unspecific, e.g. the term "employee" in the category "profession". Based on this amount of errors in the stratum index in this study it appears that stratum-specified questions are perceived as being far more intimate than the question of physical or mental parameters.

Content

Note: For the sake of simplicity, the male form has been used to designate either gender in this paper.

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1 Introduction

Osteopathy is a very young profession in Austria. Because of this, some topics have not been sufficiently investigated yet. The consistence and structure of the group of patients has not yet been evaluated in detail. The aim of this study is on the one hand to view patients in Vienna, consulting a practising Osteopath, in a class- related way as well as to look at the subjective physical and mental well-being of these patients. The methodological approach of this study is to categorize the patients who consult a practising Osteopath according to two classification mechanisms. On the one hand a class-specification according to the stratum-index by Winkler (Winkler, Stolzenberg 1999) and on the other hand a classification according to their subjective physical health situation and mental health on the basis of the standardised SF-36 is done. The evaluation of these parameters is compared with the general population to show the deviation from the norm.

Krönke (2002) found in a study covering the whole of Austria that 82% of Osteopaths charge 50 – 70 Euro for one osteopathic session. Because the patient pays his individual treatment without reimbursement by medicare or other public funds, this could be a significant financial burden, which has the potential to decrease the number of potential patients as well as an additional burden for the patients' household budget. It can be assumed that this financial burden can only be covered by a certain group of persons, namely higher class. For verification of this thesis patients are therefore classified according to the Winkler's stratum index.

For the patient himself the personal feeling of his life situation is relevant. Also for the World Health Organization (WHO), the „field-health" comprises *inter alia* social and mental well-being. The second part of this empirical study researches the subjective physical health and the subjective mental health of the patient, who consults a practising osteopath and compares the results with the general population norm. Relating to the subjective physical and mental condition I assume that only within a certain scope patients are different from the general population. The investigation in the field of patients as part of the basic research provides a deeper understanding of

the needs of the patients and enables a discussion about the effective inclusion of potentially undersupplied groups of patients.

Therefore, it is possible to build in-depth studies and to show long-term patterns with potential for change. The results of this work can also be used as a basis of socio-political, labour-political and educational discussions.

2 Background

This chapter gives a brief general definition of osteopathy. Following this, several models for the classification of the population are described. Furthermore, a selection of questionnaires and a list of complaints are introduced which record disorders of a psychological and physical nature.

2.1 What is Osteopathy?

Osteopathy is a holistic and manually executed method of treatment. It is based on the criteria that a smooth and healthy process of life function and untroubled mobility of the structures of the body is necessary. If this mobility is restricted there are disturbances in the function of joints and organs. The osteopath tries to trace such mobility-deficits and to loosen them with his hands. Knowledge of the self-healing power of the body plays a significant role.
Through the treatment the self-regulation and self-healing of the body should be reactivated. At the beginning of the development of osteopathy bones, ligaments and muscles were in the focus of osteopaths. Later on, attention was enhanced by taking the mobility of the inner organs and their treatment into account. Finally, also osteopathy completed the concept by including the brain and spinal column in the treatment and therewith achieved a holistic approach. (OEGO, 2007)

2.2 Terms of classification of the population

„The world we are living in was and is ever since characterised by equality and difference as it is also shown in social reality. Only equality and difference together form the human being." (Riefler, s.a., S1)
The classification of persons and associated methods are an important basis for the differentiation and the determination of difference vis-a-vis the norm. There are many terms and groups of terms which have been established in different time periods and

in different parts of the world to classify human beings. The following part provides a selection of historical and actual terms and groupings.

Rank

In medieval ages society was divided into ranks; this was a strict and god-given system of order.
The pyramid-shape construction of this system showed the king at the top. He possessed the greatest power. Aristocracy and knights were placed next to him. Below was the clergy. The population of cities and towns with their workers where ranked below that. Farmers formed the lowest rank in the hierarchy. However, there existed others with whom nobody wanted to have contact, who were situated at the edge of society and excluded, e.g., executioners or knacker. (Albert Schweizer Gymnasium 1998/1999)

Caste

The caste system is associated with Indian society. Despite having been abolished in 1949 , this division of Indian society persists until today, mainly in provincial areas. The caste system is a very complex one, it classifies the population along religious, social and occupational terms in a fairly rigid way. (Dohmann, 2003)

India distinguishes up to 3000 casts, the roots of the caste system lie in a book of laws dating back approximately to the year 100 B.C. when society was divided only into four casts, namely:
Brahmans: highest class and cast of priests, who have the privilege of enlightenment.
Kschatrijas: cast of warriors.
Waischias: cast of tradesmen and farmers.
Schudras: working class-caste who serve higher casts
Furthermore, there are the so-called Harijans who do not belong to any caste and who are untouchable. Since they are untouchable they are excluded from society and can only do the lowest work. (Dohmann, 2003)

Class

The original concept of class was established by Henry de Saint-Simon and was adopted by Karl Marx. (Fischer, 2004)

Marx labeled a class according to its place in the system of patterns of production, i.e. availability or non-availability of goods for production.
In his early work he also mentioned the style of living, interests, education and level of political organisation as significant points of their respective class. (WU Wien, 2003)
Weber (Weber, 1922) introduced the term of social class. He distinguished in principle between owing classes whom he categorized according to property. Furthermore, he distinguished earning classes according to the market chances of the exploration of goods or services, these especially in social classes were he included the totality of living conditions. (Henning, 1998)
Bourdieu added to Marx' economic system the relevance of social capital and cultural capital. All three levels provide the possibility of profit. For instance, generosity can also lead to maximizing profit in relationship to esteem and honour. "Economy of practice" as developed by Bourdieu therefore includes different social transactions. (Bourdieu, 1992)

Social Stratum

Sociology uses the term stratum, created by Theodor Geiger. (Geiger,1932)
Hilmann (1994) calls the term "social stratum", *"a social basic term which defines in general a category of society members, who show common signs regarding to the vertical social structure, respectively the social inequality: especially an equal or similar socio-economical situation (working position, income and property), opportunities in life and social recognition (social prestige) (Hillmann 1994, 758-759), (Wenzing, 2002)*

There is no obligatory grouping in a specific number of strata. Grouping within a stratum can be based on profession, according to dimension, qualification, income, working position or prestige.
As Geißler expressed, the grouping of strata according to property (goods for production), age, generation, religion, gender, education and ethical background party loose their significance. (Wenzing 2002)

Affiliation of a person to a certain stratum within the vertically structured society isclassified the higher the parameters are. (Institute of Sociology Westf. Wilhelms-University)

There is a “social mobility” between the various strata. If a person changes his criteria of stratum-classification, consequently there will also be a change in his participation in a certain stratum. For an individual a position in a certain stratum does not need to exist for lifetime. (Institute of Sociology Westf. Wilhelms-University). In connection with the social stratum Husa, Wohlschlägl (2005) describe the term “Social Prestige” as follows:
“The social prestige a person holds in a society is defined by his position within the stratum-hierarchy. It is defined by the “degree of participation in central social values”, whereas income, education, profession, descent, power (influence), etc. are important factors.

Milieu

Milieu defines social conditions as norms, economical and political facts as well as rules an individual or group is exposed to and in which environment he has grown up and is living.

It is assumed that a human being is not only influenced by external circumstances in his lifestyle but also by his innermost values. Since more and more different interests and lifestyles exist in parallel to each other in a society and since every individual insists on more and more rights, the formally strict borderlines of the distinction become blurred. Only status and income still represent a reliable sign of classification. (Eichelberg, 2006)

Strategic marketing works with the so-called “Sinus-Milieu”. Societies are segmented , whereby value orientation and lifestyle in 16 nations are used as a basis. The aim of this classification is the optimisation of the target group to place products on the market. (Sinus Sociovision 2007)

Within the Sinus-Milieus those persons are clustered whose attitude of life and lifestyle are similar. These are selected within certain “Milieu-Components”:

Social position:
This component includes educational achievement, profession and income.
Work and output:
This component includes work motive, job satisfaction and attitude towards job and social advancement.
Lifestyle:
This component includes a style of consumption, taste and attitude towards fashion and trends.
Family and Partners:
This component includes attitude towards family life, role model and vision of private happiness.
Leisure time:
This component includes recreation activities, recreation motives and work life balance.
Postgraduate education:
This component includes interest in advanced education, barriers to advanced education and advanced education marketing.
(Eichelberg, 2006)

2.3 Terms of Self-Assessments

2.3.1 Questionnaires for Self-Assessment

For the sake of reproducibility and comparability, standardised questionnaires represent an essential part for the goal of this study.
The so-called “self-report” idea for self-evaluation goes back to Woodworth, who developed an easy procedure to evaluate soldiers for the First World War in 1917. He developed the so-called “personal data sheet” and therewith the first self-evaluation sheet. (cp. Franke 1995) In connection with self-evaluation sheets the subjective state of health and experience of the test person is crucial.

An important factor in the process of self-evaluation is the ability of the interviewee to reflect on himself. The tendency of interviewees to respond according to social expectations or desirability (“soziale Erwünschtheit”) presents a problem. However, because of the standardised form of the self-evaluation system an objective reliable and valid evaluation of features is possible. (Schlagauf, 2003, 15)

In contemporary medicine, which defines itself as natural science, in accordance to Uexküll, two isolated paradigma exist : *“an apparatus-like definition for the body and the paradigm of Freud for the psychological apparatus of the soul.”* (Schlagauf 2007 acc. to Brähler, 1995, 3)*. The iatro-technical medicine, characterized by a mechanistical way of thinking, is therefore created for a body without soul and psychoanalysis is medicine for souls without a body, at risk of neglecting the body. (Schlagauf,2003,12)*
The questionnaire selected for this study, SF-36 takes into consideration the physical as well as psychological wellbeing of the patient.
Finally, for the patient it does not make any difference whether his illness is of psychogenic or organic origin, because this cannot be ascertained in his body-experience. However, for the following career of the patient and the following therapy, this distinction is of great importance.
With regard to the long-term results of therapy it has to be pointed out that the subjective approach to the illness and the subjective relevancy of the illness are very influential. (Brähler, Scheer,1984)
Because of this, the subjective health and the health related quality of life have recently been recognized as parameters of evaluation. (Najman, Levine, 1981)

There are several processes for taking account of subjective complaints. Below is a selection of possible procedures.

Gießner Questionnaire of Complaints

This form poses an instrument detecting physical complaints at the psychosomatic clinic.
The short form of the sheet includes 24 items. They are grouped in six items, which leads to four scales: Aching of the joints, heartache, exhaustion and complaints of

the stomach. The grading of pain is divided into five sub-groups: No pain, scarcely, passably, considerable, strong.
There are norm values available according to age and gender to compare the person being tested with the average population. However, recent studies are not available to test the measure of quality within a group of patients. (Schlagauf, 2003) Therefore, this questionnaire of complaints is not suitable for the current study.

List of disorders by Von Zerrsen

This list can be used as a single person and a group test. It is used for the registration of variations in the health condition in the context of psychological examinations, as well as therapy and check-ups. (Georg-Elias-Müller-Institute of Psychology)
Von Zerrsen issued a test manual consisting of 24 items to establish subjectively noticeable complaints. Based on concrete complaints the global detriment of the subjective perceptibility is objectified. Out of the 24 items, summarised scores are calculated out of which gender-related “insignificant”, “questionably abnormal” and “absolutely abnormal” scores can be derived. (Rühlich, 2007)
This will take tree minutes.
Norms data, staine-, percentile- and t-values are available on the basis of a sample size of n=1761.
Values of reference are available for psychiatrically ill, for physically sick persons and specifically psychiatrically ill persons. (Georg-Müller-Institute for Psychology)
This list of disorders was used, e.g. in the project “healthy University” of the University of Karlsruhe. (Kriegl, Gröben, 2003)
The result “insignificant”, “questionably abnormal” and “absolutely abnormal” appears coarse and therefore is not reflected in this study.

Freiburg list of disorders

This list was not published, however it has often been used since 1975. (Willmann 1993)
This questionnaire includes 80 items in order to list physical disorders derived from different areas of functions. It can be analysed in two different ways.

Originally it was divided into ten scales (general health condition, emotional reaction, heart/circulation, stomach/intestines, head/throat/ irritation-syndrome, tension, pain and sensors).
The average processing time will be 15 minutes.
Norm values (n=2041) exist in four age-groups, according to gender. (Georg-Elias-Institute for Psychology)
This list of disorders was used in the project “Effects of flexible work-models on staff assignment and the burden on employees – FAZEM” at the Institute of Science of Work and Organisation of Management at the University of Karlsruhe. (Stock et al. 2004)
The duration will be 15 minutes which is relatively long, however it must be pointed out that this indication represents an average value. Because of this, it was not included in the study presented herewith.

