

RELIABILITY AND VALIDITY OF THE TURKISH VERSION OF GENERALIZED PERCEIVED SELF-EFFICACY SCALE*

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Kabul Tarihi: 15.10.2005

ABSTRACT

The purpose of this study was to adapt for the Turkish population the tested valid and reliable Generalized Self-Efficacy Scale.

The population for the research was adults who applied to Evren Paşa Primary Health Care Centre between 1 May and 30 August 2004 for services. A convenience sample of 130 persons who accepted participation to study was selected. The data was collected by the researcher using Generalized Self-Efficacy Scale and an inquiry form including demographic characteristics. The scale consists of 10 items, is easy understandable, and is self-reported. The items on the scale are scored as 1-4 points, and the scale forms positive items. Evaluation of the scale score is made by sum point. In statistical analysis of the data, factor analysis, Cronbach alpha, correlation analyses, Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity for the simple size were used.

Pearson's product-moment correlation changed with then this mean from 0.64 to 0.78, alpha was 0.89. Factor loading of the scale's items changed from 0.64 to 0.79, and the scale resulted in one factor structure. Overall explained variance for this factor model was 53%, and test-retest correlation was 0.83. According to the finding, the Generalized Self-Efficacy Scale was found to be valid and reliable for Turkish population.

Keywords: Perceived self-efficacy, Validity and reliability, Nurse

ÖZET

Genelleştirilmiş Algılanan Öz-Yeterlilik Ölçeğinin Türkçe Versiyonu

Bu çalışmanın amacı Genelleştirilmiş Algılanan Öz-yeterlilik ölçeğinin geçerlilik ve güvenilirliğini test ederek Türk toplumuna uyarlamaktır.

Metodolojik olarak yapılan araştırmanın evrenini 1 Mayıs – 1 Ağustos 2004 tarihleri arasında Evren Paşa Sağlık ocağına herhangi bir hizmet için başvuran yetişkinler oluşturmuştur. Araştırmanın örneklem gurubunu olasılıksız rastlantısal örnekleme yöntemiyle seçilen ve araştırmaya katılmayı kabul eden 130 kişi oluşturmuştur. Araştırmanın verileri Algılanan Genelleştirilmiş Öz-yeterlilik ölçeği ve demografik özellikleri içeren soru formu kullanılarak toplanmıştır. 10 maddeden oluşan ölçeğin maddeleri 1-4 arasında puan almaktadır. Ölçek pozitif maddelerden oluşmakta ve değerlendirilmesi toplam puan üzerinden yapılmaktadır. Verilerin istatistiksel değerlendirilmesinde faktör analizi, Cronbach alfa güvenilirlik katsayısı ve korelasyon analizleri, Kaiser-Meyer-Olkin örneklem yeterlilik ve Bartlett's Test of Sphericity kullanılmıştır.

Yapılan analizler sonucunda maddetoplam puan korelasyonunun 0.64 – 0.78 arasında değiştiği, ölçeğin alfa katsayısının da 0.89 olduğu bulunmuştur. Ölçek maddelerinin faktör yüklerinin 0.64-0.79 arasında değiştiği ve tek faktörden oluştuğu saptanmıştır. Ölçek toplam varyansın % 52'sini açıkladığı ve test-retest korelasyonu da 0.83 olduğu belirlenmiştir. Elde edilen bulgulara göre, Genelleştirilmiş Algılanan Öz-yeterlilik Ölçeği'nin Türk toplumuna uygulanması açısından geçerli ve güvenilir olduğu söylenebilir.

Anahtar Kelimeler: Algılanan öz-yeterlilik, Geçerlik ve güvenilirlik, Hemşire

*This research was presented in the 3. The International and 10. National Nursing Congress, 7-10 December 2005 İzmir, Turkey.

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INTRODUCTION

Self-efficacy is a major ingredient in motivation. Self-efficacy can enhance or impede motivation. According to theory specify the theory and research, self-efficacy influences how people feel, think and act. In terms of feeling, a low sense of self-efficacy is associated with depression, anxiety, and helplessness. Such individuals also have low self-esteem and harbour pessimistic thoughts about their accomplishments and personal development. In terms of thinking, a strong sense of competence facilitates cognitive processes and performance in a variety of settings, including quality of decision-making and academic achievement (Bandura 1997).

Self-efficacy is commonly understood as being domain-specific. One can have more or less firm self-beliefs in different domains or particular situations of functioning. But some researchers have also conceptualized a generalized sense of self-efficacy that refers to a global confidence in one's coping ability across a wide range of demanding or novel situations. General self-efficacy aims at a broad and stable sense of personal competence to deal effectively with a variety of stressful situations (Schwarzer 1994).

General self-efficacy beliefs can be conceived of as a personal resource or vulnerability factor that may influence people's feelings, thoughts and actions (Jerusalem 1993, Schwarzer and Jerusalem 1995). People with a high sense of efficacy trust in their own capabilities to master different types of environmental demands. They tend to interpret task demands and problems more as challenges than as threats or subjectively uncontrollable events. High perceived efficacy enables individuals to face stressful events. Individuals who are characterized by generally low perceived efficacy are prone to self-doubts, anxiety arousal, threat appraisals

and perception of coping deficiencies (Bandura 1997).

