



**BACKGROUND**

The EQ-5D instrument has been extensively used in the clinical research and the health economic literature as a valid and reliable Health Related Quality of Life measurement.

The EuroQol group has started experimental exercises for population studies using the EQ-5D-5L, which is an alternative instrument based on an extension of EQ-5D, by incorporating 5 levels of severity in each dimension i.e. (No problems, Slight, Moderate, Severe, and Extreme or inability)

**OBJECTIVE**

The objective of this study is twofold:

- 1) To investigate the feasibility of a 5 level response version of EQ-5D
- 2) To compare and cross validate the results of EQ-5D 3 levels with the corresponding findings of EQ-5D 5 levels

**METHOD**

An equal probability random sampling was used to collect data for 2500 inhabitants in the major Athens area of Greece. The National Statistical Services of Greece provided the sampling frames and a three stage sampling procedure was adopted in order to obtain a random sample stratified by city, sex and age category. Data for 1198 men (58±13 years) and 1302 women (57±12 years) were collected. The socio-demographic aspects of the sample are discussed and their relevance to Health related quality of life measurement are presented below.

We present the results of our analysis based on:

- 1) Descriptive Statistics
- 2) Factor Analysis (Principal Component Method)
- 3) Regression Analysis  $VAS = F (MO, SC, UA, PD, AD)$

$$Vas_i = \beta_0 + MO_i\beta_1 + SC_i\beta_2 + UA_i\beta_3 + PD_i\beta_4 + AD_i\beta_5 + e_i$$

$$Vas, \beta_j \sim N(0, \Omega_{\mu}), j=0, \dots, 5 \quad e_i \sim N(0, \sigma^2_{e_i})$$

- 4) Correlation Matrix for Construct Validity.

**RESULTS**

Descriptive Statistics			
	Mean	Std. Deviation	Analysis N
MO3	1.15	.364	2500
SC3	1.05	.242	2500
UA3	1.11	.330	2500
PD3	1.30	.537	2500
AD3	1.53	.656	2500

Descriptive Statistics			
	Mean	Std. Deviation	Analysis N
MO5	1.23	.642	626
SC5	1.13	.500	626
UA5	1.18	.576	626
PD5	1.40	.776	626
AD5	1.89	1.060	626

Table 2. Regression Analysis EQ-5D 3 Levels .

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	118.274	1.401		84.418	.000
	MO3	-7.345	1.081	-.144	-6.792	.000
	SC3	-2.464	1.613	-.032	-1.527	.127
	UA3	-11.318	1.314	-.201	-8.613	.000
	PD3	-8.467	.668	-.245	-12.677	.000
	AD3	-6.146	.486	-.217	-12.634	.000

a. Dependent Variable: VAS (0 - 100)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.618 <sup>a</sup>	.382	.381	14.594

a. Predictors: (Constant), AD3, SC3, PD3, MO3, UA3

Table 3 . Regression Analysis EQ-5D 5 Levels .

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	100.093	1.530		65.408	.000
	MO5	-1.835	1.591	-.069	-1.154	.249
	SC5	-2.313	2.136	-.068	-1.083	.279
	UA5	-3.282	1.982	-.110	-1.656	.098
	PD5	-7.244	.913	-.328	-7.934	.000
	AD5	-3.167	.587	-.196	-5.391	.000

a. Dependent Variable: VAS (0 - 100)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.605 <sup>a</sup>	.366	.360	13.707

a. Predictors: (Constant), AD5, SC5, PD5, MO5, UA5

Table 4. Correlation Matrix Between EQ-5D 3 Levels and 5 Levels

		Correlations									
		MO3	MO5	SC3	SC5	UA3	UA5	PD3	PD5	AD3	AD5
MO3	Pearson Correlation	1	.760**	.605**	.643**	.617**	.067*	.481**	.075*	.256**	.060
	Sig. (2-tailed)		.000	.000	.000	.000	.033	.000	.016	.000	.056
	N	2500	630	2500	626	2500	1014	2500	1014	2500	1014
MO5	Pearson Correlation	.760**	1	.608**	.777**	.684**	.671**	.440**	.485**	.216**	.314**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	630	630	630	626	630	630	630	630	630	630
SC3	Pearson Correlation	.605**	.608**	1	.711**	.649**	.351**	.032	.189**	.041	.041
	Sig. (2-tailed)	.000	.000		.000	.000	.051	.000	.306	.000	.189
	N	2500	630	2500	626	2500	1014	2500	1014	2500	1014
SC5	Pearson Correlation	.643**	.777**	.711**	1	.605**	.834**	.308**	.391**	.182**	.313**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	626	626	626	626	626	626	626	626	626	626
UA3	Pearson Correlation	.617**	.684**	.649**	.605**	1	.071*	.439**	.060	.229**	.047
	Sig. (2-tailed)	.000	.000	.000	.000		.024	.000	.054	.000	.132
	N	2500	630	2500	626	2500	1014	2500	1014	2500	1014
UA5	Pearson Correlation	.067*	.671**	.061	.834**	.071*	1	.000	.972**	-.036	.926**
	Sig. (2-tailed)	.033	.000	.051	.000	.024		.997	.000	.254	.000
	N	1014	630	1014	626	1014	1014	1014	1014	1014	1014
PD3	Pearson Correlation	.481**	.440**	.351**	.308**	.439**	.000	1	.124**	.396**	.068*
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.997		.000	.000	.030
	N	2500	630	2500	626	2500	1014	2500	1014	2500	1014
PD5	Pearson Correlation	.075*	.485**	.032	.391**	.060	.972**	.124**	1	.012	.932**
	Sig. (2-tailed)	.016	.000	.306	.000	.054	.000	.000		.691	.000
	N	1014	630	1014	626	1014	1014	1014	1014	1014	1014
AD3	Pearson Correlation	.256**	.216**	.189**	.182**	.229**	-.036	.396**	.012	1	.190**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.254	.000	.691		.000
	N	2500	630	2500	626	2500	1014	2500	1014	2500	1014
AD5	Pearson Correlation	.060	.314**	.041	.313**	.047	.926**	.068*	.932**	.190**	1
	Sig. (2-tailed)	.056	.000	.189	.000	.132	.000	.030	.000	.000	
	N	1014	630	1014	626	1014	1014	1014	1014	1014	1014

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

**CONCLUSIONS**

The study of the EQ-5D 5 Levels has revealed strong relationship with the EQ-5D 3 Levels and the EQ-5D 5 Levels is a sensitive and reliable Instrument

**REFERENCES**

-Cabases JM et al. (2003), Increasing the levels to five in the EQ-5D descriptive system: Application to a youth general survey in Navarra, Spain, EuroQol Meeting, Bled Slovenia, 2003.  
-Kind P et al., Levelling the playing field: increasing the number of response categories in EQ-5D. Paper presented to the EuroQol meeting, York, September 2002.