

Factor analysis on validity of perceived control in internet of health care with Cronbach's reliability test

Zhou Ya-Xing^{a,*}, Shi Lei^a, Gao Yu-Lin^a, Liang Yue^b, Wang Hui-Zhen^a

^a School of Nursing, Southern Medical University, Guangzhou, China

^b Guangzhou Shouxing Building, Guangzhou, China

Received 11 July 2018; received in revised form 7 August 2018; accepted 11 August 2018

Available online 21 August 2018

Abstract

Objective: To translate the English version of Perceived Control In Health Care Questionnaire into Chinese, and to analysis the reliability and validity of Chinese Version of PCHCQ.

Methods: We adapted the English version of PCHCQ into Chinese according to Brislin's translation model, including translation, back translation and cross-cultural adjustment. Using the convenient sampling method, 315 elderly people from a nursing home in Guangzhou were selected as the participants to between June and September 2017. 20 participants were selected from those who had actively responded to the survey for the test-retest 2 weeks later. We set 27% of the participants with the total scores ≥ 117 as the high-score group ($n = 91$) and the total scores ≤ 90 as the low-core group ($n = 88$). Compared the average difference between each item of the two groups and investigated the item-total correlation by linear analysis; The validity analysis was assessed by content validity, criterion-related validity and exploratory factor analysis. The Cronbach's α and test-retest reliability were used for reliability analysis.

Result: There were significant differences between the high-score group and the low-core group in the scores for each item ($P < 0.001$). The correlation coefficient between each item and the total score of the questionnaire was 0.468–0.811 ($P < 0.001$). The item-level content validity index (I-CVI) was between 0.83 and 1.00, and the scale-level CVI (S-CVI/Ave) was 0.98. The results of criterion-related validity showed that there was a positive correlation between the Chinese version PCHCQ and the Mastery Scale Chinese version (MSC) in the scores ($r = 0.670$, $P < 0.001$). EFA showed KMO = 0.925, Banlett spherical test $\chi^2 = 6646.178$ ($df = 300$, $P < 0.001$), and five common factors were extracted which explained the total variance of 73.884%. The Cronbach's α of the total questionnaire was 0.919, and the Cronbach's α of each factor was 0.746–0.897 ($P < 0.001$). The test-retest reliability of the total questionnaire was 0.949, and the test-retest reliability of each factor was 0.941–0.724 ($P < 0.001$).

Conclusion: Chinese Version of PCHCQ showed good reliability and validity and it can be used in health-related control of the study among the elderly in China.

© 2018 Elsevier B.V. All rights reserved.

Keywords: Elderly; Perceived control in health care; Reliability; Validity

1. Introduction

Perceived control refers to the subjection feeling, perception and relief of individuals on control (Claassens et al.,

2014; Curtis, Windsor, & Luszcz, 2017; Dulin, Hanson, & King, 2013; Infurna and Gerstorf, 2013; Liu, Zhu, & Wang, 2016), wherein, the perceived control in health care reflects the relief or feeling of individual health under self-control (Claassens et al., 2016; Feng, Chen, Li et al., 2014; Lu and Wang, 2014; Pearlin and Carmi, 1978; Yu & Zou, 2008; Zhang, Li, & Wang, 2015). The research shows that

* Corresponding author.

E-mail address: yaxingxing26@163.com (Z. Ya-Xing).

the perceived control can directly or indirectly affects the physical and psychological health of elderly people (Da Roit, 2012; Drewelies, Chopik, Hoppmann, Smith, & Gerstorf, 2018; Feng, Feng, Chen et al., 2015; Guo and Li, 2012; Polit and Tatano, 2006; Swinkels and Bianca, 2016; Wu, 2010), while the perceived control in health care may affect the confidence and behavior in self-care of elderly people thus to affect the physical and psychological health as well as life quality of elderly people (Al-Bashir, 2018; Ashish Khanna et al., 2018; Mohammed, Ghani, Arunkumar, Obaidmmmed, et al., 2018; Mohammed, Ghani, Arunkumar, Mostafa, et al., 2018; Mohammed, Ghani, Arunkumar, Hamed, Mostafa, et al., 2018;