Symptom-Check-List

This questionnaire evaluates the subjectively perceived impairment through physical and mental symptoms in the course of the last seven days.
The questionnaire consists of 90 items and comprises nine scales and three characteristic values. The evaluation scale for the test persons includes five steps, namely from “not at all” to “very much”. (Hessel et al. 2001)
In 2001 a standardisation was made (n = 2179) and the authors (Hessel et al., 2001) found insufficient factorial validity.
Although the German version of differential measuring in the psycho-therapeutical and psychosomatic area is used, (comp. Schmitz et al. 2000) it is not applied in this study.

SF-36

This questionnaire is a comprehensive measuring instrument for diseases, which also covers the patients’ health related quality of life. Eight dimensions are split into two areas, namely “Physical Health” and “Mental Health”.
The eight dimensions are “Physical Function”, “Role Physical”, “Bodily Pain”, “General Health”, Vitality”, “Social Function”, “Role Emotional” and Mental Health”. (Hofgrefe Testsysem)

SF-36 was often applied in German speaking regions, e.g. in the (German) Federal Health Survey 2003. (Robert-Koch-Institute, 2004)
Gugg 2004 used this form for “testing of health related quality of life after vascular surgery”. It was also used by Kirschner for “Differences between SMFA-D and SF-36 after knee and hip joint endoprosthesis.” (Kirschner 2003)
SF-36 is disease-comprehensive and can therefore be applied for a great variety of questions and group of diagnosis, independent of state of health. There are reference values of a general population norm to be compared with the investigated group. Due to the plurality of available population norms, the data can be analysed very selectively. It is for instance possible to compare results of examined 51- 60 year-old women with general norm data of 51 – 60 year-old women.
Thus, a global view of the group under examination using both areas “physical health” and “mental health”, as well as a detailed view, applying the eight above mentioned subscales, is possible.
The norm sample size is, depending on the certain scales, between n=1236 and n= 2911.
With a duration of approximately 10 minutes, the overall time used by each patient is still tolerable.
Therefore, SF-36 was chosen as core tool for this study. In chapter 3.2 further references will be made to this questionnaire.

3 Methodology

3.1 Stratum -Index by Winkler

The stratum-index by Winkler was developed in 1989 for the Federal Health Survey. This method takes into consideration that social advantages and disadvantages can accumulate, it makes multi-dimensional consideration possible. (Winkler, Stolzenberg 1999)
Winkler and Stolzenberg adjusted the Index in 2005 in order to correlate the distribution with the year 1998, because in the meantime the participation in education, distribution of income and work structure had changed. (Lampert, 2005)
Although the stratum-index by Winkler does not fulfil the variety of lifestyles and social milieus, it is still possible to categorise interviewed persons into strata, based on a few parameters.
With the stratum index by Winkler it is possible to keep the quantity of questions for the test persons within an acceptable frame. Winkler bases his parameters on “education” and “income”, which are also taken into consideration for alternatively used population classifications (see ”Milieu component”, page 5) and according to Eichelberg (2006) is still a reliable classification feature.
The simplicity and acceptance of the stratum index by Winkler (1999) led to the application in this study.
This classification is used, e.g. by Stolzenberg et al (2002) to examine the degradation of wellbeing and health of teens and children through poverty and social detriment.

Winkler examines the classification features “education” (school-education and trained profession), “profession” and “household net income” and distinguishes these parameters into “lower”, “middle” and “upper” social strata.
For each category there is a point value from one to seven. Therefore values between 3 and 21 can be reached.
This index is scored as not weighed cumulative values.

After adding the value points three groups can be established:

Lower social strata: 3 -8 points

Middle social strata: 9 -14 points

Upper social strata: 15-21 points

Schulbildung		Berufliche Qualifikation	Haushaltsnetto-einkommen	Berufliche Stellung	Punktwert[1]
Schüler Ohne Abschluss, Haupt-/ Volksschule, Realschule/ mittlere Reife, POS/10. Klasse, Fachhochschul-reife/ Fachoberschule, anderer Schulabschluss	und	Keinen Berufsabschluss, anderer Berufsabschluss, in Lehre, in Berufsaus-bildung	unter 1.250 Euro	Schüler, in Lehre, in Berufsausbildung, Studen-ten, ungelernte Arbeiter	1
Ohne Abschluss, Haupt-/ Volksschule, anderer Schulabschluss	und	Lehre, Berufsfachschule, Handelsschule, Fachschule	1.250 – 1.749 Euro	Angelernte Arbeiter, gelernte oder Facharbeiter, sonstige Arbeiter, Landwirte, Genossenschafts-bauern	2
Realschule/mittlere Reife	und	Lehre, Berufsfachschule, Handelsschule, Fachschule, Studenten	1.750 – 2.249 Euro	Vorarbeiter/ Kolonnenführer/ Meister/ Poliere/ Brigadiere, Angestellte mit einfacher Tätigkeit, Beamte im einfachen Dienst, mithelfende Famili-enangehörige	3
POS/ 10. Klasse, Fachhochschulreife/ Fachoberschule	und	Lehre, Berufsfachschule, Handelsschule, Fachschule, Studenten	2.250 – 2.999 Euro	Angestellte Industrie-/ Werkmeister, Angestellte mit qualifizierter Tätigkeit, sonstige Angestellte, Beamte im mittleren Dienst	4
Abitur/ EOS	und	Keinen Berufsabschluss, Lehre, Berufsfachschule, Handelsschule, Fachschule, in Lehre, Studenten	3.000 – 3.999 Euro	Selbstständige mit bis zu 9 Mitarbeitern	5
Abitur/ EOS	und	Fachhochschule/ Ingenieur-schule	4.000 – 4.999 Euro	Angestellte mit hochqualifizierter Tätigkeit, Beamte im gehobenen Dienst, Freiberuflich/ selbstständige Akademiker/ Künstler/ Publizist, Selbstständige ohne weitere Angaben	6
Abitur/ EOS	und	Universität/ Hochschule	über 5.000 Euro	Angestellte mit umfassender Führungstätigkeit, Beamte im höheren Dienst, Selbstständige mit 10 und mehr Mitarbeitern	7

POS=Polytechnische Oberschule, EOS=Erweiterte Oberschule

1 Der Schichtscore für jede Person ergibt sich aus der Summe der Punktwerte in den Dimensionen Schulbildung/ berufliche Qualifikation, Haushaltsnettoein-kommen und berufliche Stellung. Er kann folglich zwischen 3 und 21 Punkten betragen.

Figure 1: Stratum index by Winkler, Lampert 2005

The Austrian school system is not fully identical to the German school system, but nevertheless, there are significant parallels. In the table above, the indications and evaluations are based on the Austrian school system.

The “Realschule” in Germany reflects the education up to the sixth class of the Austrian “Grammar School”. Its degree is defined as a high school diploma. After further education, studies can be continued at a university.

Equal to the “Realschule” is the “Polytechnische Oberschule”, which existed in the former German Democratic Republic.

The “Fachoberschule” comprises twelve levels, compared to the Austrian system of eighth classes of a grammar school, which is concluded with a “professional maturity (of a special profession)”. Therefore, access to a university is only possible in the formally chosen field of education.

“Erweiterte Oberschule” is also a term used in the former German Democratic Republic and finishes with “Matura”.

The German term “Abitur” is equivalent to the Austrian “Matura” (comparable to A-levels) and qualifies the person to study at a university.

In the category “School Education and Professional Qualification” the evaluation is as follows:
Point score 1 is assigned to the following categories: “primary school” or “vocational school” or “school providing vocational education without general qualification for university entrance” (e.g. business school) AND “no trained profession”.
Point score 2 is assigned to the following categories: “primary school” or “vocational school” AND “apprenticeship” or “vocational school, business school.”
Point score 3 is assigned to the following categories: “primary school” or “vocational school” or “school providing vocational education without general qualification for university” AND “apprenticeship” or “vocational school, business school”.
Point score 4 is assigned to the following categories: “school providing vocational education with general qualification for university” AND “apprenticeship” or “vocational school, business school”.
Point score 5 is assigned to the following categories: “school providing vocational education with general qualification for university” or “grammar school” or “university” AND “no trained profession” or “apprenticeship” or “vocational school, business school”.
Point score 6 is assigned to the following categories: “school providing vocational education with general qualification for university” or “advanced technical college (GB: Polytechnic), school of engineering”.
Point score 7 is assigned to the following categories: “school providing vocational education with general qualification for university” or “grammar school” or “university” AND “academy, university”.

For the profession actually practised the evaluation is as follows:
Point score 1 is assigned to “pupil, apprentice and untrained worker”.
Point score 2 is assigned to “semi-skilled worker, skilled worker and farmer”
Point score 3 is assigned to “assistant foreman, foreman, building foreman, brigadier, civil servant (lower grade).”
Point score 4 is assigned to “employee”.
Point score 5 is assigned to “self-employed with up to nine co-workers”.

Point score 6 is assigned to “civil servant (superior level), highly qualified employee, liberal profession, self-employed university graduate”
Point score 7 is assigned to “civil servant (higher grade), employee in leading position, self-employed with minimum ten co-workers”
Point score 3 is assigned to “Assisting family member”

The remaining category was reflected in figure 1 shown above.
Please find attached a copy of this form in the annex.

3.2 SF-36

Recently, when planning and evaluating international health-political measures, the term “health related life quality” has gained significance and attention.
Bullinger mentions three developments, which enhance the trend to a description of a patient related health condition:
Firstly, a change of paradigm of the definition of health, based on the WHO-definition, which now also includes social and mental components of health. Secondly, the change of the demographics of population towards a higher percentage of older persons, which increases the frequency of chronic diseases, necessitating long-term treatment. Finally, the doubt about the significance of the classical targets “reduced symptoms” and “extended life time”, as they are applied in medical treatment became obvious. (Bullinger, 1996)

Research in the field of “quality of life” is not only used for the evaluation of therapies but also for their planning. Therefore, the research is equally important as descriptive criteria as well as criteria for indication. (Bullinger, 1998)
Furthermore, the use of life quality according to Bullinger establishes itself as criterion “[...] *for the description of a group of particular diseased persons, in order to plan the need for treatment based on the information about their present status of life-quality.”* (Bullinger, 1998 p.7)

The SF-36 questionnaire (American original: Short-Form-Health Survey) is a procedure for self-assessment to measure the health related life-quality from the view point of the interviewed person. This method represents a comprehensive measuring

instrument for diseases that can be applied for a broad variety of questions and diagnosis, independent of the individual's status of health.
Eight scales are formed out of 35 items, whereas the 36th item is used for progress monitoring and is not relevant for this study.
Thus, conclusions can be drawn on the following terms: Physical Function, Role Physical, Bodily Pain, General Health, Vitality, Social Function, Role Emotional and Mental Health.
SF-36 can be interpreted in various ways. In this study, subscale values and sum values of a population (patients who consult an osteopath practising in Vienna) are compared with values of the normal population.
For the SF-36 questionnaire population representative data is available.
This set of data refers to general population norm on the basis of data samples representative for Germany. There are no separate data available for Austria.

Bullinger assesses the estimated sample size for studies: "*Since the American norm sample is only slightly different from the German ones, the necessary sample size from the American SF-36 handbook has been adopted."* (Bullinger 1989, p 56)
A comparison between values of former "old" German federal states and values of "new "German federal states also turned out to be statistically insignificant. (Bullinger, 1989)

Therefore, it is sufficient to accept the German norm as basis for this study applied in Vienna.
This questionnaire makes it possible to judge the summary measures "physical health" and "mental health" and to evaluate many subscales comparing them with the norm values. With this system one can also draw clues whether the grade of detriment of the subjective wellbeing or the subscales is considered as "clinically relevant".
Therefore, SF-36 was selected as instrument for acquisition of data in order to evaluate the health related quality of life of patients consulting practicing osteopaths in Vienna.

3.3 The questionnaire

Basically the questionnaire consists of three parts:

- An explanatory note for the patient
- The stratum index by Winkler questionnaire
- The SF-36questionnaire

The covering explanatory note for the patients contains the guarantee that individual data are handled anonymously, a guidance note on how to complete the form as well as an explanation of the timing and the necessary effort for the patient.

Using the basis of calculation for the stratum index of a telephone health survey in 2003 (Lampert, 2005), the second part of the questionnaire was established.
This part concerns the stratum index by Winkler with the addition of age and gender.

