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Quality of Life among Turkish Immigrants in Sweden: a Study for Assessing the Measurement Properties of the World Health Organization's Quality of Life 100 Instrument

SUMMARY

Many instruments have been developed to measure the multidimensional construct of quality of life. One of them has been developed by the World Health Organization (WHOQOL-100) and adapted into different languages and cultures around the world. The authors of this study wanted to assess the measurement properties of the Turkish version of WHOQOL-100, to find out the latent factors underlying quality of life, and to determine the direction and magnitude of the interdependent effects among these factors by using structural equation modeling (SEM). The measurement properties of the Turkish version of WHOQOL-100 scale were assessed on 520 voluntary participants who were immigrants in Stockholm/Sweden. SEM gave us one second-order factor QOL and the five correlated first-order factors labelled: physical, social relations, psychological, environment and independence. In the model for total participants, all the factor loadings were high (ranging from 0.60 to 0.92 except for "sexuality" which was 0.47), indicating a strong association between each of the latent factors and their respective items. In the models which were separately constructed regarding birthplace, the authors found a strong association between each of the latent factors and their respective items. The most substantial possible effect on QOL was psychological domain (0.93), which was larger than physical health (0.84), social relations (0.82), level of independence (0.91) and environment (0.73). The effect of psychological domain on the overall quality of life is greater than those of other domains.

KEY WORDS: quality of life, WHOQOL-100, Turkish immigrants, Sweden

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INTRODUCTION

In recent years, quality of life has become an important concept of health care and, despite its growing popularity, there has been a lack of conceptual clarity regarding precisely what quality of life means (Meuleners et al., 2003).[1] The World Health Organization (WHO) defines quality of life as an individual's perception of his or her position in life within the context of the culture and value systems in which the individual lives and in relation to his or her goals, expectations, standards, and concerns (WHOQOL Group, 1995). This broad-ranging concept is affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, environmental factors, and his or her spiritual, religious, and personal beliefs (WHOQOL Group, 1993, 1994, 1995, 1998). More than ten years ago the WHO established a collaborative project to develop an instrument for measuring quality of life which could easily be used worldwide and be applicable in different cultural settings. The core items of the World Health Organization's Quality of Life-100 scale (WHOQOL-100) were derived following a program of qualitative and quantitative work agreed by international research collaboration carried out in 15 centres worldwide (WHOQOL Group, 1995, 1998; Skevington et al., 2004a).

This instrument enables self-reported quality of life to be measured in relation to health and is a generic instrument for use among people with multiple disorders and people who are well. WHOQOL-100 covers 100 items derived from 25 facets and 6 domains of quality of life, is available in 50 languages, and is the most widely used quality-of-life measure in the world (Skevington, 2002; Skevington et al., 2004a). Its properties have been tested on a large, heterogeneous, global sample of sick and well people using traditional psychometric techniques (Shenkhar et al., 2001; Skevington et al., 2004a, 2004b, 2004c). Structural equation modeling has been used to reaffirm construct validity, and more recently, Rash techniques have also been applied to investigate the structure (Shenkar et al., 2001; Noerholm et al., 2004). The WHOQOL-100 has been translated into Turkish by the WHOQOL-TR Group and its psychometric properties found to be valid and reliable (Eser et al., 1999a, 1999b).

Using confirmatory factor analysis (CFA) and structural equation models (SEMs) to measure quality of life is a relatively recent development in literature (Smith, Avis and Asman, 1998; Fayers and Machin, 2000). These methods give research-

ers the opportunity for assessing and modifying hypothetical models and thereby enhancing the theoretical development of the initial structure with an exploratory factor analysis (EFA) (Anderson and Gerbing, 1998; Byrne, 2001). Confirmatory factor analysis pre-specifies a factor analytic structure and tests how well the data fit the hypothesized model (Byrne, 2001).

The objectives of this paper are:

1. to determine the measurement properties of the latent factors underlying the quality of life construct,

2. to establish whether these factors can be adequately accounted for by a single second order factor,

3. to estimate the direction and magnitude of the interdependent effects among the identified factors.