Self-referent thought has become an issue that pervades psychological research in many domains. It has been found that a strong sense of personal efficacy is related to better health, higher achievement, and more social integration. This concept has been applied to such diverse areas as school achievement, emotional disorders, mental and physical health, career choice, and socio-political change. It has become a key variable in clinical, educational, social, developmental, health, and personality psychology (Bandura 1995, 1997, Maddux 1995, Schwarzer 1992, 1994).

For these reasons, generalized perceived self-efficacy needs to be assessed. Perceived self-efficacy can be measured in a specific manner with one or more test items. In the present study, however, generalized perceived self-efficacy is assessed with a psychometric scale. The German version of this scale was originally developed and used by Jerusalem and Schwarzer in 1981 as a 20-item version and later it was decreased to a 10-item version (Jerusalem and Schwarzer 1992, Schwarzer and Jerusalem 1995).

The instrument has been found to be reliable and valid in various field studies. It was also found to be valid in terms of convergent and discriminate validity. Consequently, it correlates positively with self-esteem and optimism, and negatively with anxiety, depression and physical symptoms (Schwarzer and Born 1997, Schwarzer et al. 1997, Zhang and Schwarzer 1995). Although, the scale was adapted in 13 languages, it was not adapted in Turkish. This is necessary for health prevention and promotion. This scale is a well documented instrument for determination of generalized perceived self-efficacy.

The purpose of this study is to adapt and test the scale (Generalized Perceived Self-Efficacy) for by tested validity and reliability with the Turkish population.

METHODS

Design

This research is a psychometric study adapt and test the generalized for validity and reliability in the Turkish population.

Population and sample

The population for this study was adults who applied to Evren Paşa Primary Health Care Centre for any services. The sample was a convenience sample of 130 persons.

Instrument

Generalized Perceived Self-Efficacy Scale (GPSES) is understandable and is self-reported. The scale consists of 10 items, and the items of the scale are scored 1-4 points. These are not at all true (1), hardly true (2), moderately true (3), exactly true (4).

The scale was originally developed in German by Matthias Jerusalem and Ralf Schwarzer in 1981 to assess optimistic self-beliefs to cope with a variety of difficult demands in life, and the scale was reduced by Jerusalem and Schwarzer to a 10-item psychometric scale in 1992. Validity and reliability of the scale was studied for the populations of three different countries that were German, Spanish, and Chinese in 1994. These studies indicated that alpha coefficients were 0.84, 0.81 and 0.91 (Schwarzer et al. 1997). The scale has one dimension that consists of positive items. It is positively

scored, and its evaluation is made by sum point.

Permission was obtained from Schwarzer for adaptation and use of the GPSES. The scale used for translation into Turkish was the English version. The investigator translated into two bilingual the scale independently to the Turkish language and reached similar cognitive results. The bilingual translates were a professor, who is a specialist in this area and a person who is a specialist in the Turkish language. In addition often bilingual individuals translated into Turkish and back translated it into English, minor changes in wording were suggested and the translated scale was revised accordingly.

Ethics

Permission to undertake this study was obtained from the two official associations. Also, verbal permissions were obtained from each participant, and they were informed, that if they preferred not to participate, this would not prevent the health care services given to them.

Data Collection

The data of the research was collected by the researcher using GPSES and a demographic survey between 1 May and 30 August 2004. Retest data was collected by invited all the samples in the primary health care centre after three weeks from first data collection.

Data analysis

In statistical analysis of the data, factor analysis, Cronbach alpha, correlation analyses, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity were used.

RESULTS AND DISCUSSION

The demographic characteristics of the sample group are shown in Table 1.

Table 1. Disruption of the sample group consistent with their demographic characteristics

| Demographic Characteristics | X ± SD | |
|------------------------------------|---------------|--------------|
| Age (Year) | 34.3 ± 10.9 | |
| Monthly income (TL) | 721.1 ± 468.0 | |
| Gender | N | % |
| Female | 92 | 70.8 |
| Male | 38 | 29.2 |
| Education Level | N | % |
| Primary School | 52 | 40.0 |
| Secondary School | 17 | 13.1 |
| High School | 36 | 27.7 |
| University | 25 | 19.2 |
| Marital Status | N | % |
| Married | 115 | 88.5 |
| Single | 9 | 6.9 |
| Widow/divorced | 6 | 4.6 |
| Total | 130 | 100.0 |