The third part of the questionnaire namely the SF-36 represents the physical and mental self- assessment.

An empty envelope was attached to each questionnaire to give the patients the possibility to insert the completed questionnaire and seal it. This should give the patient additional confidence about the anonymous style.

3.3.1 Duration

For the SF-36 a processing time of 7 – 15 minutes is estimated. This means an average processing time of 10 minutes. Since the preceding socio-demographic data consist only of six questions and SF-36 contains 36 questions, the completion of the presented questionnaire was estimated with 10 minutes.

3.3.2 Information for patients

The cover-sheet of the questionnaire contains additional information for the patient, explaining the request of the study. The expected duration for the patient is mentioned. He is also made familiar with the content of the questions. Finally, explanations on how to handle the questionnaire are proided. Please find attached a copy of this information sheet in the annex.

3.3.3 Selection of sample

A sample is a random selection, which was chosen according to certain criteria or by chance out of the population.
The target is to make a representative statement according to the basic population. (SDI Research, 2007)
In order to make the selection of the sample as representative as possible the questionnaires were distributed equally throughout Vienna. Therefore, osteopaths in various districts of Vienna were contacted. For this purpose the list of alumni of the Vienna School of Osteopathy and also the list of members of the Austrian Society of Osteopathy was used as a basis. With the goal of finding an osteopath who could hand out questionnaires to his patients for completion in each district of Vienna, many telephone calls were made. An effort was made to ensure even distribution between the basic professions connected with osteopathy namely doctors and physiotherapists.
During the telephone calls the aim of the study, content of the questionnaire and time requirements for the patients were explained. Furthermore, the offer was made to personally deliver the forms to their offices and to collect them afterwards.
The colleagues could decide themselves how many questionnaires they would feel up to distribute within two weeks. This procedure has proven advantageous with other studies, compare Wagner-Scheidl (2006).

After sufficient replies had been received to reach a representative number of samples, the distribution of the questionnaires started in October 2007.

One letter was attached to the questionnaire for each osteopath, in which the objective of the study, the contents of the questions, and the mode of collecting the forms as well as the contact telephone number were provided. Please find attached a copy of this letter in the annex.
An envelope was attached to each questionnaire to give the patients the possibility to insert the completed questionnaire and seal it, to reinforce confidentiality.

3.3.4 Implementation of the study

In October 2007 a number of 500 questionnaires were distributed. To a great extent the forms were delivered personally. Two osteopaths requested that the forms are mailed to them, and so the process of distribution was adjusted accordingly. After a period of three to five weeks the completed sheets were collected.

Fifty questionnaires were lost in the mail, but could be traced. Therefore, in November 2007 they were hand-delivered. Another 76 forms were returned uncompleted and distributed to five other osteopaths. Thus, in total 576 questionnaires were distributed in 13 districts of Vienna. There are 23 districts in Vienna and osteopathic offices exist in 21 of them. Therefore, the collected data cover more than half of the Viennese districts where osteopathic offices exist providing a representative selection.

Eventually, by December 2007, 378 completed questionnaires were received. This represents a return rate of 65,6%.

In total 23 colleagues participated actively in the study; two of them are medical doctors.

Originally, another medical doctor anticipated to take part in the study, however, he returned all forms uncompleted after three weeks. The forty forms were already covered in the return rate.

One osteopath, without consulting her two colleagues, assured by telephone to handle a huge amount of forms but called the following day stating that the amount would be too high and a part of them should be recollected. Therefore, these 60 forms were immediately redistributed to other osteopaths. The amount of these recollected forms is not included in the percentage of reaction.

One osteopath removed the covering sheet with the explanation for the patient and explained personally the background. The enclosed envelopes were not used by him, as well as two other osteopaths.

4 Results

The 374 valid questionnaires which could be analysed were reflected in the calculation in the spreadsheet and processed further.
The evaluation of the stratum model by Winkler was based on the procedure mentioned in chapter 3.1; the available data were transferred based on the scale system.
Following this, mathematical formulas and analysis were applied to distinguish the three strata.
SF-36 was evaluated according to the instructions in the handbook. (Bullinger, 1998) Therefore, the data had to be recoded and recalibrated. Then, by adding the items raw data scales were calculated and afterwards changed into transformed scale values. To generate transformed scale values, values were applied on a scale from 0 to 100. Each subscale is therefore comparable with another subscale as well as with the existing norm. Since the values had been transformed into scale values from 0 – 100 it is also possible to see whether the existing difference between two examined groups (for instance the norm group and the group examined) can be assessed as “clinically relevant” or “moderately significant difference”.
The required number of samples per group to detect the difference of five points between the SF-36 subscale average value of a group and an established norm ranges according to item between 366 and104.
Differences of 5 points on a 100 point-scale are considered as “clinically and socially relevant”. 10 points difference is seen as “moderately significant difference”.
The relatively coarse subscales “role physical” and “role emotional” require a considerably higher number of cases than the other subscales.
Therefore, based on the number of cases of 374 useful forms, a rating in all subscales beyond a difference of 5 points is possible.

4.1 Age and Gender

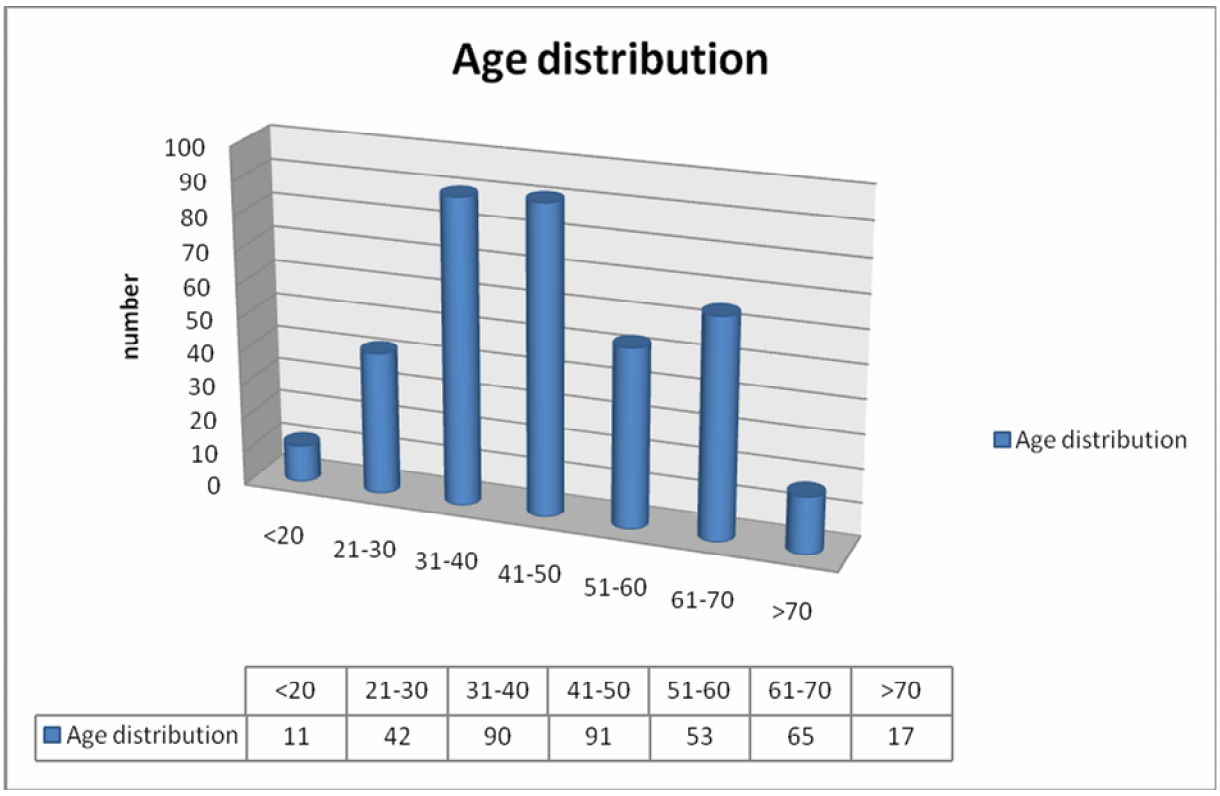
4.1.1 Age

There are two age groups, equally numerous, in Vienna who represent the largest percentage of those who consult a practising osteopath. This means, persons between 31 – 40 years of age with 90 patients and those between 41-50 years of age with 90 Patients.

Interestingly enough, the following age group, namely between 51-60 years of age is remarkably small and represents only 53 patients. In the age group between 61-70 years the number of patients raises to 66 patients. The age group beyond 70 years represents only 17 patients. The group of 21-30 years amounts to 42 patients.

The smallest group, all under 20 years, showed 11 patients. It should be stated that this study was explicitly created for adults and this fact was pointed out to the osteopaths participating in the exercise. Hence, no questionnaires were distributed to accompanying parents and furthermore possibly also some young patients were excluded by some osteopaths participating in the study.

The error rate concerning these questions is very low. Only five patients did not indicate their age.



	<20	21-30	31-40	41-50	51-60	61-70	>70
Age distribution	11	42	90	91	53	65	17

Figure 2: Age distribution, A. Sumesgutner 2007

4.1.2 Gender

The gender-specific distribution of patients showed a ratio of 73% women and 27% men. Therefore, the majority of those who consult a practicing osteopath in Vienna are women. Since only three patients did not make any indication to their gender, this question is considered as noncritical.

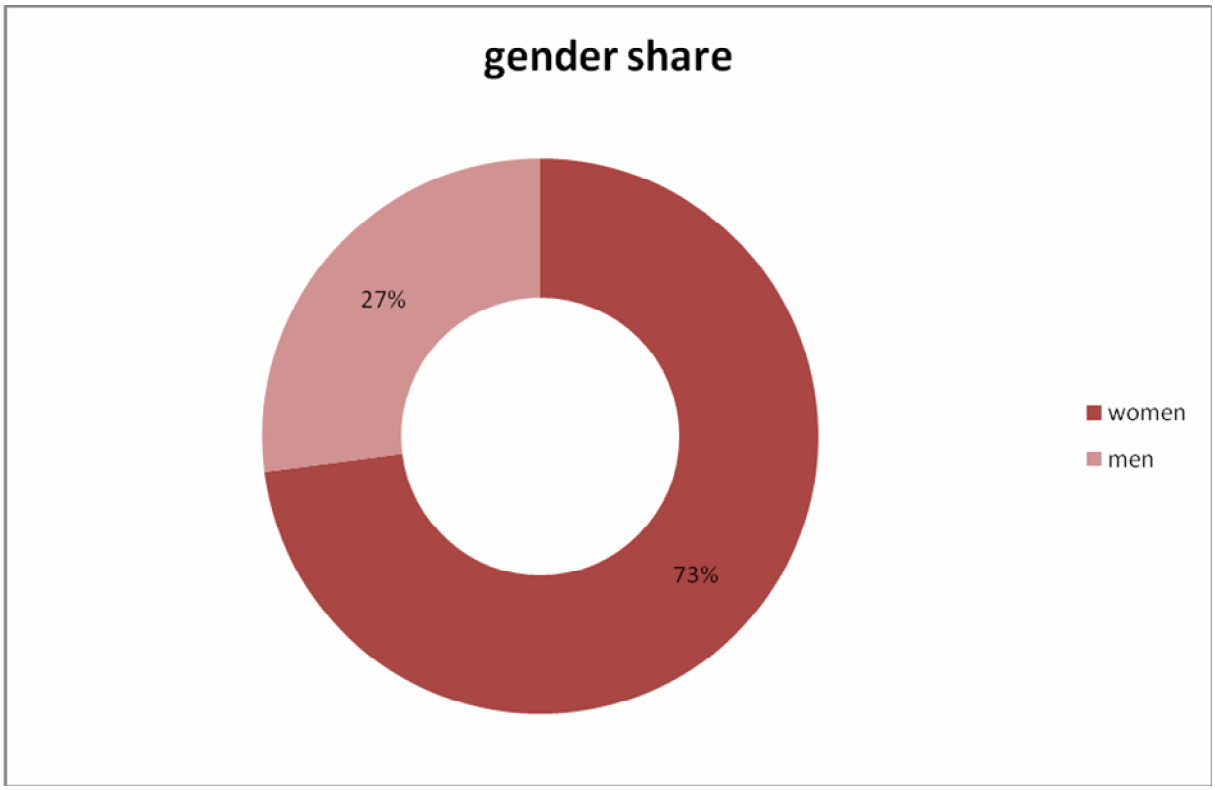


Figure 3: Gender distribution, A. Sumesgutner 2007

4.2 Strata index by Winkler

4.2.1 School education and trained profession

4.2.1.1 School education

As supplement to the classical stratum index by Winkler, in the area of school education the term “university” was introduced to reflect the idea of education at university level according to the Austrian pattern. The purpose of this measure was reflected in the interpretation of data since an improvement of the classification could be achieved.