MATERIAL AND METHODS

Study participants

Our study participants were Turkish immigrants living in Stockholm, Sweden and we used the same data set of our former published study (Bayram et al., 2007). The immigration of Turkish workers to Sweden began during the early 1960s with labourers who were young men without families (Westin, 2003). From about 1970 onwards, wives and children were brought to Sweden through family stage migration. After labour migration was stopped in the 1970s, migration from Turkey took a new form with the migration of asylum-seekers and Kurdish refugees becoming dominant. It is estimated that there are now 60,026 immigrants from Turkey. Of this group, almost 54.0% were born in Turkey, and 46.0% were born in Sweden (Westin, 2003). According to official statistics, there were 35,853 Turkish citizens living in Sweden in 2005 (Statistics Sweden) and more than half resided in the Greater Stockholm metropolitan area. In Stockholm, immigrants from Turkey settled mainly in the Rinkeby, Tensta, Bredäng, Skärholmen, Fittja, Alby, Handen, and Hallunda ve Norsborg districts. Therefore, Turkish associations were established in these districts. The study participants were selected with the help of these Turkish associations. Our study group consisted of first and second-generation immigrants from Turkey. First-generation immigrants were those who came as labourers during the 1960s and their children. For the most part, they were born in Turkey and at the time of the study, were active, middle-aged workers or older, retired people. Second-generation immigrants were the next generation or the children of the first generation's children. They were born in Sweden and were young people who were

either going to school or working. For the sampling process, we used the records of the Turkish associations, mosques, and the Turkish Youth Association in Rådhuset. We used the simple random method and selected our study participants from these records. Using the simple random sampling method, participants were selected from those records. The names and addresses of the participants were listed, and with the help of Turkish teachers, members of the religious community, and the association's officers, the participants were contacted. Thereafter, home visits, workplace visits, and visits to mosques, high schools, or association headquarters were made. All the visits were conducted by the author NB, and printed questionnaires were filled out during face-to-face interviews. The data collection procedure lasted about six months. After explaining the study's purpose, the researcher asked for verbal consent. If consent was not given, another person was selected from the list. Finally, 520 participants formed our study group. Data was collected anonymously, and after the collection process, the name and address lists of the participants were destroyed.

Instrument

The WHOQOL-100 TR instrument consisted of six domains and 25 facets similar to the original WHOQOL-100, and a national domain was added to the original version. This was the social pressure domain with three national items. Because of the newly-added national items, the Turkish version of the WHOQOL-100 has 103 questions. All the items in the WHOQOL-100 TR instrument were measured on five point Likert ratings. Cronbach's alpha values were between 0.20 (levels of independence) and 0.82 (spirituality, religion, and beliefs). The Cronbach's alpha values were found to be more than 0.58 for all domains except levels of independence and psychological domains (Eser et al., 1999a, 1999b).

Domains and facets (F) of the WHOQOL-100 TR are as follows:

Domain 1 -   Physical health: Facets: Pain and discomfort (F1), Energy and fatigue (F2), Sleep and rest (F3)

Domain 2 -   Psychological: Facets: Positive feelings (F4), Thinking, memory, learning, and concentration (F5), Self-esteem (F6), Bodily image and appearance (F7), Negative feelings (F8)

Domain 3 -   Levels of Independence: Facets: Mobility (F9), Activities of daily living (F10), Dependence on medication and treatment (F11), Work capacity (F12)

Domain 4 -   Social Relationships: Facets: Personal relationships (F13), Practical social support (F14), Sexual activity (F15)

Domain 5 - Environmental: Facets: Physical safety and security (F16), Home environment (F17), Financial resources (F18), Health and social care availability and quality (F19), Opportunities for acquiring new information and skills (F20), Participation in and new opportunities for recreation and leisure (F21), Physical environment (F22), Transport (F23)

Domain 6 - Spirituality, religion and personal beliefs: Facet: Spirituality, Religion and Personal Beliefs (F24), Overall QOL and general health perceptions (F25)

National Domain: Social Pressure

Statistical Analyses

In this study, structural equation modeling was established for the domains: 1, 2, 3, 4 and 5. The sixth domain, which was about spirituality, religion and personal beliefs, and the added domain for the Turkish version of the instrument were excluded from the model because the sixth domain contained only one factor and the model with the added national domain did not give good fit indices.

