

PSYCHOMETRIC PROPERTIES OF THE TURKISH VERSION OF THE SIBLING DYADIC TRUST SCALE

Sühendan Er¹, Müge Çelik Örücü²

¹ Primary Education Department, Faculty of Education, TED University,

² Guidance and Psychological Counseling Department, Faculty of Education, TED University, Ankara, TURKEY.

¹suhendan.er@tedu.edu.tr, ²muge.orucu@tedu.edu.tr

ABSTRACT

*The aim of this study is to conduct validity and reliability analysis of sibling dyadic trust scale. The data was collected from 215 (121 F, 94 M) high school students whose ages are between 14-18. These students also filled 'Demographic Information Form'. Confirmatory factor analysis was used for single model of the sibling dyadic trust scale and the following indices were obtained [$\chi^2(20) = 67.473$, $p = .00$; χ^2/df -ratio = 3.374; GFI = .922, CFI = .908, RMSEA = .087, and SRMR = .064]. These indices indicated good fit. Cronbach alpha coefficient was calculated for the internal reliability and it was found .82. Besides, in order to test for gender differences, an independent group *t*-test was used. A significant difference was found between males ($M=37.87$, $SD= 10.18$) and females ($M=41.93$, $SD= 8.99$) on the SDT [$t(212) = 3.091$, $p<.05$]. The results suggested that the original one-factor structure of the scale was confirmed with the present data providing evidence for the construct validity.*

Keywords: Sibling dyadic trust scale, reliability, validity

INTRODUCTION

Trust as an issue has been gaining a considerable interest as a research topic. It is important to start with the meaning that what trust conveys. For Stanley (2005) trust is a relationship. Berscheid (1994) defined trust as a key to positive interpersonal relationships in various settings since it is central to how we interact with others. Huff et.al (2002) stated a definition of trust according to the descriptions made by scholars of various disciplines. They said trust is the trustor's confident expectation that the trustee will help the trustor to reach his/her goals in an environment of risk and uncertainty. Lindquist (1997) put forward that trust is an aspect which involves openness, sharing, expressing support and cooperative intentions.

As trust is a crucial component in people's life there are studies on how trust can be measured. Research on trust, as a measurable construct, began in the 1950's and 60's when Rotter's (1967) Interpersonal Scale was created. The scale is a generalized expectancy that the oral or written statements of other people can be depended upon (Islamoglu et.al (2012).

Besides aforementioned Rotter's interpersonal trust scale (1967) there are several scales developed to measure trust among people in various relationships.

REVIEW OF LITERATURE

Since no such measures existed, Rottenberg and Morgan (1995) developed a scale to assess individual differences in children's attribution to the trust-value basis for friendship. 130 children from Canadian Catholic schools participated in the study. The scale was intended to measure both *friendship preferences* as well as *actual friendships*. Internal consistency, test-retest reliability, and preliminary validation of the scale were considered to be good.

Although there are many studies done on trust measurement, few of them are developed in Turkey and almost none of them focused on children or adolescents. Close relationships in families were studied basically on parents and sibling relations were ignored. There was an important point that should be kept in mind that sibling relations are one of the longest of interpersonal relationships (Ponzettie and James, 1997, Rittenour et.al, 2007).

Siblings experience new practice, shares and conflicts but at the same time they reveal solutions to problems they faced with. According to Caffaro and Conn-Caffaro (1998) sibling relations involve both verbal and nonverbal communication of two or more individual who are from the same mother and father. When compared to other emotional bounds among people, the relation of siblings are unique and the most powerful element of social development (Snyder et.al, 2005).

The quality of sibling relations is affected by several variables. Furman and Buhrmester (1985) categorized the components effecting sibling relations under three headings. The first category is the construction of the family which involves age, age gap, gender, gender of the sibling, size of the family and birth order. The second one is the relations of parents and children which means the quality of the relation, the management of sibling relations. The last category is the characteristics of children which involves cognitive, social and personal properties of each. All of these variables effect on the quality of sibling relations therefore it effects both parent child relations and children's characteristic properties.