In retrospect the term “Polytechnischer Lehrgang” was classified as missing.

During the evaluation some double nominations were discovered. Especially “grammar school” and “University” were marked several times, since the form did not indicate that only the highest education grade should be mentioned. Thus, for the evaluation, only the highest classification was used.
The evaluation in the field of education reflects a spectrum from graduation at the “university” to completion of “primary school”.

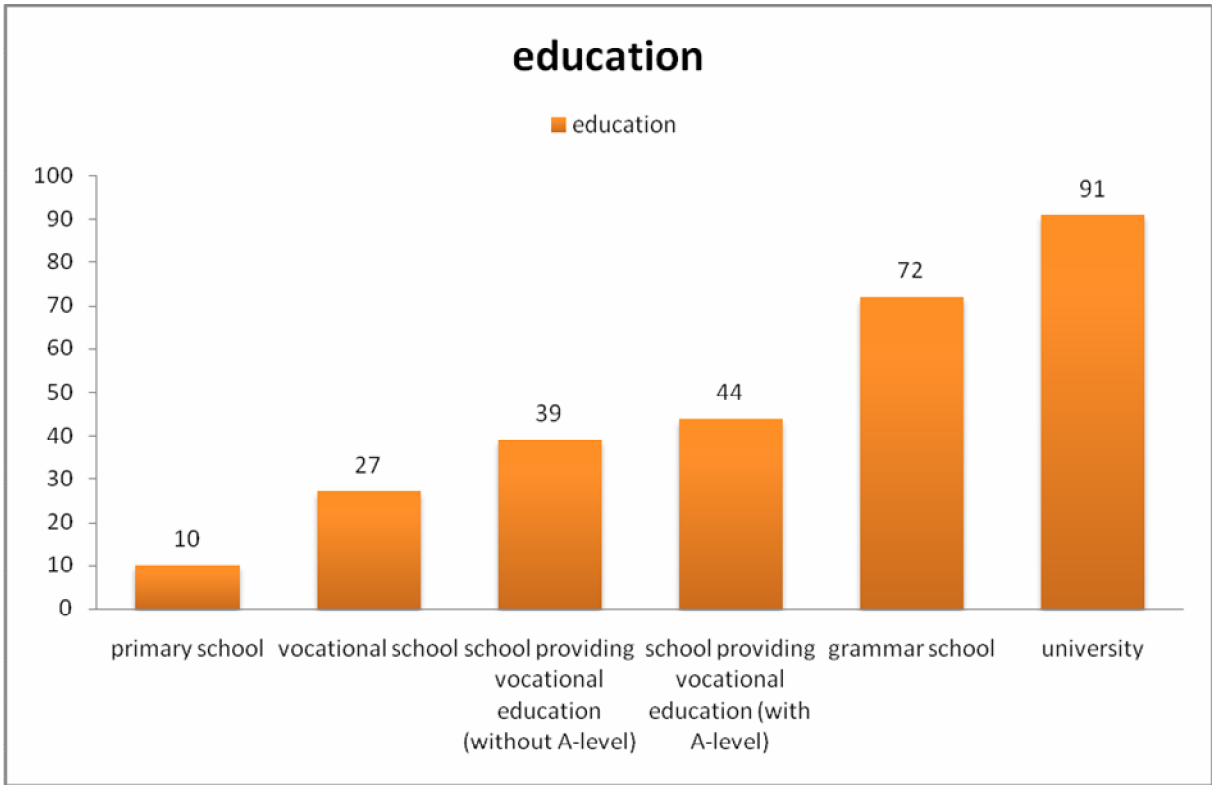


Figure 4: Distribution of School Education, A. Sumesgutner 2007

The high rate in the category “university” reflects on the one hand data including grammar school, on the other hand one could assume that some participants of the study have indicated “university” although they did not graduate since they dropped out earlier.
Assuming that the term “university” had not been reflected in the education scheme and the form would have indicated that only the highest education grade should be mentioned, only the category “grammar school” would have been more dominant. However, the decrease towards the category “primary school” would still remain. Since only one patient did not mark “education” this area is not considered to be a sensitive subject.

The high rate of answers is also an indication that patients could find the suitable data field in the questionnaire.

4.2.1.2 Trained Profession

In the category of “trained profession” a high degree of errors was discovered. 30 patients did not make any indication but some added their trained profession by hand. The latter were individually categorised afterwards while evaluating the data. Possibly it was difficult to insert the “trained profession” into the existing categories, which led to leaving the question unanswered.
The evaluation results reflected that the category “university” and the category “vocational school, business school” show almost the same degree of attendance. As third category “school of engineering” with 43 mentions, followed by “apprenticeship”. Very few patients indicated “no trained profession”.

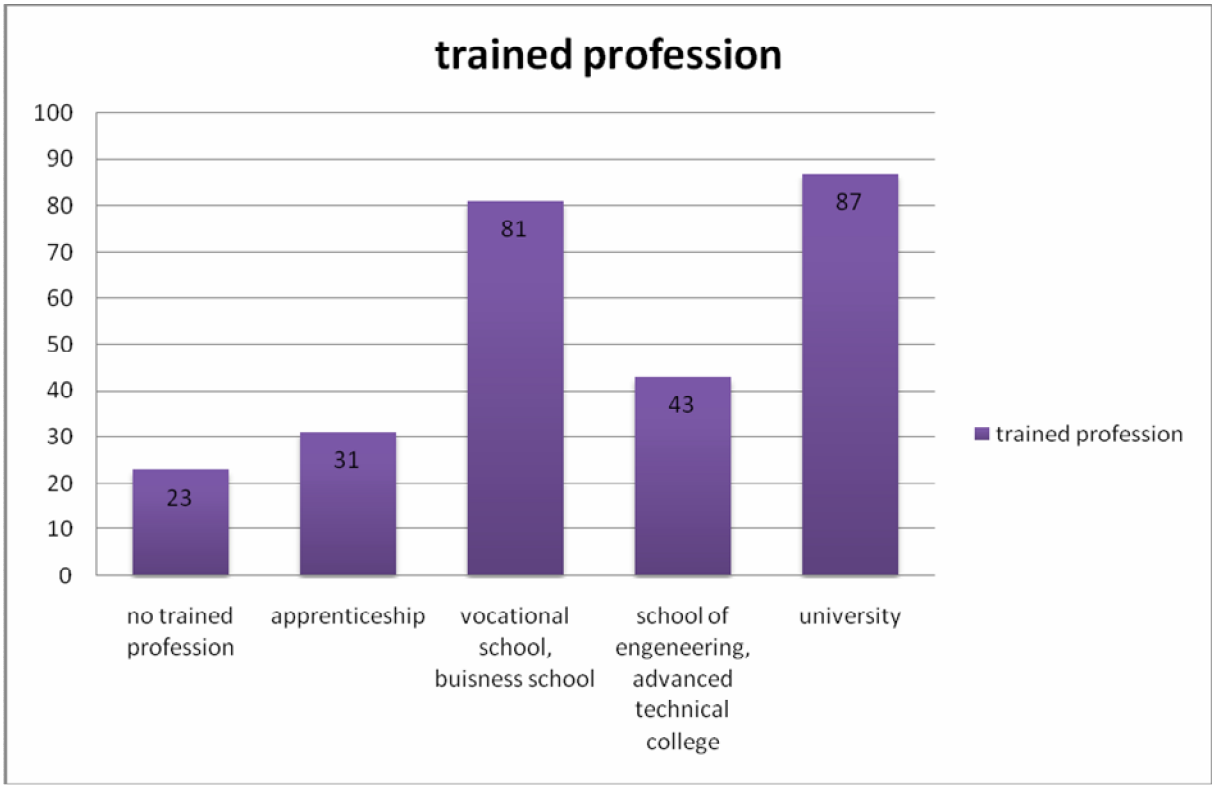


Figure 5: Distribution of "Trained Profession" A. Sumesgutner 2007

4.2.2 Current Profession

The largest group of patients with a share of 47.5% indicate being an “employee”. Some had doubts how to categorise themselves and corrected the marks and added explanations. Only two patients made no indication regarding their profession.

Especially the discrepancy of “multiple” occupation, could not be taken into account and was graded using the highest level according to Winkler.

“Civil servant (higher grade), highly qualified employee, liberal profession, self-employed university graduate,” amount to 18, 8% of the clients.
17, 1% stated “self-employed with up to nine co-workers”.

The remaining categories show a lower ratio: 7, 1% indicated “civil servant (higher grade), employee in leading position, self-employed with minimum ten co-workers”. 4, 6% quoted “pupil, apprentice and untrained worker”. 2, 5% indicated “assistant foreman, foreman, building foreman, brigadier, civil servant (lower grade).1, 5% are semi-skilled worker, skilled worker and farmer”.

Only one percent are family members or caretakers who are assisting their family or partner (comp. “multiple” occupation).

The term “employee” comprises a great number of various professional positions, no specific indication can be discerned therefore. E.g., a cleaner at the university clinic, is employed in the same way as a medical doctor.

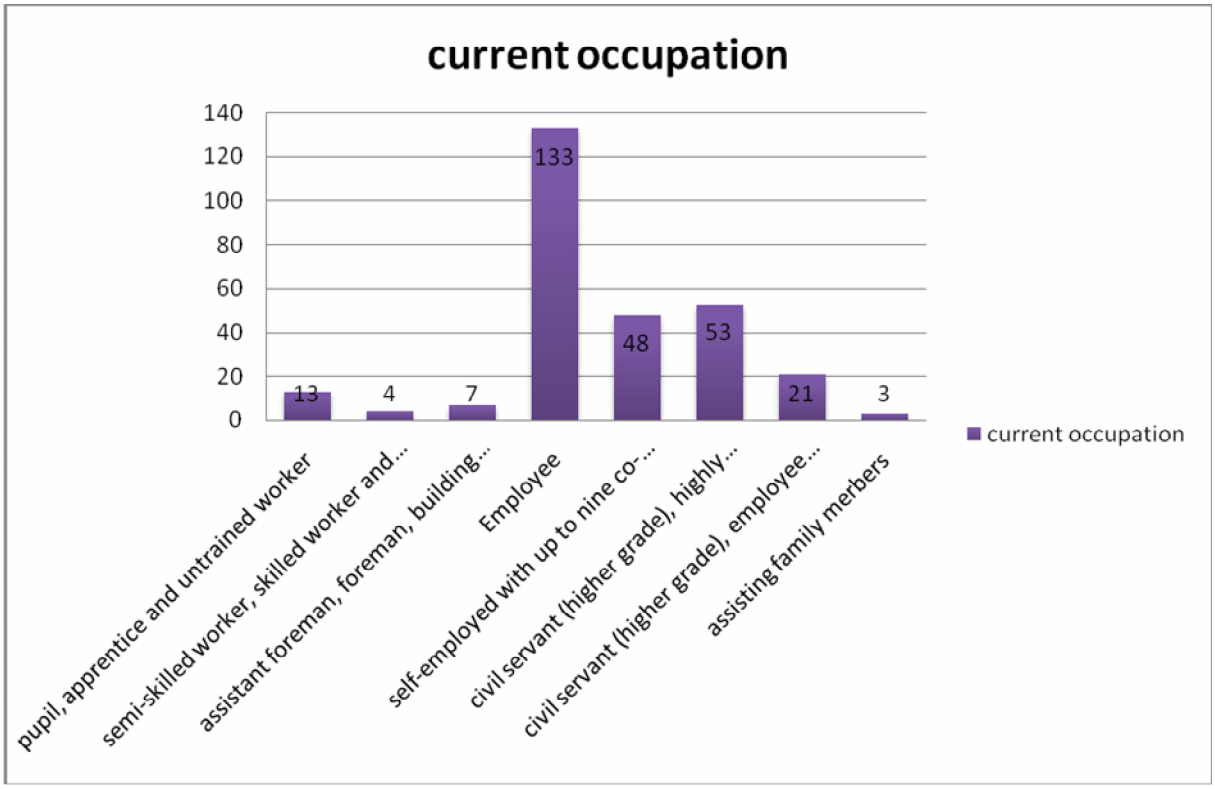


Figure 6: Distribution of "Profession actually carried out", A. Sumesgutner

4.2.3 Household net income

This question reflects the highest rate of errors in this study since 34 patients did not make any indications.