To assess the relations between the five first order factors obtained from the preliminary exploratory factor analysis (Eser et al., 1999a, 1999b) and to determine whether the construct of QOL was common to these factors, a second order confirmatory factor analytic model was fitted to the data. Adequacy of the model was assessed by: (1) Root mean square error of approximation (RMSEA) which should be below 0.05 for a good fit; (2) goodness of fit index (GFI) which shows the amount of variances and covariances explained by the model and should be greater than 0.90 for an adequate fit of the model; (3) comparative fit index (CFI) which should be also greater than 0.90 for an adequate fitness.

To estimate the magnitude and direction of the independent effects among the five identified factors related to QOL, we used a hypothesized unidirectional SEM. This general covariance structure contains both observed and latent variables. The second order confirmatory factor analysis and SEM were undertaken by AMOS version 16.0 (Arbuckle, 2007).
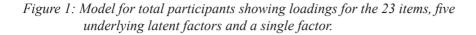
RESULTS

Table 1 shows the distribution of study participants by age, gender, educational attainment and birth place. About 69.8% of the participants were born in Turkey whereas 30.2% in Sweden. Most of the participants born in Sweden (92.0%) were in younger age groups.
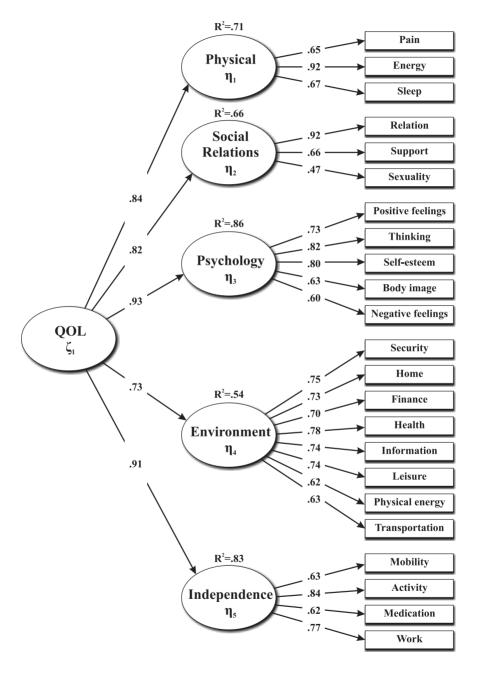
Table 1: Study participants by birth place, age, gender and educational attainment

| | BIRTH PLACE | | TOTAL |
| | Turkey | Sweden | |
	N (%)	N (%)	N (%)
GENDER			
Female	157 (43.0)	80 (51.0)	237 (46.0)
Male	206 (57.0)	77 (49.0)	283 (54.0)
AGE GROUPS			
16-26	35 (10.0)	144 (92.0)	179 (34.0)
27-37	95 (26.0)	12 (7.0)	107 (21.0)
38-48	121 (33.0)	1 (1.0)	122 (24.0)
49+	112 (31.0)	-	112 (21.0)
EDUCATION			
Primary or less	97 (26.7)	8 (5.1)	105 (20.1)
Secondary	94 (25.9)	77 (49.0)	171 (32.9)
High School	128 (35.3)	59 (37.6)	187 (36.0)
University	44 (12.1)	13 (8.3)	57 (11.0)
TOTAL	**363 (100.0)**	**157 (100.0)**	**520 (100.0)**

To determine the measurement properties of the WHOQOL-100, we used the data that corresponded to the five domains that reflected the latent constructs.

Figure 1 generated one second-order factor QOL(ξ_1) and the five correlated first-order factors labelled: (η_1) physical, (η_2) social relations, (η_3) psychological, (η_4) environment and (η_5) independence. To facilitate interpretation of Figure 1, the five first-order factors are bounded by ellipses and the item descriptions (which are the facets of WHOQOL-100) within each first-order factor are bounded by rectangles.

Figure 1: Model for total participants showing loadings for the 23 items, five underlying latent factors and a single factor.