Rocca et.al (2010) indicated gender difference in being motivated for sustainability in sibling relations. Females are more communicative in sibling relations and female siblings are more bounding to each other. Similarly, Fowler (2009) emphasized that sisters are more prone to communication than brothers. Siblings who have good communication and strong reliability grow trust among themselves. Trust is another component that determines sibling relations. The more jealousy and doubt they have, the more verbal attack they experience which lead to mistrust to each other (Martin et.al, 2005). When siblings perceive each other reliable they experience communication and trust more in their relation. This condition can be observed when siblings see each other on a high level in character and protection. When siblings trust each other their relation will be more satisfactory. Moreover, when one finds his or her sibling wise their trust towards each other will rise and the relation becomes more satisfactory. The perception of trust is related to how much siblings be together and what they share (Martin et. al, 2005).

As sibling relations is a long period in one's life trust among themselves hold a crucial part. In Turkish literature there are studies on organizational and interpersonal trust measures. The interpersonal one also attributes to people in organizations. There is no evidence of trust among close relations such as lovers, friends or siblings. Trust is proved to be an important factor in sustainability of relations. There is a need of trust measurement of siblings the reason why a scale is developed is the need of how much trust effects the relations of siblings. For this Larzelere and Huston's Dyadic trust scale (1980) was adapted to Turkish for sibling relations. Larzelere and Huston conducted the study with 120 females and 75 males all of whom were young and involved in close relationships such as dating couples, newly married or long-term married individuals. The researchers aimed at operationalizing the concept of dyadic trust by demonstrating its measurement, and reporting on the relationship between trust and other related constructs. The scale was developed because the researchers thought that existing measures of trust serve only to measure generalized trust rather than trust in close human relationships (*dyadic trust*).

METHODOLOGY

Participants and Procedure

Sample is consisted of 215 (121 female, 94 male) Turkish high school students. Participants were between the ages of 14 and 18 ($M = 15.80$, $SD = .95$). Sample was recruited through convenient sampling based on accessibility and the cooperation of the school/university campuses. A packet of self-report measures was administered during class hours. After obtaining the necessary ethical permissions and consent for data collection (the data collection protocol adhered to the ethical code of the Declaration of Helsinki), a research assistant visited the schools that had agreed to participate in the study. In the presence of school counselors, the questionnaires were distributed to available classes that the school administration suggested.

Instruments

The Dyadic Trust Scale (DTS) was originally constructed by Larzelere and Huston (1980). It is an eight-item questionnaire which is designed to measure the unidimensional construct of dyadic trust in romantic relationships. For each item, participants were required to evaluate the amount of benevolence and honesty that they feel their partner expresses toward them. An example of an item measuring benevolence is “*I feel that my partner can be counted on to help me.*” An example of an item measuring honesty is “*My partner is perfectly honest and truthful with me.*” Each item was evaluated using an 7-point Likert scale (1 = *very strongly disagree* to 7 = *very strongly agree*). Four of the eight items of the scale are reverse scored as to reduce response bias. Therefore, the highest possible score on the DTS is 56, indicating that the participant feels his or her respective partner is very trustworthy. The lowest possible score is 8, which would indicate that the participant very strongly disagrees with all statements and therefore does not trust his or her respective partner.

RESULT

Procedure for Translation and Face Validity

Before the adaptation of Turkish dyadic trust scale for siblings, necessary permission was taken from the authors via e-mail. In the first step, the original scale was translated into Turkish by 2 experts who were competent in both Turkish and English languages. Then the collected scales were back translated by another 2 experts in both languages. Lastly an expert checked the expressions in the original scale and the translations whether there were major differences. The expert decided on the final version of the scale in Turkish. ‘My partner’ word in the original scale was changed into ‘My sibling’ in Turkish version. Then the final version was inspected by an expert in Turkish language and made necessary changes on the basis of wording. These were minor changes which embellish the sentences. Finally the researchers read and talked on the scale and all of them agreed on as it is.

When translation procedure was completed, 2 experts in the field of child development and education field and 3 experts in psychological counseling and guidance were consulted for *content validity*. It is important because the statements should be suitable for Turkish culture and the development stage of adolescents between 14 and 18 in terms of the instruction and evaluation criteria. The experts were asked to fill in a three scale evaluation form whose scales were ‘suitable’, ‘not suitable’ and ‘suitable after modification’ and make criticism if needed.