Since the multiple choice suggests selecting among monthly income some more explicit instructions might have been required to reduce the error rate.

Also, the differentiation between gross and net salaries seems to have been a reason for a higher number of mistakes, because often education and income would not match.

The household net income for patients, who consult practicing osteopaths in Vienna, range predominately between Euro 1.250- 1.749 per month. 64 persons indicated the amount mentioned above.

The household net income is inversely proportional to the number of the patients indicating their income.

The lowest household net income Euro 1.250 was indicated by 44 patients. It can be assumed that, considering the age, some of these patients are retired. Some could

be students if we consider age and profession carried out in relation to trained profession and school education.

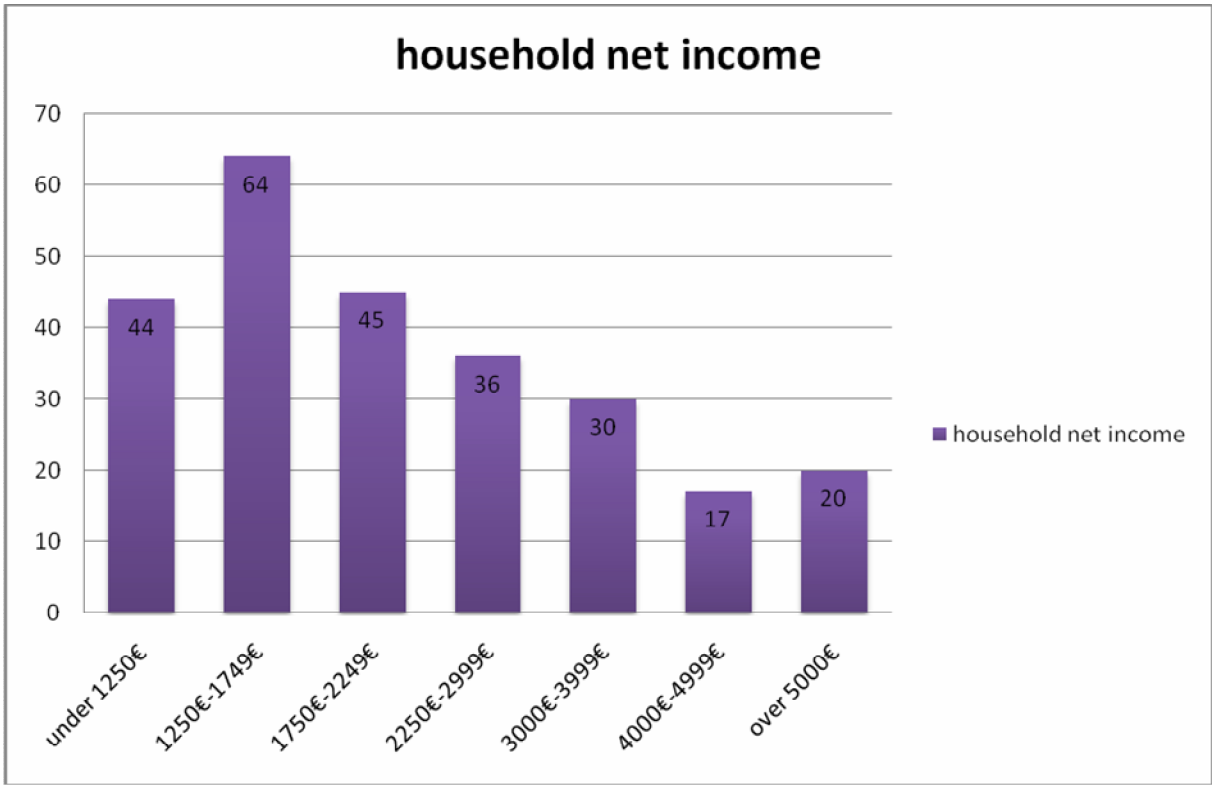


Figure 7: Distribution of Household Net Income, A. Sumesgutner 2007

4.2.4 Strata

The most strongly represented stratum, consulting a practising osteopath in Vienna was the middle-class. 186 patients were assigned to this class which sum up to 49%. The upper-class is represented with 123 patients, which accumulates to 31,9 %. The lower-class was related to 65 patients who turned out to be 17,4 % of patients who consult an osteopath practicing in Vienna.

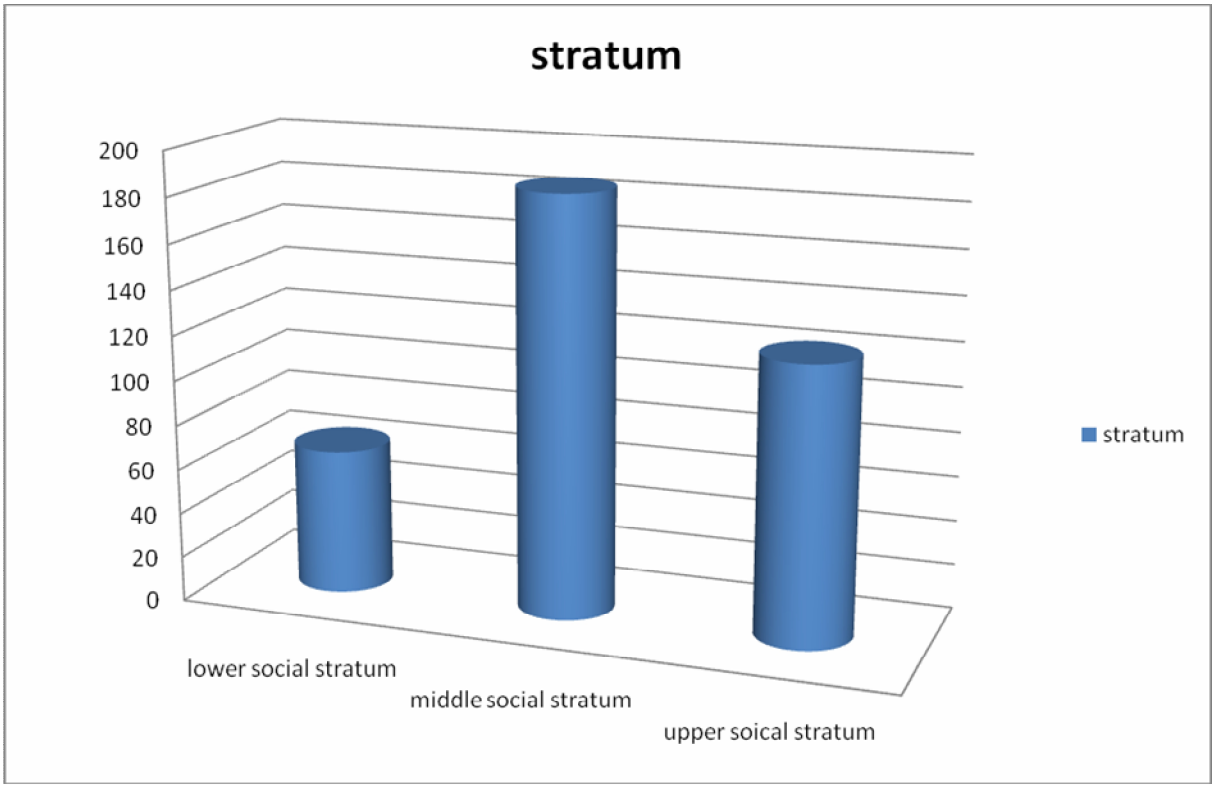


Figure 8: Distribution of stratum index by Winkler, A. Sumesgutner 2007

4.3 SF-36

Bullinger (1998) describes a significant difference in gender according to SF-36. Therefore, women and men will be analysed separately below. Afterwards an overall picture will be drawn.

4.3.1 Results of Sub Scales

4.3.1.1 Results of sub scales in women

Raw data were transformed into a scale from 0 – 100, as is explained in chapter four. As a result the collected data are comparable with the reference data.

This study is based on an amount of cases that allows setting a statement about a difference of 5 points in the scale. After establishing this threshold it is possible to speak about a “clinical relevant” deviation.

Mental health in women

A deviation of 5 points from the norm is shown in the mental health in women, which is categorised as clinically relevant detriment.

Vitality in women

The vitality in women differs from the reference norm by 9 points. This is a clinical relevant adverse effect of the subjective wellbeing in this subscale.

Social Function in Women

The difference in this subscale deviates from the norm by 14 points, which is also a clinically relevant difference.

Role Physical in women

For this subscale a high amount of cases, compared to the other subscales, is necessary in order to find a difference to the reference norm. Still it is possible to document a significant deviance to the norm, meaning a detriment of the subjective wellbeing of women.

In this subscale a difference of 14 points is measured.

Role Emotional in women

The subscale of role emotional differs significantly from the norm by 20 points. This is the highest measured detriment of wellbeing in this research.

Bodily Pain in women

The subscale “Bodily Pain” also differs clearly from the reference norm. A high range of deviance is detected with 18 points.

General Health in women

The value of the “general health” in women is one point above the reference data. The tendency toward a better subjective well-being in this subscale is, however, too small to be judged.

Physical Function in women

The physical function of the interviewed women is close to the reference value. Two points difference does not amount to clinically relevant variation.

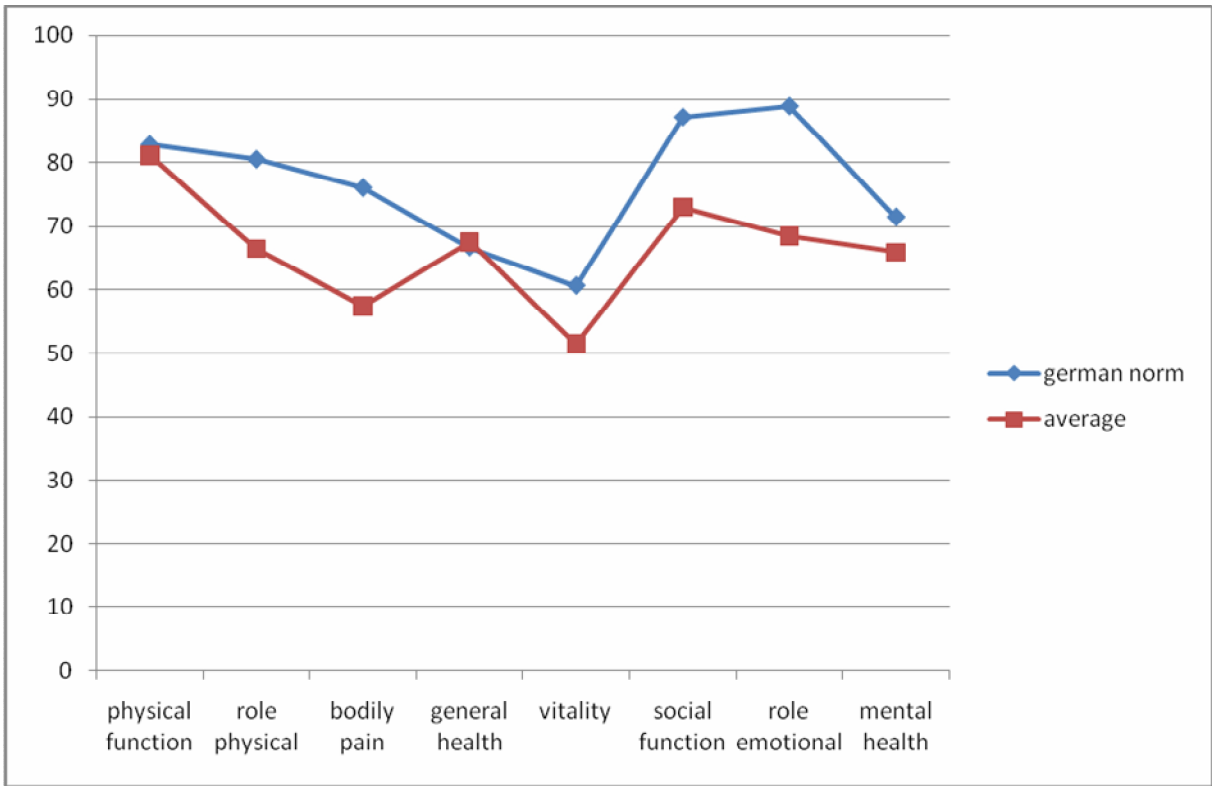


Figure 9: Sub scale result in women, A. Sumesgutner 2007

4.3.1.2 Results of sub scales in men

“Physical Function“ among men

The “physical function” of men, consulting osteopaths practising in Vienna, with reference to the subjective well-being is clinically relevant reduced. On the transformed scale from 0-100 the sub scale shows a difference of eight points.