χ^2 (202)=528.09 p=.000; χ^2 / df =2.61; GFI=0.92; CFI=0.95; RMSEA= 0.05

For example, χ^2 loadings of the items for the psychology domain (η_3) ranged from 0.60 for "negative feelings" to 0.82 for "thinking, memory, learning, and concentration". It is evident that all the factor loadings were high (ranging from 0.60 to 0.92 except for "sexuality" which was 0.47), indicating a strong association between each of the latent factors and their respective items. The factor loadings also made substantive sense and were meaningful and statistically significant.

Kline (1998) suggested that evidence of convergent validity for first-order models exists if all observable variables load significantly on the respective latent factor. In the second-order models, the relationship between the endogenous latent factors (physical, social relations, psychology, environment and independence) and the overall exogenous factor (QOL) must be significant. The results showed that convergent validity was achieved. The direct effects of the second-order factors (0.73-0.93) are strong, so a relatively small proportion of the variance remains unexplained for each first-order factor. As indicated by the GFI in Figure 1, the model accounted for 92% of the variances and covariances in the observed items. The RMSEA was 0.05 and all other fit indices showed good fitness, therefore no further modifications were performed on the model to achieve a better fit. After the model for total participants, we built the same model for participants born in Turkey and Sweden separately. Fitness indices of the models for the participants born in Turkey (n=363) and Sweden (n=157) were χ^2 (202)=484.60 p=.000; χ^2 / df =2.39; GFI=0.90; CFI=0.93; RMSEA= 0.06 and χ^2 (202)=368.68 p=.000; χ^2 / df =1.82; GFI=0.83; CFI=0.92; RMSEA= 0.07, respectively. These results indicated a good fit. The same as in the model for total participants, all the factor loadings were high (except for "sexuality" which was 0.56 for the model for participants born in Turkey and 0.40 for the model for participants born in Sweden) in the models that were separately constructed regarding birthplace, indicating a strong association between each of the latent factors and their respective items. The direct effects of the second-order factors (0.64-0.90 for the model for participants born in Turkey and 0.79-0.95 for the model for participants born in Sweden) are strong, so a relatively small proportion of the variance remains unexplained for each first-order factor.

To estimate the direction and magnitude of the effects among the five QOL domains, a recursive SEM was fitted to the composite factor scores using the maximum likelihood estimation method. The best fitting solution is illustrated in Figure 2. We found that the psychological domain of the WHOQOL-100 Turkish version made more a significant contribution to explaining the variance in quality of life, while physical, social relations, environment and independence domains had less impact. Therefore, to understand the interactions between the different domains of QOL, we accepted the psychological domain as a starting point and rearranged our path analyses.
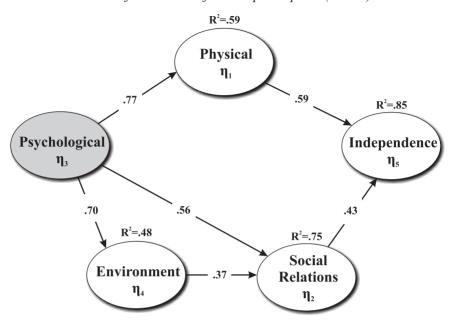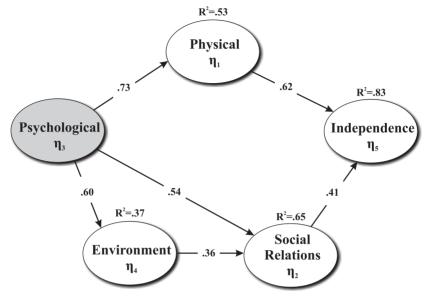
Figure 2: Solution to recursive SEM, showing standardized direct effects and covariances for the model for total participants (n=520)

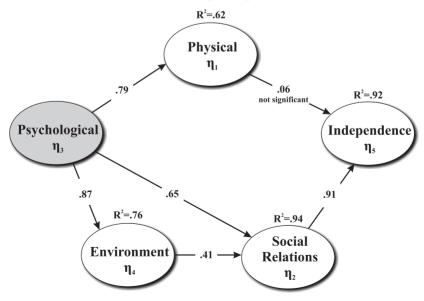χ^2 (203)=490.89 p=.000; χ^2 / df =2.42; GFI=0.93; CFI=0.96; RMSEA= 0.05