After the experts express their opinions on the forms, the results were collected on a single form and evaluated. The experts evaluated the instruction of the scale, the evaluation criteria and the content of the scale (Buyukozturk, 2010; McLoughlin and Lewis, 2005). According

to the results obtained from experts, the mean was over 1 and standard deviation was under 1. This meant that none of the items was thrown out of the scale. Completing content validity, a pilot study was done with 20 Turkish high school students. While the students were dealing the scale, the researchers supervised them and made them feel free to ask whenever they didn't understand any statement in the scale. None of the students experienced any unperceivable statement. Lastly, the final version of the scale was given.

Testing Factor Structure of the scale

AMOS Version 22 software was used to perform confirmatory factor analysis (CFA). Maximum likelihood estimation method and covariance matrices were analyzed in order to test the factor structure of the scale. The original one-factor structure of the scale with 8 items proposed by Larzelere and Huston (1980) was evaluated and the results indicated good fit. [$\chi^2(20) = 67.473$, $p = .00$; χ^2/df -ratio = 3.374; GFI = .922, CFI = .908, RMSEA = .087, and SRMR = .064]. The results suggested that the original one-factor structure of the scale was confirmed with the present data providing evidence for the construct validity.

Parameter estimation is presented in Table 1. Each parameter's estimated value (column 1), standard error (column 2), and critical ratio (column 3) are listed.

Table 1. Parameter Estimates of the scale

	<i>Weight</i>	<i>Standard Error</i>	<i>Critical Ratio</i>	<i>P</i>
Q1r	.613	1.000		
Q2r	.531	.763	.098	< .001
Q6r	.425	.626	.104	< .001
Q8r	.525	.836	.109	< .001
Q7	.681	1.000		
Q3	.665	.903	.088	< .001
Q4	.739	1.089	.093	< .001
Q5	.745	1.000		

Internal Consistency Reliability

Internal consistency reliability was calculated and Cronbach alpha coefficient was found .82. According to Ozdamar (2004: 633), the values between .60 and .80 are acceptable. When these values were taken into consideration the internal consistency of the scale was at an acceptable level. Consequently, it is understood that the original form of the scale was conserved in Turkish culture as well. Means and standard deviations for the items are presented in Table 2.

Table 2. Descriptive statistics

	<i>M</i>	<i>SD</i>
Q1r	4.8558	1.85771
Q2r	5.1674	1.77991
Q6r	4.6512	1.82767
Q8r	5.0186	1.97404
Q3	5.1442	1.68352
Q4	5.2326	1.82707
Q5	5.1023	1.76114
Q7	4.9395	1.81146

Gender Differences

Independent samples t test was conducted to examine whether there was gender difference in the scale. Female participants ($M=41.93$, $SD= 8.99$) had higher scores than male participants ($M=37.87$, $SD= 10.18$) for the scale. A significant difference was obtained for gender as $t(212) = 3.091$, $p<.05$. This means that females trust their siblings in their relations more than males.

DISCUSSION

The current study investigated the psychometric properties of the sibling dyadic trust scale. First, a translation of the scale was done through a series of steps to ensure equivalency of meaning and freedom from cultural bias. Second, the factor structure of the scale was examined by testing the original one-factor structure proposed by Larzelere and Huston (1980). The result showed that one -factor structure of the scale was a good fit for the Turkish youth who have siblings providing empirical evidence for the construct validity.

The results of the independent t test provided further validity evidence for the scale. T test results examined age in sibling trust. Females were more likely to trust in sibling relationships than males.

The results may be affected by biases resulting from social status, age difference or specific factors relating to the level or the subject of the study. It is important that using the scale in new populations assure themselves of its internal consistency and factor structure.

In conclusion, in this study DTS which was developed by Lazerle and Huston(1980) was adapted to Turkish in the name of Sibling Dyadic Trust Scale. For the whole, scale reliability coefficient was high. It is considered that reliability coefficient can be made use of by researchers in studies related to trust in sibling relations in experimental studies and in analyzing trust level of siblings.

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