“Vitality” among Men

Vitality among men deviates by nine points from the norm. This is also a clinically relevant difference.

“Role Physical” among men

Equally, nine points difference are shown with “role physical” of men examined compared to the norm population. This means also a clinically relevant limitation of the subjective wellbeing in this subscale.

“Social Function” among men

The “social function” shows the same points as the “role physical”. It is therefore also limited in a clinically relevant way.

“Bodily Pain” among men

The deviation from the norm among the examined men with bodily pain is 18 points. This is the most significant deviation found among males in this evaluation.

“Role Emotional” among men

The “role emotional” was also severely limited by 13 points.

“Mental Health” among men

The “mental health” differs only by four points from the norm and has therefore no statistical relevance.

“General Health” among men

In the subscale “general health” a difference of two points exists, also an insignificant deviation from the norm.

Summary of Sub Scales

In the subscale “general health” the values among men consulting an osteopath practicing in Vienna are almost identical compared to the general population as shown on the table below.

Also, the status of “mental health” is very close to the norm. In the subscale “bodily function”, “role physical”, “social function” and “vitality” a clinically relevant deviation to the norm can be determined.

The sub scale “bodily pain” and “role emotional” are most affected.

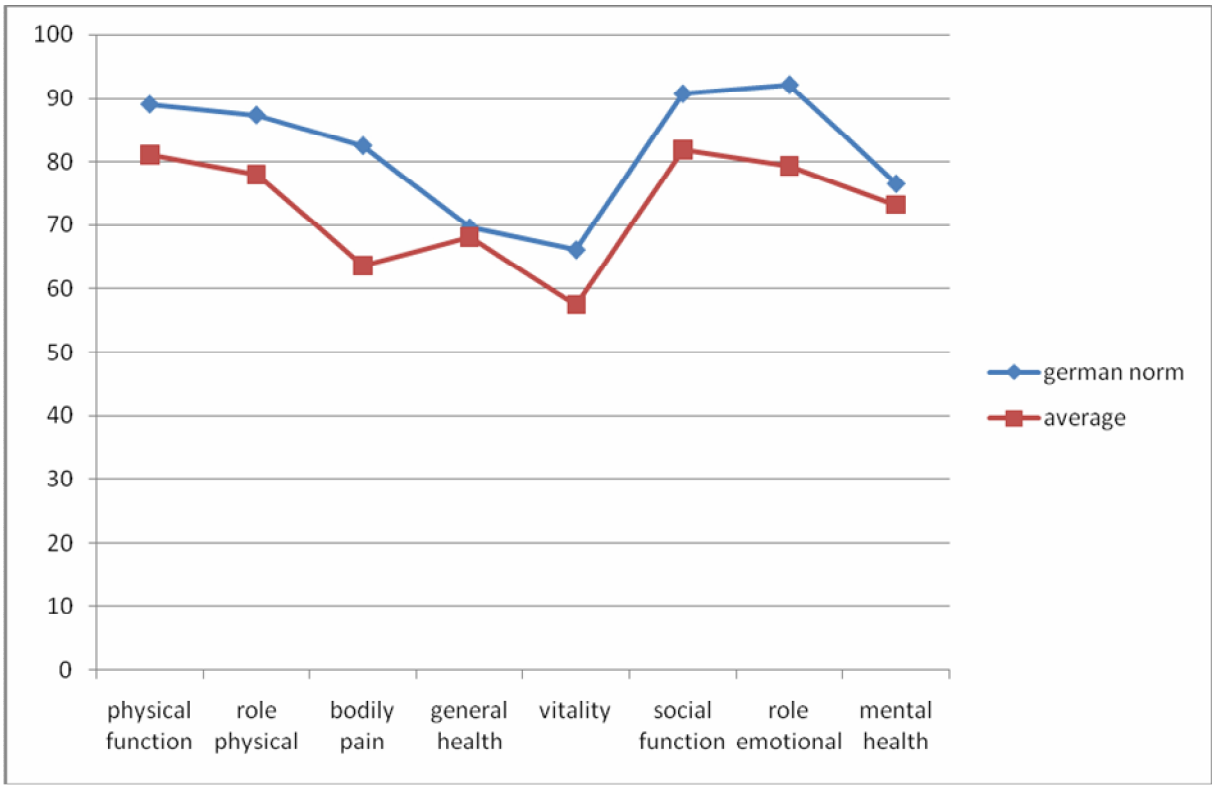


Figure 10: results of Sub Scale Values among men, Sumesgutner A. 2007

4.3.1.3 Comparison between women and men referring to subscales

Bullinger(1998) describes in the SF-36 significant gender effects in the sub scales “physical function”, “mental health”, “pain” and “social function”, in the sense of a stronger effect on subjective health with women.

In the present study a stronger affection of subjective health of women can also be determined. This concerns, mostly “role emotional” and “role physical” among women consulting an osteopath practicing in Vienna, which are more affected than those of men.

The “physical function” is interestingly enough very close to the values among men, which differs significantly from the phenomena described by Bullinger.

In summary it is obvious that men who consult an osteopath in Vienna have a better subjective health than women. Additionally, men are emotionally less influenced by the pain they feel.

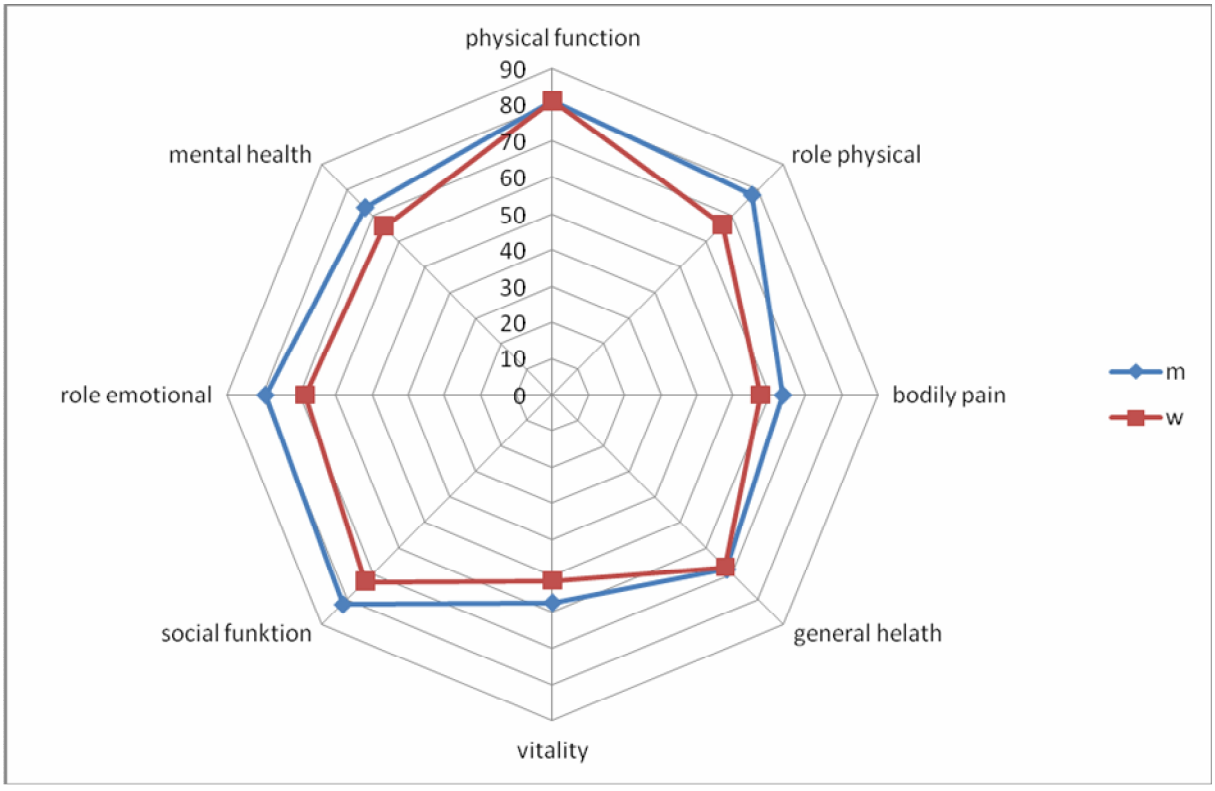


Figure 11: Comparison of the Sub Scale values gathered from women and men

4.3.1.4 Women and men in total as compared to the total norm in relation to the subscales

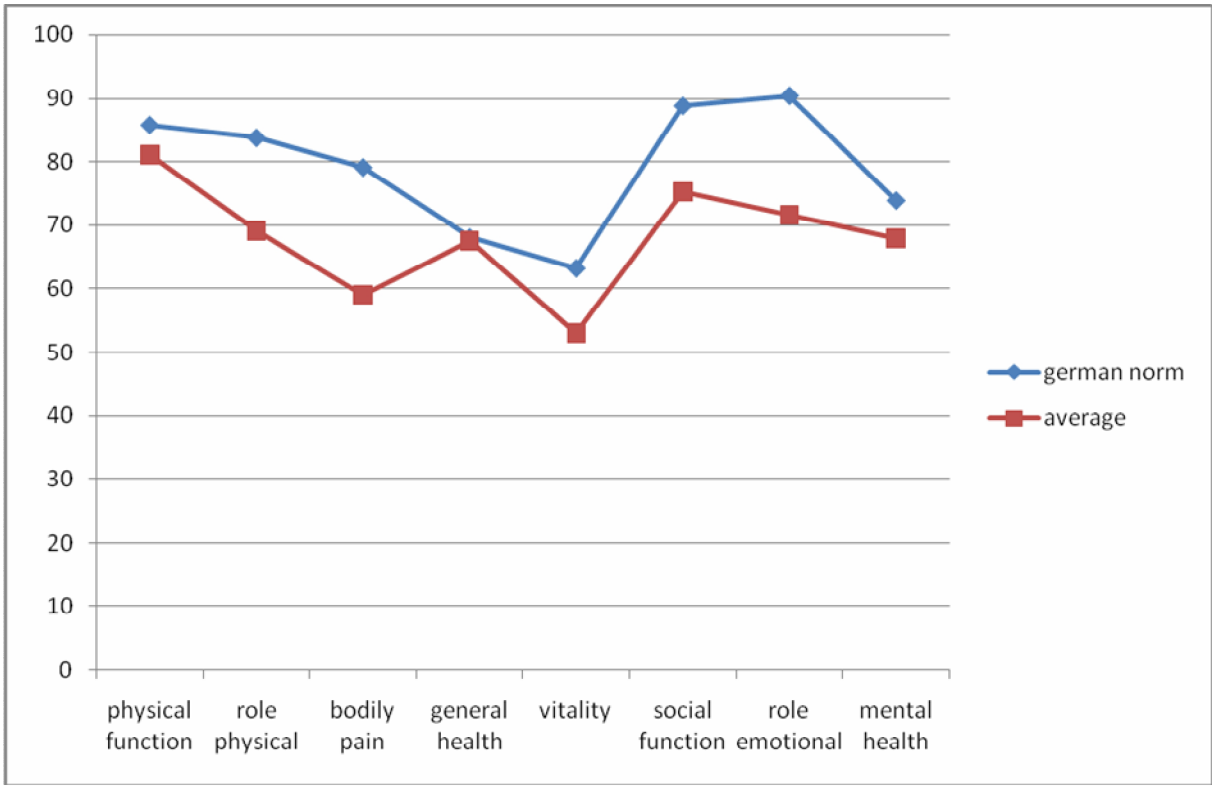


Figure 12: Result of the Sub Scales in total for women and men, Sumesgutner A. 2007

Clinically relevant deviations from the norm by women and men are reached in the subscales “physical function” (5 points) and “mental health” (6 points).
Very obvious are also the clinically relevant differences to the norm in the sub scales “Vitality” (10 points), “social function” (14 points) and “role physical”(15 points).
The strongest deviation to the norm, in the sense of affected subjective wellbeing is shown in the subscales “role emotional “(18 points) and “bodily pain” (20 points).
“General health” meets the norm value to the point.
Even if women and men are collectively compared with the general norm, the parameter of „role emotional” and “bodily pain” are those which differ most form the norm. Taken together “bodily pain” plays a more significant role than “role emotional”.

4.3.2 Results of the Total Scales

“Physical Health” Summary scale among women

The difference between summary scale and summary norm scale for women is 2,5 points.