The path coefficients proximal to the unidirectional arrows (from ellipse to ellipse) are the standardized estimates of the direct effects of one domain score on another. These may be interpreted as standardized regression coefficients. For example, one standard deviation increase in the psychological domain (η_3) score can lead to a corresponding increase of 0.77 standard deviation units in the physical domain score (η_1). All estimated path coefficients were significant. The R^2 values refer to the squared multiple correlation coefficients for the structural equations. For example, 75% variance in the social relations domain (η_2) was accounted for simultaneously by the direct effects of the psychological domain (η_3) and environment domain (η_4) scores, as well as the indirect effect of the environment domain score, mediated by the psychological domain (η_3) score. Figures 3 and 4 show the models for participants born in Turkey and Sweden. Similar results were obtained from these models as from the model for total participants.

Figure 3: Solution to recursive SEM, showing standardized direct effects and covariances for the model for participants born in Turkey (n=363)

χ^2 (203)=444.99 p=.000; χ^2 / df =2.19; GFI=0.91; CFI=0.94; RMSEA= 0.06

Figure 4: Solution to recursive SEM, showing standardized direct effects and covariances for the model for participants born in Sweden (n=157)

χ^2 (203)=360.91 p=.000; χ^2 / df =1.78; GFI=0.83; CFI=0.93; RMSEA= 0.07

In the model for participants born in Sweden, 92% of the variance in the independence domain was accounted for by the direct effect of the social relations domain, as well as by the indirect effects of psychological and environment domains on the social relations domain. In the model for participants born in Turkey, this percentage of variance was found as 83%. For the Turkish immigrants born in Sweden, 94% of the variance in social relations domain can be explained by the direct effects of psychological and environmental domains and by the indirect effect of psychological domain throughout the environmental domain. The same paths are also revealed for the Turkish immigrants born in Turkey, but they can explain only the 65% of the variance in the social relations domain.

Table 2: Factor values compared to other studies

		Our study (N= 520)	International field trial		U.K. data WHOQOL-100 (N=475)	Study of Ogunseitan (N= 379)
			WHOQOL-100 (N= 4,802)	WHOQOL-BREF (N=11,830)		
Physical Health	Pain	0.65	0.67	*0.40*	0.67	0.25
	Energy	**0.92**	**0.80**	**0.74**	0.70	0.59
	Sleep	0.67	0.66	0.56	0.58	0.53
Level of Independence	Mobility	0.63	0.72	0.62	**0.84**	0.45
	Activity	**0.84**	**0.89**	**0.82**	**0.89**	**0.86**
	Medication	0.62	0.56	0.46	0.70	*0.27*
	Work	0.77	**0.78**	**0.78**	0.82	**0.70**
Psychological	Body image	0.63	0.54	0.60	0.52	*0.51*
	Thinking	**0.82**	0.68	0.70	0.58	0.50
	Self-esteem	**0.80**	0.74	**0.75**	**0.78**	**0.72**
	Positive feelings	0.73	**0.77**	0.72	**0.76**	**0.73**
	Negative feelings	0.60	0.69	0.56	0.63	0.51
Social Relations	Relationships	**0.92**	**0.88**	**0.77**	0.72	**0.86**
	Support	0.66	0.67	0.63	0.68	0.58
	Sexuality	*0.47*	0.57	0.59	*0.13*	0.64
Environmental	Security	0.75	0.62	0.64	0.68	0.48
	Home	0.73	0.68	0.57	0.65	0.47
	Finance	0.70	0.66	0.62	0.55	0.49
	Health service	0.78	0.66	0.51	0.45	0.68
	Information	0.74	0.69	0.64	0.59	0.52
	Leisure	0.74	0.68	0.57	0.59	0.50
	Physical environ.	0.62	*0.53*	0.56	0.55	0.61
	Transportation	0.63	0.61	0.54	0.47	0.52

(left margin, rotated: QUALITY OF LIFE)

Highest factor loadings are bold; lowest factor loadings are italic

Table 2 compares the factor loadings of our study with the other studies (Lee et al., 2005; Ogunseitan, 2005; Skevington et al., 2004c; WHOQOL Group, 1998). Including ours in all these studies, energy, activity, relationships, self-esteem and positive feelings had the highest factor loadings, whereas the lowest came from sexuality, physical environment, pain and medication.