After language validity of the scale was obtained, test-retest reliability of the scale was determined with internal coefficients were examined. Reliability is in test-retest correlation was 0.83 for the Turkish Scale. A high correlation coefficient indicated that the scale was reliability (Erefe 2002). Test-retest correlation of the German original scale was 0.67 (Schwarzer and Schroder 1997). The finding of this study indicates that stability of the scale is adequate. Alpha coefficient was used to test for internal reliability and Cronbach's alpha was found to be 0.89. Schwarzer et al. (1997) determined that its alpha coefficient was 0.81, 0.84 and 0.91. Rimm and Jerusalem (1999) established that alpha coefficient of the scale was 0.87 in their study. Sanders and Woolley (2005) found that Cronbach's standardized item alpha was 0.81 for mother. It is stated in literature that a reliability of 0.80 is considered the lowest acceptable coefficient for a well-developed measurement tool. For a newly developed instrument, a reliability of 0.70 is considered acceptable (Polit and Hungler 1995). It is stated in

literature that alpha coefficient must be 0.70 and more (Erefe 2002, Özgüven 1998). The Turkish scale is appropriate in terms of alpha coefficient. It was found that the scale explained 52% of overall variance in this study. Rimm and Jerusalem (1999) found that the scale explained 46% in Estonian version. Schwarzer et al. (1997) determined that the Germany scale explained 39-55%. The findings in this study were consistent with those results. This proves assistance to reliability of the scale. Pearson's product-moment correlation of items ranged from 0.64 to 0.78 in this study (Table 2). Schwarzer et al. (1997) established that the item-total correlation ranged from 0.44 to 0.48. According to literature, a item-total correlation of 0.30 is considered the lowest acceptable (Özgüven 1999, Erefe 2002). In this study, the correlation coefficient was.

Before factor analysis was conducted, Kaiser-Meyer-Olkin measure of sampling adequacy tests (KMO) and Bartlett's Test of Sphericity was established to determine whether the sample was adequate or inadequate.

Analyses indicated that KMO was 0.894 and Bartlett's was 611.57. The results of each of these two tests was statistically

significant ($p= 0.000$) and was satisfactory for factor analysis.

Table 2. Factor loading and item-total correlation of items of the scale

| The items of the scale | Factor loading | Item-total correlation |
|--|----------------|------------------------|
| 1- I can always manage to solve difficult problems if I try hard enough. | .643 | .648*** |
| 2- If someone opposes me, I can find means and ways to get what I want. | .697 | .694*** |
| 3- It is easy for me to stick to my aims and accomplish my goals. | .712 | .712*** |
| 4- I am confident that I could deal efficiently with unexpected events. | .725 | .722*** |
| 5- Thanks to my resourcefulness, I know how to handle unforeseen situations. | .744 | .742*** |
| 6- I can solve most problems if I invest the necessary effort. | .796 | .788*** |
| 7- I can remain calm when facing difficulties because I can rely on my coping abilities. | .779 | .772*** |
| 8- When I am confronted with a problem, I can usually find several solutions. | .705 | .713*** |
| 9- If I am in trouble, I can usually think of something to do. | .708 | .712*** |
| 10- No matter what comes my way, I am usually able to handle it. | .690 | .698*** |

*** $p < 0.001$

According to Principal Component factor analysis and varimax rotation conducted, it was found that factor loading of the items of the scale changed 0.64 from 0.79 and the scale formed one factor. The minimum cut-off point that is acceptable is 0.30 for factor loading (Burns and Grove, 1993). In this study all items met this criterion and factor loadings were high. Therefore, construct validity of the scale was obtained.

Schwarzer and his colleagues (1997) found on factor loading that the scale items were 0.42 and greater;

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Rimm and Jerusalem (1999) found on factor loading that the scale items were changed from 0.60 to 0.71. The findings of this study were comparable with the findings of researches that first tested the GPSES.

CONCLUSION

The Generalized Perceived Self-Efficacy Scale was tested Turkish and was found to be valid and reliable. This scale can reliably be used to determine self-efficacy levels of individuals. Generalizability of these findings cannot be assured with all populations in Turkey.

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Genelleştirilmiş Algılanan Özyeterlilik Ölçeği

| Ölçek Soruları | Doğru değil (1) | Biraz doğru (2) | Daha doğru (3) | Tümüyle doğru (4) |
|--|-----------------|-----------------|----------------|-------------------|
| 1) Yeni bir durumla karşılaştığımda ne yapmam gerektiğini bilirim. | | | | |
| 2) Beklenmedik durumlarda nasıl davranmam gerektiğini bilirim. | | | | |
| 3) Bana karşı çıktığımda kendimi kabul ettirecek çare ve yolları bulurum. | | | | |
| 4) Ne olursa olsun üstesinden gelirim. | | | | |
| 5) Eğer gayret edersem güç sorunların çözümünü her zaman başarırım. | | | | |
| 6) Tasarılarımı gerçekleştirmek ve hedeflerime erişmek bana zor gelmez | | | | |
| 7) Bir sorunla karşılaştığım zaman onu halledebilmeye yönelik birçok fikrim vardır. | | | | |
| 8) Güçlükleri soğukkanlılıkla karşılarım, çünkü yeteneklerime her zaman güvenebilirim. | | | | |
| 9) Ani olaylarında üstesinden geleceğimi sanıyorum. | | | | |
| 10) Her sorun için bir çözümüm vardır. | | | | |