“Mental Health” summary scale among women

The difference between summary scales and summary norm scale for women is 15,5 points, which is the biggest difference of a summary scale to the norm in this study.

“Physical Health” summary scale among men

The physical summary scale of patients examined shows a difference of 4,2 points of the norm summary scale. The “physical health” is more affected among men than among women.

“Mental Health” summary scale among men

The mental health of the patients examined shows a difference of 2,7 points from the norm scale. This is the lowest deviation from the norm in this study.

Total Summary Scale

Women and men collectively, differ in the physical summary scale by 3,5 points from the total norm, in the mental summary scale by 5,1 points.

Synopsis of Summary Scales

The most significant deviation from the norm can be evidenced in the “mental summary scale” of the female patients consulting an osteopath practising in Vienna. This is therefore more affected in the sense of detriment of subjective well-being than the “physical summary scale” among women.

Among men a stronger affection to the “physical summary scale” can be determined, compared with the “mental summary scale”.

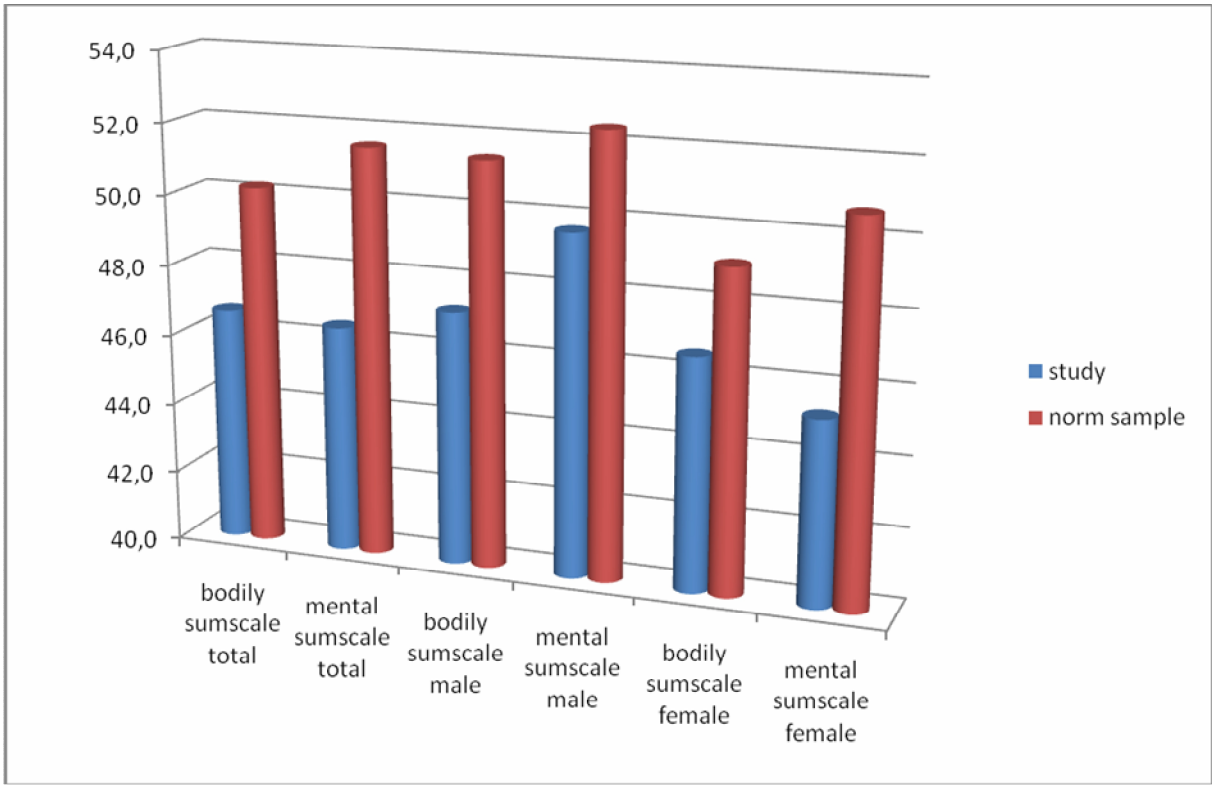


Figure 13: Summary Scales, Sumesgutner A. 2007

4.3.3 Subscales referring to Age Category

Each subscale is broken down according to age as shown in figure 14.
Some of the results reflect logical conclusions, such as the decrease of “physical function” with increasing age or the excellent “role physical” among those below 20 years of age.
However, it also interesting to emphasise the following:
The group of 21-30 year-old who consult an osteopath practising in Vienna indicate in each subscale a slightly up to a significant poorer subjective wellbeing than the adjoining younger and the adjoining older age group. This phenomenon is most notealbe in the subscale “role physical”. It can only be guessed in this context, why the age group between 21and 30 appears to be heavily overburdened. Possibly, this phase of life in our society is especially challenging. As a matter of fact, many people in this phase of life are in a quasi-set-up period, professionally as well as concerning capital goods and also relating to the family circle.

It is noteworthy that the vitality of those below 20 years up to those of 30 years of age is below the vitality of the patients beyond 70 years! Again, only assumptions can be made in this respect. Possibly, the reduced vitality can be explained with post-pubertal phenomena. Presumably the demands of today's society on the younger generation affect their vitality more strongly.

The mental wellbeing beyond those of 70 years of age is similar to those of the group of 20 years. This subscale shows a constant distribution among the age groups. However, the "role emotional "of those beyond 70 is considerably affected with regard to other age groups. The decrease of this subjective wellbeing concerning "role emotional" is to be equalised with "role physical".

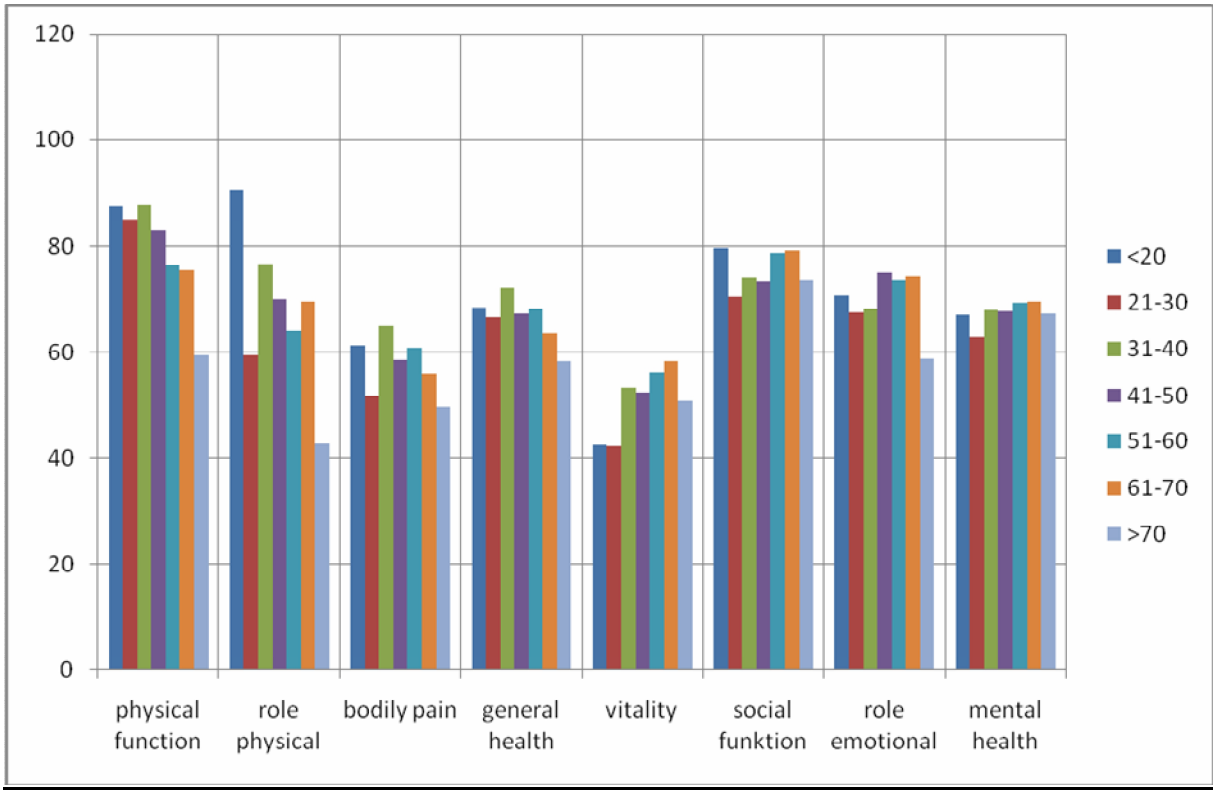


Figure 14: Distribution of values, broken down according to age, Sumesgutner A. 2007

5 Conclusion, Summary of results and discussions

In the following chapter the most important results will be summarized and subsequently interpreted

5.1 Age and Gender, Life level index according to Winkler

The most dominant fraction of people consulting an osteopath in private practice in Vienna is the middle class with 49, 7%. The biggest part of the patients is female, who represent 73% of the total. The predominant part of the patients is between 31 and 50 years old and has an average household net income between 1.250 and 1.749 Euro a month.
Because this questionnaire was designed as a multiple choice test, the direct interaction with the respondent was reduced to a core minimum or even impossible. Nevertheless it became obvious that the respondents had problems to classify themselves within this hierarchical value scale and in consequence to accept in a sense their own position in the community.
Indications could be found in the regular refinements of chosen answers, which resulted on the one hand in an up scaling and on the other hand in a mismatch of the declared position in the job and the related household net income or the level of education.
This appears to be in line with the studies of Schlagauf (2003, 15) who describes the problem of interviewees responding based on social expectations.
The error rate of the analysis of the life level index according to Winkler exceeds the error rate of the SF-36 evaluation by far.
This said, the reasoning that the high error rate is based on the extension of the questionnaire and on the unspecific categories and items is only an educated guess. Another possible explanation would be that layer specific questions are perceived in a more personal and intimate way and therefore more inconveniencing than questions about physical capabilities.

5.2 SF-36

Based on the SF-36 questionnaire the subjective physical and physical well being of the patients is examined.
The value for „general health“ in women is equal with the value of the norm population and from a statistical relevance point of view the value for “physical function” is, too.

The items “bodily pain” and “role emotional” show clinical significant differences by the means of obvious deficiencies or adverse effects.
Therefore, one can say that patients consulting an osteopath in private practice in Vienna show generally speaking an average and inconspicuous state of health. Nevertheless looking into the details of the study, a considerable and distinct pressure emerges.

The value for „general health” in men shows the same match with the norm population as the women’s value. Furthermore a similar and obvious deviation from the subscale “physical pain” can be determined.
According to this observation on can draw the conclusion that patients consulting an osteopath in private practice in Vienna show a normal state of health without any particular anomalies but with specific and considerable adverse effects.
These adverse effects find their expression in the low values for the item „role emotional” but the total effect is still lower than the effect in women.
Recapitulating, the study shows that men tend to have a better subjective health than women and that the correlation between actual pain and adverse emotional effects is much lower than in women. Hence men seem to be able to cope better with pain.
If the age of the patients is correlated with the subscales the highly negative effect on the subjective wellbeing of the group of 21-30 year-olds is surprising. This group seems to suffer high adverse effects in comparison to the other groups.
In the group of under 20 year-olds patients with a rather low vitality attract attention and the group of over 70 year-old patients suffer in the dimensions “role emotional”, “role physical” and “physical function” in the same way.
This phenomenon probably has its origin in the social structure of our society with the related expectations and value propositions.
The young people of our society are under heavy pressure to perform, which appears to be discharging directly into the private and professional built-up phase.
As society defines a specific ideal with regards to age and appearance, which is embraced and propagated by all media, other values like life experience or conventional wisdom are undervalued.
From an emotional point of view the over 70 year old patients receive comparatively low appreciation and acceptance.

In the summary scales it become apparent that the highest deviation from the norm can be found in the mental summary scale in women.
Hence the most dominant adverse effect in our osteopathic offices is the affected subjective wellbeing of mental health of women.

5.3 Relevance for Osteopathy

One of the essential findings of this study is that the patients representing the lower class rarely find access to osteopathic treatment. An evident reasoning is the financial situation of this social stratum and the financial necessities implied by the consultation of the osteopath.
The investigation in the change in behaviour of the lowerclass patients if the treatment expenses are partly compensated by the health insurance would be a useful complement.
In particular the comparison with medical practitioners or physiotherapists in private practice could prove insightful.

