

SHORT COMMUNICATION

Assessing the Validity and Reliability of a Questionnaire on Child Television Watching in Tehran City, Iran

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ABSTRACT

Introduction: Watching television (TV) is a popular pastime among Iranian children to the extent that it has been attributed to the rise of childhood obesity. The present study investigated the validity and reliability of a questionnaire on television watching of preschool children from the perspective of parents. **Methods:** A total of 114 mothers of children aged 2-6 years from 10 preschools in District 2, Tehran City, recruited by convenience, were interviewed after receiving their consent. The questionnaire consisted of 23 questions and two subscales on the amount of time and the perceived impact of watching TV. The validity (content and construct) and reliability (test-retest and internal consistency) of the questionnaire were analysed using SPSS (version 21). **Results:** Out of the original 23 questions, only 11 questions that met the criteria of the content validity ratio (CVR) and content validity index (CVI) were selected and internal correlation of each subscale with total score was calculated and found to be satisfactory (0.566 and 0.685 respectively). Intraclass correlation coefficient was between 0.796 and 0.889 and Cronbach's alpha was between 0.887 and 0.941. **Conclusion:** Overall, the validity of the questionnaire developed for this study was found to be satisfactory. This questionnaire could be applied in similar settings using larger sample sizes.

Key words: Preschool children, questionnaire, reliability, television, validity

INTRODUCTION

The TV has dramatic negative or positive effects on young age groups. The positive aspects of watching TV for children may

include increased information (Lee *et al.*, 2014), providing education and filling children's free time (Rahmani, Mirzaei & Zafarzadeh, 2011). On the other hand,

negative aspects include learning violence (Boyland & Halford, 2012), social isolation (Meyer *et al.*, 2008), attention problems (Buijzen, Schuurman & Bomh, 2008), less mobility and increased desire to eat unhealthy foods (Wells & Lekies, 2006).

Considering the effects of watching TV on children and the increase in watching TV among Iranian children on the one hand, and the lack of a validated questionnaire to assess the effects of watching TV on children on the other hand, this study aimed to test the validity of a questionnaire developed with two subscales on watching TV among children from the perspective of parents.

METHODS

This study was conducted in the summer of 2014. Ten preschools were selected in District 2 in Tehran City, Iran. These preschools had at least 15 children each from a similar socio-economic background. The preschools were located within easy geographical distance from each other. After obtaining permission from the preschool administrators, consent forms were distributed to the parents. Mothers of 114 children aged 2 to 6 years, who were recruited by convenience, were interviewed after receiving their consent.

The questionnaire, consisting of 23 questions, examined two subscales namely, the amount of time (including items 1, 2, 3, 20 and 23) and the perceived impact of watching TV (including items 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22) (Table 1). Questions were scored on a 5-point Likert scale with options from very high to very low. In order to evaluate the validity of the contents, comments of an expert panel on the questions were collected in written form and determined using content validity ratio (CVR). A content validity ratio of above 0.6 was considered desirable. Questions that were considered essential by a content specialist was given

a score of 2, essential but not necessary, a score of 1, and unnecessary, a score of 0. In this way, the average scores were calculated and positive values indicated that at least half the specialists rated the item as essential and were accepted. Questions in the questionnaire that did not meet these criteria were discarded.

In order to assess construct validity, internal correlation between the total scores and each subscale was undertaken. A high correlation represents the convergence of the items with the total scores. Reliability of the questionnaire was determined by the test-retest method and internal consistency. For this purpose, the intra-class correlation coefficient formula and Cronbach's alpha were used. Correlation coefficients exceeding 0.3 represented the convergence of the subscales and the total score of the questionnaire.

The test-retest reliability was conducted on mothers with children between 2 to 6 years (n=63) by convenient sampling. They were re-interviewed four weeks after the first interview. Intra-class correlation coefficients (ICC) were calculated for the overall questionnaire and for each factor separately.

RESULTS

A final total of 11 questions scoring enough points for CVR was used in the subsequent steps of the study. In order to evaluate the construct validity, internal correlation of each subscale with total score was calculated; the two subscales were in an acceptable range (0.685 and 0.566 respectively, $P < 0.001$) (Table 1).

Reliability of the questionnaire was determined by test-retest method and internal correlation. Coefficients were significant for all of the questions. The Cronbach's alpha coefficient was found satisfactory (above 0.7) and highly significant for the internal consistency of the questionnaire (Table 1).

Table 1. Questionnaire on parental perceptions of child TV watching (Responses scored on a 5-point Likert scale from very high to very low)

Number	Questions
Subscale 1	
1	Does your child like to watch TV?
2	Does your child watch TV every day?
3	Does your child watch TV programs whenever he/she wants
4	Is your child bound to watching TV most of the time?
5	Is watching TV a routine in your child's daily program?
Subscale 2	
6	Do TV programs help to improve your child's knowledge?
7	Do you like watching TV?
8	Do TV programs help your child in communicating with family members and friends?
9	Does watching TV late at night by your child makes it difficult for him/her to wake up in the morning?
10	Does your child like to watch cartoons?
11	Are you satisfied with the time of watching TV by your child?

Table 2. Content validity ratio, intraclass correlation coefficient and internal consistency of the items and total questionnaire

Items and subscales	Content Validity Ratio (CVR)	ICC	Cronbach's alpha
Subscale 1			
Question 1	1	0.712	0.925
Question 2	1	0.604	0.914
Question 3	0.6	0.746	0.884
Question 4	0.6	0.648	0.910
Question 5	0.8	0.689	0.854
Subscale 2			
Question 6	0.2	0.501	0.765
Question 7	0.6	0.634	0.893
Question 8	0.4	0.723	0.920
Question 9	0.4	0.693	0.928
Question 10	0.8	0.788	0.956
Question 11	0.6	0.567	0.780
The first subscale		0.889	0.941
The second subscale		0.796	0.887
Total questionnaire		0.839	0.913

This study validated a questionnaire on the perspective of parents regarding children watching TV with two subscales of the amount and impact of watching TV. The test-retest reliability coefficient of the questionnaire was 0.839 and Cronbach's

alpha was 0.913. Such results would be considered by psychometric experts as acceptable for internal consistency and validity of the questionnaire (Liou, Liou & Chang, 2010; Hardy, Booth & Okely, 2007). Validity and reliability of a questionnaire

on Malaysian TV advertisements were 0.337 and 0.548 respectively (Zalma *et al.*, 2013). The final version of the questionnaire on parental perceptions of child TV watching is presented in Table 2.

CONCLUSION

Results from the validity and reliability of the child television watching questionnaire will enable the researcher to apply the questionnaire to future studies.

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