DISCUSSION

Using second-order confirmatory factor analysis and SEM, we assessed the latent factors underpinning the WHOQOL-100 (Turkish version) construct and the interdependent effects among these factors.

The SEM results provide further information on the interrelationships among the factors affecting the perceptions of quality of life. The finding that psychological domain significantly affected the other four domains enhances the understanding of QOL. Positive feelings, thinking, memory, learning, and concentration, self-esteem, bodily image and negative feelings were all significant variables for this construct. The psychological domain had a strong positive direct effect on physical health, environment and social relations. These effects were higher among immigrants born in Sweden. The social relations domain was directly affected by psychological domain, environment and indirectly by psychological domain mediated by environment. The relationship (both direct and indirect) accounted for 75% of the variability in the social relations domain for the total group. This percentage was 94% and 65% for the Turkish immigrants who were born in Sweden and in Turkey, respectively. Among Turkish immigrants who were born in Sweden the effects of psychological and environmental factors on the social relations domain were higher than those among immigrants who were born in Turkey. This difference could be due to the younger age of the Turkish immigrants who were born in Sweden.

In our model we found that physical health was affected directly by the psychological domain and that there were no other relationships between physical health and other domains. For the total group, about 59% of the variability of the physical health could be explained by the psychological domain. For the Turkish immigrants who were born in Sweden and in Turkey, this percentage was 62% and 53%, respectively.

The level of independence domain (mobility, activities of daily living, dependence on medication and treatment, work capacity) was significantly influenced directly by physical health and social relations, and indirectly by psychological and environmental domains mediated by social relations. About the 85% of the variability of the independence domain could be explained by physical health and social

relations but, when we took only the Turkish immigrants who were born in Sweden into account, the relationship between physical health and independence was not found statistically significant and the effect of the social relations on independence was stronger than among the Turkish immigrants who were born in Turkey. These differences could be due to the younger age of those immigrants.

In our structural equation model (of the total sample), the most substantial causal effect on QOL (Figure 1) was the causal effects of the psychological domain (0.93), which was larger than physical health (0.84), social relations (0.82), level of independence (0.91) and environment (0.73). The WHOQOL Group's (WHOQOL Group, 1998) six domain equation model found the effects of the psychological domain as mostly causal (0.93), followed by physical health (0.86), level of independence (0.81), environment (0.78) and social relations (0.77). The International Field Trial of WHOQOL-BREF (the shorter form of WHOQOL-100 which was found compatible to WHOQOL-100) four domain equation model showed similar results (Skevington et al., 2004c).

CONCLUSIONS

Quality of life is a multidimensional concept and is best evaluated by a number of latent constructs such as physical health, physical functioning, psychological situation, social relations, environmental status and spirituality, religion and personal beliefs. These latent constructs often cannot be measured objectively and directly; they are treated as latent variables in analyses and SEM is an effective statistical method to assess these latent constructs (Bollen, 2007). WHQOL-100 is a specifically designed instrument to have certain items relating to a particular latent domain, and there is sufficient prior knowledge to suggest that the instrument can be represented by some latent domains or factors (WHOQOL Group, 1998). Hence, the statistical analyses can be started with a confirmatory factor analysis model with a given number of factors or a structural equation model with a specific path diagram (Bollen, 2007). Based on a posited model, we first obtained good estimates of the unknown parameters and we then evaluated on the basis of estimates and goodness-of-fit statistics the fit of the posited model to the sample data. From the competing models, we chose the best one. Our best fitted model had five domains and was able to find out the latent factors underlying quality of life and to determine the direction and magnitude of the interdependent effects among these factors. Finally, we concluded that the Turkish version of WHOQOL-100 can be used as an effective instrument for measuring life quality without the added national domain and with exclusion of the sixth domain of the original version.

