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Measurement of social trust through vignettes; construction and piloting of an instrument for the measurement of social trust using the vignettes technique

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Abstract:

Measurement of social trust raises some methodological questions, related to both item construction and to the way the items are perceived by respondents from different cultures. Issues related to the construction of direct items and that require a certain level of abstract thinking of the respondents can be addressed by constructing instruments that measure the construct through vignettes.

An instrument that measures social trust using the vignettes technique was constructed and went through piloting. The instrument was tested for understandability, face validity and internal consistency. The results show that the instrument can reliably be used to measure social trust and caution in dealing with others, being easy to understand and having a high internal consistency, as well as face validity.

Key words: social trust, caution, vignettes, direct items, self-reporting methods

The task of researching social trust is made difficult by many factors, one of which is culture sensitivity of the construct. Being a multi-faceted construct that is strongly influenced by the culture and social context, makes empirical measurement and analysis of social trust difficult (Welter & Alex 2012, pg.

50). This makes also cross-cultural comparisons of trust research data difficult, as there is no guarantee that the respondents in different cultural and social contexts have in mind the same construct when answering questions that aim to measure social trust.

In general, in large scale surveys that are carried in several countries, social trust has been measured through few classical items. Examples of this are the World Values Survey or the European Social Survey, in which single questions are used to measure the construct, formulated as 'generally speaking, would you say that most people can be trusted or that you cannot be too careful'. This measurement method raises at least two issues, one concerning data reliability and one concerning data validity.

The first issue is common to all self-reporting instruments and pertains to the very method of self-reporting. Questionnaires and surveys are often not well-suited for the study of human attitudes, as they elicit biased self-reports (Alexander & Becker 1978, pg. 93). As mentioned above, in large scale cross-country surveys social trust has been measured through direct items, which require that respondents think about abstract situations. These types of items might generate unreliable responses as the respondents' answers are not related to a specific context and thus require a certain level of abstract thinking that might vary among respondents. This might lead to the answers being influenced by factors other than the ones being measured, in this case, level of abstract thinking.

The second issue is related to the fact that trust is a multi-faceted and culturally sensitive construct. Specifically, individuals from different cultures might perceive the term 'most people' differently (Delhey et al. 2011; Torpe & Lolle 2011; Yamagishi & Yamagishi 1994; Sturgis & Smith 2010; Banerjee 2016). We cannot be sure that respondents from

different cultures are thinking of the same circle of people when asked how much they trust 'most people'. Ideally, respondents should be thinking of persons that they don't know at a personal level when answering this item.

A solution to the above-mentioned issues would be to make the items presented to the respondents as concrete and specific as possible. This would ensure that varying degrees of abstract thinking do not influence the answer. This can be achieved by presenting to the respondents concrete and as detailed as possible situations, about which they must provide a judgment. The judgment can come in the form of a personal decision to be taken in a concrete situation, or judgment about a decision taken by a hypothetical character that is in such situation (Hughes 1998).

Instruments that use this approach are the ones being based on vignettes. Vignettes are "...short stories about hypothetical characters in specified circumstances, to whose situation the interviewee is invited to respond (Janet 1987, 105)". Using the vignettes technique corrects, to some extent, the disadvantages of abstract direct items, by making the respondent think about concrete real-life situations while answering.

In this paper is described the procedure for constructing an instrument for the measurement of social trust, using the vignettes technique.

METHODOLOGY

To construct the vignettes was used as bases a story described by Eric Uslaner in the book 'The moral foundations of trust' (2002, pg. 14). Uslaner writes about an unstaffed fruit stand in Maryland where customers could get the fruit they wanted and put the money into a locked box. This was used as seed story and the vignettes were constructed expanding upon it. The

story used for the vignettes was contextualised by using as main characters a couple that goes in vacation to a foreign country. The country where they go on vacation is not identified, so that respondents do not create expectations about the trustworthiness of the inhabitants of that country, based on prior stereotypes they might have. Three vignettes were created, expanding upon the original story from Uslaner (2002). In the first two vignettes is described a story about a character (A), whom is only identified in the second vignette. A owns a fruit stand next to the national road and leaves it unstaffed and unguarded. Anyone willing to buy can serve her/himself, weight the merchandise and put the money in a secured metal box. This character shows, thus, typical traits of a highly trusting person. The respondents are then asked to judge if the people that stop at his store will fulfil the trust invested in them, by leaving the exact amount of money or not. Specifically, the respondents are asked what percentage of the persons stopping at the store will leave the exact amount of money and what percentage will not leave money or leave less (in both cases trust is abused).

In the second vignette this character is identified and put into a situation in which he has a discussion about the other character of the story (B). B holds beliefs and expresses opinions that are typical of low trusting people. The two characters have a discussion about their beliefs on other peoples' honesty and the respondents are asked to what extent they agree or disagree with each of them on a Likert scale. Moreover, as the character A explains that his decision to have to trust others is based on some real constrain, respondents are also asked how they would behave if they found themselves in the same type of constrain as the character A.