The result of the analysis of the patient's consulting an osteopath in private practice in Vienna and their subjective wellbeing demonstrated impressively the adverse effects on the subjective wellbeing and the subscale "role emotional" among women, which deviates furthest from the norm.

Thus, the osteopaths should pay more attention to those findings in the future.
Also, from an educational point of view these findings should be recognized and complied with. This can be reflected in the focus of the curriculum and the skill enhancement activities.

5.4 Hypothesis valuation

The initial hypothesis was that not only the upperclass but also parts of the middleclass patients consult an osteopath in private practice in Vienna.
The analysis showed that the middleclass constitutes the predominant clientele of the osteopaths.

Therefore, the initial hypothesis that the upperclass form the main field of patients consulting an osteopath in private practice in Vienna can be falsified.

The second hypothesis indicated that patients who consult an osteopath in private practice in Vienna do not differ generally but show specific deviations in particular subscales from the norm population.
This hypothesis can be verified based on the fact that patients who consult an osteopath in private practice in Vienna do not differ from the norm population in the subscale "general health".

Nevertheless a significant adverse effect on the subjective wellbeing could be detected in the field of "physical pain" and "role emotional".
That said, the initial hypothesis that patients consulting an osteopath in private practice in Vienna deviate only in specific parts from the norm population can be verified.

6 Method reflexion

Layer index by Winkler

During the analysis of the raw data the constraints of the index became obvious. Many patients had difficulties to categorize their own profession in the given categories. Some of them added handwritten categories to solve the mapping problem. This might also allow for an explanation why a noticeable share of patients did not answer the question about their profession.

Due to the broad range of possible interpretations of the item “employee” in the category actual profession a specific interpretation of the item seems impossible. An unskilled cleaner can be found in the same category as the head of a University Clinic as long as they are both employees of the Municipality of Vienna.

If both of them are not willing to specify their profession in a more precise fashion they both subscribe to the same category.

Based on the necessity to increase the relevance within this category the incorporation of the value “Polytechnic studies” becomes reasonable and necessary

The analysis of the life level index according to Winkler turned out to be rather difficult. The error rate amounted to 0,69% during the analysis of the life level index according to Winkler.

This result represents a multiple of the error rate of the SF-36, which is 0,02%.

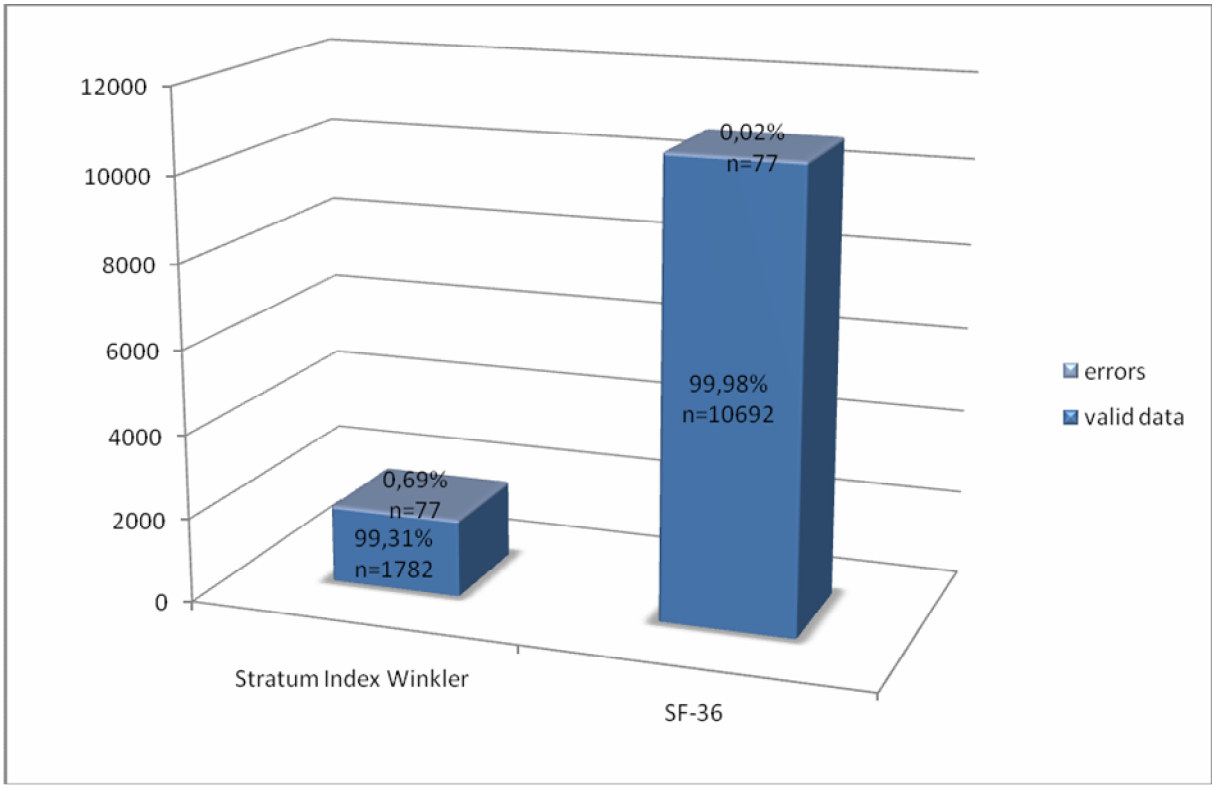


Figure 15: Error rate, Sumesgutner A., 2007

This reasoning for the result is primarily based on the format of the questionnaire, which reveals room for improvement.

Many respondents do not know how to categorize their job training in the life level index according to Winkler. Many of them added their trained profession in hand writing to the questionnaire.

The reasoning why 29 patients did not specify their career training cannot be identified but this question turned out to be the one with the second highest failure rate of the entire study.

That said, the autonomous classification in a hierarchical value system represents a problem for the respondents based on the observation that they are trying to classify themselves according to the social desirableness.

For further applications of the questionnaire the items “highest level of education” and “professional study or career training“ has to be improved and elaborated in more detail.

Another possibility will be the introduction of an empty text field which can be completed individually.

But this option would introduces difficulties with regard to the interpretation of the different professions.
E.g. the profession „martial art“ and „dancing master“ would still pose some problems.
Another quick win refers to the question of the net income of the household, where a monthly index would be more precise. Although the ranges of net income already indicate the monthly character of the figures, the question would be more specific.

The SF-36 is probably problematic with regards to the social function as this subscale is only represented by two items. (cp. Bullinger 1998) Nevertheless on a general scale, the questionnaire proves to be fairly sophisticated and accessible in the transformation and recalibration of the raw data.
The process of adding an envelope to each questionnaire can be concluded to be crucial for the success of the study.
Wagner-Scheidl (2007, page 17) said that out of 204 respondents only 58% made statements regarding their age but 81% specified their gender. Based on this observation the higher rate of specific declarations can probably be referred to the additional envelope in which the questionnaire could be submitted.
Another attempt of explanation is the favourable order of the questions.
Three of the therapists did not add the envelope to the questionnaire and furthermore one of them removed the accompanying letter. This resulted in a 100% increase in the error rate compared to the rest of the questionnaires.
This fact supports the thesis that providing envelopes affects the quality of the results in a positive way and helps to increase the overall rate of return.

The involved individual interaction and contact with the osteopaths, which was proposed by the study of Wagner-Scheidl (2007), turned out to be a reasonable and efficient model.

7 Table of figures

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9 Annex

Dear Sir or Madam!

As part of my Master of Science in osteopathy studies, I am in the process of writing a paper in order to learn something about the people who consult an osteopath.
Your specifications are a vital contribution to gain a deeper understanding of your needs and your input will allow care more tailored to your needs in the future.
Thus I kindly ask you to complete the attached questionnaire.

This interview is carried out *anonymous*. Therefore, it is not possible to trace findings back to individuals. In addition, you may place the questionnaire in the envelope provided upon completion and seal it. Thereby your *privacy* is directly protected.

Completion of the questionnaire
In the first part of the form, some general data will be requested to gain a general sense.
The second part of the form assesses of your state of health, how you feel and how you deal with your health in day-to-day life.

- Please mark the respective field of the appropriate number (o)
- Some questions require an answer in writing. (.....)
- The questionnaire will take approximately 10 minutes of your valuable time.

Thank you for your support!

Agnes Sumesgutner
Osteopath

Please answer the question by marking the according field

I gender: O female O male

II age: ..... years

III education: O primary school
O vocational school
O school providing vocational education (without A- level)
O school providing vocational education (with A-level)
O grammar school
O university

Trained profession: O no trained profession
O apprenticeship
O vocational school, business school
O school of engineering, advanced technical college
O academy, university

V profession actually practiced (or occupation before pension)

O pupil, apprentice and untrained worker
O semi-skilled worker, skilled worker and farmer
O assistant foreman, foreman, building foreman, brigadier, civil servant (lower grade)
O Employee
O self-employed with up to nine co-workers
O civil servant (higher grade), highly qualified employee, liberal profession, self-employed University graduate
O civil servant (higher grade), employee in leading position, self-employed with minimum ten co-workers
O family members who are assisting in their environment

VI What is the amount of your household net income? (income after tax)in Euro?

O under 1.250 O 1.250 to 1.749 O 1.750 to 2.249 O 2.250 to 2.999
O 3.000 to 3.999 O 4.000 to 4.999 O over 5.000

		excellent	very good	good	fair	Poor
1.	In general, would you say your health is:	1	2	3	4	5

		much better than one year ago	somewhat better now than one year ago	about the same	somewhat worse now than one year ago	much worse than one year ago
2.	**Compared to one year ago,** how would you rate your health in general **now?**	1	2	3	4	5

	The following items are about activities you might do during a typical day.			
3.	*Does your health now* limit you in these activities? If so, how much?	Yes, limited a lot	Yes, limited a little	No, not limited at all
3a.	**Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports.	1	2	3
3b.	Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
3c.	Lifting or carrying groceries	1	2	3
3d	climbing **several** flights of stairs	1	2	3
3e.	Climbing **one** flight of stairs	1	2	3
3f.	Bending, kneeling	1	2	3
3g.	Walking more than **one** Kilometre	1	2	3
3h.	Walking **several** blocks	1	2	3
3i.	Walking **one** block	1	2	3
3j.	Bathing or dressing yourself	1	2	3

	During the past **4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of your physical health**?	Yes	No
4a.	Cut down the amount of tome you spent on work or other activities	1	2
4b.	**Accomplished less** than you would like	1	2
4c.	Were limited in the **kind** of work or other activities	1	2
4d.	Had **difficulty** performing the work or other activities (for example, it took extra effort)	1	2

	During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?	Yes	No
5a.	Cut down the **amount of time** you spent on work or other activities	1	2
5b.	**Accomplished less** than you would like	1	2
5c.	Didn`t do work or other activities as **carefully** as usual	1	2

		Not at all	slightly	moder-ately	quite a bit	Extreme-ely
6.	During the **past 4 weeks**, to what extent has your physical health or emotional problems interfered with your normal social activities with your family, friends, neighbours or groups?	1	2	3	4	5

		none	Very mild	mild	moderate	severe	Very severe
7.	How much **bodily** pain have you had during the past **4 weeks**?	1	2	3	4	5	6

		Not at all	A little bit	Moder-ately	Quite a bit	Extreme-ly
8.	During the **past 4 weeks,** how much did **pain** interfere with your normal work (including both work outside and housework)?	1	2	3	4	5

	These questions are about how you feel and how things have been with you **during the past 4 weeks**. For each question, please give the one answer that comes closest to the way you have been feeling**.** How much of the time during the **past 4 weeks...**	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
9a.	Did you feel full of pep?	1	2	3	4	5	6
9b.	Have you been a very nervous person?	1	2	3	4	5	6
9c.	Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
9d.	Have you felt calm and peaceful?	1	2	3	4	5	6
9e.	Did you have a lot of energy?	1	2	3	4	5	6
9f.	Have you felt downhearted and blue?	1	2	3	4	5	6
9g.	Did you feel worn out?	1	2	3	4	5	6
9h.	Have you been a happy person?	1	2	3	4	5	6
9i.	Did you feel tiered?	1	2	3	4	5	6

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
10	During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities?	1	2	3	4	5

	How TRUE or FALSE is each of the following statements for you	Definit-ely true	Mostly true	Don`t know	Mostly false	Definit-ely false
11a.	I seem to get sick a little easier than other people	1	2	3	4	5
11b.	I am as healthy as anybody i know	1	2	3	4	5
11c.	I expect my health to get worse	1	2	3	4	5
11d.	My health is excellent.	1	2	3	4	5

Thank You!