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Kvaliteta života turskih imigranata u Švedskoj: istraživanje radi utvrđivanja metrijskih karakteristika instrumenta 100 kvalitete života Svjetske zdravstvene organizacije

SAŽETAK

Za mjerenje višedimenzionalnoga konstrukta kvalitete života razvijeni su mnogi instrumenti. Jedan od njih, WHOQOL-100, razvila je Svjetska zdravstvena organizacija te ga prilagodila raznim jezicima i kulturama širom svijeta. U ovom radu autori su željeli provjeriti metrijske karakteristike turske verzije WHOQOL-100 te odrediti latentne faktore koji se nalaze u podlozi kvalitete života, smjer i veličinu međusobno ovisnih učinaka tih faktora metodom modeliranja strukturalnih jednadžbi (SEM). Metrijske karakteristike turske verzije upitnika WHOQOL-100 procijenjene su na uzorku od 520 dobrovoljnih sudionika – imigranata u Stockholmu u Švedskoj. Rezultati SEM-a upućivali su na postojanje jednog faktora drugog reda, koji je interpretiran kao QOL, i pet međusobno povezanih faktora drugog reda označenih kao: tjelesni, društveni odnosi, psihološki, okolina i neovisnost. U modelu formiranom na ukupnom uzorku sva faktorska opterećenja bila su visoka (od 0,60 do 0,92, osim za »seksualnost«, 0,47) upućujući na visoku povezanost pojedinih latentnih faktora i njima pripadajućih čestica. U modelima konstruiranim na poduzorcima prema mjestu rođenja, dobivena je visoka povezanost između pojedinih latentnih faktora i njima pripadajućih čestica. Najveći učinak na QOL imala su moguća djelovanja psihološke domene (0,93), veći od učinka tjelesnog zdravlja (0,84), društvenih odnosa (0,82), stupnja neovisnosti (0,91) i okoline (0,73). Učinak psihološke domene na ukupnu kvalitetu života veći je od učinaka u drugim domenama.

KLJUČNE RIJEČI: kvaliteta života, WHOQOL-100, turski imigranti, Švedska

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Qualité de vie des immigrés turcs en Suède: étude d'évaluation des propriétés métriques de l'instrument 100 de la qualité de vie de l'OMS

RÉSUMÉ

De nombreux instruments ont été développés afin de mesurer le construit multidimensionnel de la qualité de vie (QDV), dont l'un a été mis au point par l'Organisation mondiale de la Santé (OMS), le WHOQOL-100, et adapté à une diversité de langues et de cultures à travers le monde. Les auteurs de l'étude ont eu pour ambition d'évaluer les propriétés métriques de la version turque de l'instrument précité dans le but de découvrir les facteurs latents sousjacents à la qualité de vie et de déterminer la direction et l'ampleur des effets interdépendants parmi ces facteurs par l'application du modèle d'équations structurelles (MES). L'étude a été réalisée sur un échantillon de 520 volontaires, tous immigrés à Stockholm en Suède. Le MES a abouti à l'existence d'un facteur de second ordre de la qualité de vie ainsi que de cinq facteurs

de premier ordre en corrélation, les domaines : physique, relations sociales, psychologique, environnement et indépendance. Le modèle appliqué à l'ensemble des participants a révélé des scores élevés de facteurs (variant entre 0,60 et 0,92 à l'exception de la « sexualité » de l'ordre de 0,47), révélateurs d'une forte corrélation entre chacun des facteurs latents et leurs items respectifs. Dans les modèles élaborés séparément en fonction du lieu de naissance, les auteurs ont conclu à une forte corrélation entre chaque facteur latent et ses items respectifs. Les effets probablement les plus importants sur la qualité de vie étaient ceux émanant du domaine psychologique (0,93), plus élevés que ceux de la santé physique (0,84), des relations sociales (0,82), du degré d'indépendance (0,91) et de l'environnement (0,73). En conclusion, l'effet du domaine psychologique sur la qualité de vie générale a été supérieur à celui des autres domaines.

MOTS CLÉS : qualité de vie, WHOQOL-100, immigrés turcs, Suède