In the first two vignettes is thus required that respondents identify themselves with the characters of the story, one of whom has a high generalized trust and the second

a low generalized trust. Moreover, respondents are also required to put themselves in the shoes of the characters of the vignette and make a decision how would they act in similar situations.

In the third vignette the situation is changed and the character A behaves in such a way that he is asking to be trusted by the character B. Specifically, A asks B to lend him an amount of money. The conditions are less than ideal for B to lend the money. B is about to depart the place where A lives and if he lends the money he will do so based only on the belief that A will honour his trust and return the money. Making contracts or having other legal guarantees is not feasible as A and B live in different countries and the time is short for long and complicated legal procedures. Thus, if B decides to lend the money to A, the decision will be based solely on his trust that A will honour the debt, and thus the trust invested in him. B does not have any indication about A's trustworthiness, although he already knows that A is trusting. This vignette thus activates the caution factor in the respondents, as the possibility to be exploited exists. The respondents are asked to judge if B should trust A and lend the money or not. They are also asked what they would do if they were the character B, but in this second item there is an extra alternative added, as the respondents are also asked about the level of discomfort they would feel if they lend the money without any legal guarantees.

As a basis for the construction of the vignettes was used the structure of the Social Trust Scale by Yamagishi & Yamagishi (1994). The Social Trust Scale has two dimensions, general trust and caution in dealing with others. With general trust are understood statements concerning "…honesty and trustworthiness of people in general (Ibid., 146). With caution is understood "the need to be cautious in dealing with others as a response to the potential of being exploited by them (Ibid., 149-150)".

The vignette was structured in the form of a single story, comprised of three different parts. The respondents read each of the parts, answer two to three questions about that part, and then move on to the next. The first two parts measure general trust (beliefs about honesty and trustworthiness of other people) while the third measures caution. In total the respondents answer 10 questions, four measuring general trust, two measuring caution in dealing with others, one confounding, and three demographic questions – gender, age and education level.

The instrument is thus comprised of three sections, each starting with a vignette. The first section has two questions, the second has three questions and the third two questions. One of the questions in Section 1 is included as a confounding question and is not included in the scoring. This particular question is aimed at measuring the respondents' self-evaluation of personal trustworthiness, which is correlated to being trusting toward others, however is a different construct (Rotter 1980).

Each of the items of the scale was scored at an ordinal level, with different scaling points, ranging from three to eleven. When the scoring is calculated the scores are transformed by dividing or multiplying the score for each item with the relevant coefficient. Some of the scores are reversed. Final scoring for each item is on a six-point scale, ranging from 0 to 5 points.

The total score is calculated as simple arithmetic mean of the scores received for each of the six items included in the analysis. The maximum possible score is 5 points (high trust) and the minimum is 0 points (low trust).

RESULTS

Testing of understandability and face validity of the instrument

The first draft of the instrument was piloted with 22 respondents. Purposeful sampling was used to select the respondents for this first piloting of the instrument. The selected respondents represented a wide range of education level and socio-economic status, and the sample was gender balanced.

After completing the instrument, with each of the respondents was carried a semi-structured face to face interview, the main topics of which aimed to understand (1) how understandable the vignettes and items were; (2) highlight specific elements in the instrument that made understanding difficult; and (3) identify what the instrument measured.

Respondents rated the items as understandable, none has mentioned any difficulty in understanding.

Regarding the vignettes themselves, some of the respondents pointed out long phrases and too many, sometimes superfluous, details in the description. This, according to the respondents, made it hard to focus on the story. In most cases, elements that were pointed out by the respondents as superfluous in the formulation of the vignettes were additional elements that could easily be discarded, without the vignette losing its main point.

Based on the feedback provided by the first 22 respondents on whom the instrument was piloted, the instrument was edited. The editing process was focused in shortening long phrases and eliminating interdependent ones, by splitting them in two separate phrases. Moreover, the instrument was provided with a title for the respondents, as well as information on how the data were to be collected, stored and used to protect the confidentiality of the respondents.

Testing of internal consistency

The edited version of the instrument was completed by 136 respondents. Convenience sampling was used for selecting

these respondents, every person who showed an interest in assisting with testing the instrument filled a paper or electronic version (using the web-based survey tools of Ona Systems – www.ona.io). The paper and pencil copies of the questionnaire were inserted in the online form, forming a single dataset.

52.5% (n = 71) of the respondents during this phase were women and 47.8% (n = 65) were men.

The mean age of the respondents was 31 (SD = 9.757). Most of the respondents were between 20 and 29 years of age (52.2%), the age range was from 19 to 62 (Table 1 – Age groups of respondents).

Table 1 – Age groups of respondents

Age group	Frequency	Percentage
<20	1	.7
20-29	71	52.2
30-39	39	28.7
40-49	17	12.5
50-59	6	4.4
60<	2	1.5
Total	136	100.0

Most of the respondents (53%) had completed higher education (bachelor degree). This was followed by respondents that held a master's degree and the ones having high school education (Table 2 – Education of the respondents).