Mohammed, Ghani, Arunkumar, Hamed, Abdullah, et al., 2018; Mutlag, Ghani, Arunkumar, Mohamed, & Mohd, 2018). Therefore, which degree of perceived control in health care is beneficial to elderly people is worthy of exploring. At present, few evaluation tools can be used for evaluating the perceived control in health care of elderly people in domestic and overseas, especially the specialized evaluation tools, therefore, the Dutch scholar Doctor Claassens, L. takes elderly people as the research objects to develop the specialized evaluation tool for evaluating the perceived control in health care of elderly people--Perceived control in health care Questionnaire, PCHCQ (Ashokkumar, Arunkumar, & Don, 2018; Hussein, ArunKumar, et al., 2018; Hussein, Kumar, et al., 2018; Wei, Meng, & Arunkumar, 2018). This research is firstly revised to a Chinese edition based on authorization of Doctor Claassens, L. and is used in conducting testing of validity and reliability among elderly people in China. The research report is as follows (see Tables 1–3).

2. Objects and methods

2.1. Research objects

Based on convenient sampling, from June to September of 2017, abstracted 315 elderly people from one certain nursing home in Guangzhou as the research objects. The selection standards: ① elderly people aging above

Table 1
Correlation coefficient between each item score and the total score of Chinese version of PCHCQ.

Item	R value	P value	Item	T value	P value
Item 5	0.807	<0.001	Item 18	0.540	<0.001
Item 6	0.796	<0.001	Item 19	0.669	<0.001
Item 7	0.800	<0.001	Item 20	0.666	<0.001
Item 8	0.757	<0.001	Item 21	0.700	<0.001
Item 9	0.664	<0.001	Item 22	0.685	<0.001
Item 10	0.692	<0.001	Item 23	0.694	<0.001
Item 11	0.761	<0.001	Item 24	0.686	<0.001
Item 12	0.554	<0.001	Item 25	0.596	<0.001
Item 13	0.773	<0.001	Item 26	0.616	<0.001
Item 14	0.747	<0.001	Item 27	0.683	<0.001
Item 15	0.751	<0.001	Item 28	0.576	<0.001
Item 16	0.624	<0.001	Item 29	0.671	<0.001
Item 17	0.443	<0.001			

Table 2
Result of EFA of the Chinese version of PCHCQ.

Item	F1	F2	F3	F4	F5
Item 5	0.636	–	–	–	–
Item 6	0.653	–	–	–	–
Item 7	0.796	–	–	–	–
Item 8	0.825	–	–	–	–
Item 9	0.815	–	–	–	–
Item 10	0.515	–	–	–	–
Item 11	0.749	–	–	–	–
Item 12	0.664	–	–	–	–
Item 25	–	0.877	–	–	–
Item 26	–	0.899	–	–	–
Item 27	–	0.631	–	–	–
Item 28	–	0.900	–	–	–
Item 29	–	0.630	–	–	–
Item 21	–	–	0.777	–	–
Item 22	–	–	0.825	–	–
Item 23	–	–	0.751	–	–
Item 24	–	–	0.813	–	–
Item 13	–	–	–	0.500	–
Item 14	–	–	–	0.730	–
Item 15	–	–	–	0.758	–
Item 16	–	–	–	0.738	–
Item 17	–	–	–	–	0.802
Item 18	–	–	–	–	0.777
Item 19	–	–	–	–	0.507
Characteristic root	5.123	3.802	3.607	2.901	2.300
Cumulative variance proportion (%)	21.344	37.186	52.217	64.302	73.884

Note: – represents that the factor loading ≤ 0.400 .

Download English Version:

<https://daneshyari.com/en/article/11002249>

Download Persian Version:

<https://daneshyari.com/article/11002249>

[Daneshyari.com](https://daneshyari.com)