Table 2 -Education of the respondents

Education level	Frequency	Percentage
Secondary	2	1.5
High school	30	22.1
Bachelor degree	72	52.9
Master	31	22.8
Post-Master	1	.7
Total	136	100.0

Before testing internal consistency of the instruments' items, a factorial analysis was performed to identify factor loading. The factor analysis identified two components in the instrument, in

confirmation of the fact that the items were constructed to reflect the general trust and caution dimensions of the General Trust Scale (Yamagishi and Yamagishi 1994). The first factor was composed of items from the first two vignettes (items 1.1, 2.1, 2.2 & 2.3) and the second factor of items from the third vignette (items 3.1 & 3.2 – Table 3 – Factor loading).

Table 3 – Factor loading

	Component 1	Component 2
Item 1.1	.792	
Item 2.1	.809	
Item 2.2	.805	
Item 2.3	.610	
Item 3.1		.896
Item 3.2		.930

The two identified factors match those of the Yamagishi and Yamagishi (1994) scale, trust and caution. Based on the analysis, the instrument was divided in two parts, reflecting these two constructs. The first factor is measured through four items - one in reference to the first vignette and three in reference to the second one - and the second through two items, both in reference to the third vignette.

Both identified components were then tested for distribution normality. Based on the Shapiro-Wilk test, in relation to the first factor the null hypothesis that data were not normally distributed could not be rejected, $W = 0.981, p = .57$; while it could be rejected for the second factor, $W = 0.912, p = 0$. Thus, data on the trust component were normally distributed, while data on the caution component were normally distributed.

Data were not skewed (trust component skew = 0.228 [$SE = 0.208$]; caution component skew = 0.09 [$SE = 0.208$]).

Both distributions were platykurtic, especially the trust component (kurtosis = -1.083 [$GS = 0.413$]). Collected data were

distributed almost uniformly in the range of possible data points.

Scores of each of the two components of the scale were calculated as average scores of all items comprising the respective component. The maximum possible score in each of the components was 5 points and the minimum was 0 points. The respondents involved in the testing procedure had an average level of both trust, M (136) = 2.23 (SD = 1.09) and caution, M (136) = 2.41 (SD = 1.66).

In the next step was tested the correlation between the two identified factors as well as correlation between individual items. The expectation was that the correlations would be moderate to strong, being that trust and caution are considered two closely related factors and are included as components of trust scales in some trust measurement instruments. Spearman's rho between the components was calculated, as well as between all individual items of the instrument. Relationship between the two components was moderated and statistically significant, $r_s(135) = 0.43, p = 0$.

Correlations between individual items are presented in the Table 4 - Spearman's rho coefficients for all items.

Table 4 -Spearman's rho coefficients for all items

	Item 1.1	Item 2.1	Item 2.2	Item 2.3	Item 3.1	Item 3.2
Item 1.1	1.000					
Item 2.1	.594**	1.000				
Item 2.2	.430**	.541**	1.000			
Item 2.3	.357**	.531**	.503**	1.000		
Item 3.1	.289**	.420**	.289**	.411**	1.000	
Item 3.2	.249**	.352**	.246**	.343**	.715**	1.000

**The correlation is statistically significant, p<.01 (two tails)

As can be seen in the table above, correlation coefficients are, generally in the moderate range for items of the first component with each other. Correlations between items of the first and second component are weak, toward moderate. All correlations were statistically significant ($p < .01$).

The last step in the analysis was testing the internal consistency of the instrument. Although data were not normally distributed, this does not affect the calculation of the Cronbach's alpha, being that a minimum of 100 respondents is needed for a moderate reliability when sample data are not normally distributed (Sheng & Sheng 2012).

Being that two components were identified by factor analysis; Cronbach's alpha was calculated separately for each of them. The alpha coefficients showed a very high internal consistency for each of the components ($Cronbach's\ alpha\ _{trust} = 0.751, Cronbach's\ alpha\ _{caution} = 0.830$).

The final scoring of the scale is calculated as the average score of both components, scored separately. Thus, respondents can have a maximum score of 5 and a minimum score of 0 in this instrument. The respondents participating in the testing procedure had an average score, $M(136) = 2.32$ ($DS = 1.18$). The lowest score was 0.062 points and the highest was 4.81.

CONCLUSIONS

Based on the data presented above, it can be concluded that the instrument is a good measurement of trust, having a high internal consistency. Also, based on factor analysis, the instrument reflects the components trust and caution of the Yamagishi and Yamagishi (1994) scale, based on the structure of which it was constructed.

The instrument has a good potential to be used in future studies for measuring social trust and caution. Further testing and application will of course serve to refine the instrument further.

A possible disadvantage of the instrument, in comparison to other ones that measure social trust, is the time it takes for respondents to complete it. Being that the instrument requires respondents to read three vignettes,

completion time is higher as compared to scales that use few direct items. This makes this instrument good suited for research that is specifically focused on social trust, but less usable in research that aims to measure several variables, only one of which is social trust.

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