Research Paper

Development and Validation of the Attitude Towards Corruption Scale

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ABSTRACT

Despite the national outrage against corruption and steps taken by governments of Nigeria to combat the monster, one major lacuna in the efforts to combat it remains the dearth of objective psychological measurement tools. The development of the Attitude Towards Corruption Scale is an effort to meet this need. An initial 68 Items were generated through review of different literature and interviews which items were reduced to 34 through expert review for face validity. The scale was administered to 343 participants selected through convenience sampling technique. Selected participants were from the Nigerian Police Force and other non-military workers comprising teachers and Civil Society workers (MALE=181, FEMALE= 120, and 42 participants who did not specify their sexes) in Lagos State. The Kaiser-Meryer-Olkin (KMO) measure of sampling adequacy, approximated Chi-square and Barlett's test of sphericity yielded acceptable values. Data obtained was subjected to factor analysis to identify the inherent factors and to identify items with the least latent root for possible removal. Using the Principal Component factoring procedure with Varimax rotation on the SPSS software, the data yielded a 10-factor solution. Items were further restricted to load on a 4-factor model and items which did not load on any of the factors were deleted. These factors are: fraud, embezzlement, nepotism and bribery. The scale yielded a Cronbach's alpha reliability coefficient of .91 and a Convergent validity coefficient of .33 with the Psychopathic Deviate Scale; thus, showing that the ATC-Scale is a valid and reliable instrument.

The Nigerian society has over the last few years grappled with corruption, a problem which can be said to have assumed the status of an endemic. This is not unconnected with the fact that several efforts put in place by successive governments of the nation have proved ineffective against the hydra-headed monster. The problem of corruption hasn't only proven difficult to be surmounted, due to its very nature, but also partly due to the problem encountered by scholars who attempt to clearly define the concept. Scholars have

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adduced different definitions for what actually constitutes corruption. For example, the World Bank defined corruption *"as the abuse of public office for private gain."* Osoba (1996, p. 372) in defining corruption, explained the act as a kind of anti-social behavior which can be perpetrated either by an individual or a group of persons, with consequences that affect the larger society. This definition agrees with the position of Akindele (1995) who defined corruption as any form of behaviour cum transaction aimed at eliciting mutual action where critical players in the act, especially power/office holder are able to manipulate or influence action through giving of certain benefits towards the end that decisions are taken in contravention of the principles and against the general interests of an organization, an agency, or the public at large in a given society. Sedadyo and Haan (2011, as cited in Akinfala, Akinbode & Ayodeji, 2014) defined corruption as all forms of anti-social behaviour conferring improper benefits contrary to legal and moral norms, and which undermine the authorities to improve the living conditions of the people. For the sake of this paper however corruption is defined as the abuse of a position of trust to serve private ends, to the detriment of others who should normally benefit from such privileges. Incidences of corruption within the Nigerian space in the last two decades has been

Corruption is undoubtedly a global problem with multifarious implications cutting across different facets of human life whether economic, socio-cultural or well-being. All over the world, corruption has proven time and again not just to be a lethal foe, but more so, a fatal destroyer of both individual and the national commonwealth. In today's Nigeria, it should be noted that corruption has not only become largely permissive behavior but a generally acceptable behavior within the entire society (Akinfala, et. al., 2014) and has in fact, become institutionalized (Olagunju, 2012). Unfortunately, a review of literature on the psychology of corruption has shown that one of the greatest challenges in corruption research is the problem of accurately measuring the phenomenon (Hodess & Heinric, 2012). Sequeirra (2012) identified three reasons why measurement of the concept proves difficult. These include: the fact that people who engage in corrupt practices make deliberate efforts to hide their actions; due to the shame associated with exposure as well as the fear of punishment. Secondly, corruption occurs in different forms and levels. Identifying the levels and the types of corruption requires a deep understanding of the context of corrupt behaviours. Thirdly, it is difficult to construct instruments that are objective, adaptive and replicable and which can detect new developments in corrupt behaviours. Importantly, efforts targeted at measuring Corruption in the past have been classified into four categories which are: theory-based measures of the perception of corruption; survey-based measures; direct observation of bribe payments and gathering secondary data through market surveys for statistical inferences (Agbo & Iwundu, 2016; Gottfredson & Hirschi, 1990). Agbo and Iwundu (2016) further identified and classified the different methods of measuring corruption into: the use of perception-based expert measures, use of frequency measurement; the use of objective method, and the use of attitude-based measures. They noted that while each method highlighted above has its strengths and weaknesses, attitude-based measures seem to be the most favoured (Kruh, Frick & Clements. 2005).

Triandis (1971, p.2) conceptualized an attitude as an idea, charged with emotion which predisposes a class of actions to a particular class of social situations. This definition suggests three components of attitudes namely: the cognitive (idealistic), affective (emotional) and behavioural (action) components. He described the cognitive component of attitudes as the beliefs or ideas nursed about an attitude object; the affective component refers to the feelings or emotions associated with attitude object, while he explained the behavioural component as a predisposition to action with regard to the same object (Dwyer,

1993). More recently, Kassin, Fein and Markus, (2008) conceptualised attitudes as positive, negative or mixed reactions to individual persons, objects or ideas.

Past efforts to develop an attitude-based measure of corruption must be acknowledged. One of the most recent of such efforts was by Gbadamosi and Bello, (2009) whose attitude towards corruption scale, upon evaluation, did not cover the four critical domains of corrupt behaviour corruption, viz: Bribery, Nepotism, Fraud and Embezzlement. Gbadamosi and Bello's scale only covered "Bribery." Other sub-domains covered by their scale which include Public life, International outlook and elimination strategies cannot be said to sufficiently cover the behavior domain of corruption. Acts of corruption, whether at national or trans-national levels, are perpetrated through individuals. Thus, despite efforts of agencies such as Transparency International and the World Bank, whose efforts have helped to expand corruption literatures especially through research and more importantly, through international surveys that focus on corruption perception of experts, such measures do not delve into the proclivities of individuals who act in corrupt ways. Scholars have however identified the advantages of adopting an attitude approach in the measure of corruption. These advantages, according to Kruh, Frick and Clements (2005), include:

- The likelihood of these measures to relatively and more consistently predict criminal behaviours than objective measures.
- The approach affords the possibility of focusing research not just on perceived offenders (or perceived corrupt persons) but more broadly on potentially corrupt persons.
- The approach allows for studying corruption in a general population, such as students of a selected institution.
- It supports the use of a developmental approach to the study of corruption particularly the dynamics of how people grow in the propensity towards and tendency to engage in corrupt acts.
- The approach also makes it possible to compare and evaluate the link between corruption tendencies and other individual variables such as personality and in the process help to answer the question of who is likely to be corrupt or dishonest and who is not.

Given the highlighted advantages and in an attempt to cover for the gap in measurement of corruption at the individual level, was the current study undertaken. The study aims to further corruption research through the development of an attitude scale that may suffice as a reference tool in corruption research. With respect to the position of scholars who favoured three main components of attitude (Triandis, 1971; Ajzen 2001; Dwyer, 1993) namely: Cognitive, Affective and Behavioural components, the attitude towards corruption fully reflected this position in item generation and scale development procedures. Thus, each component of attitude had at least three items related to them on the ATC Scale.

METHODOLOGY

Sample

A total of 337 participants selected through convenience sampling technique participated in the study, comprising 181 (53.7%) males, 120 (35.6%) females and 36 (10.7%) participants did not specify their sexes. Participants were made up of paramilitary officers from the Nigerian Police Force; other non-military workers were selected from the State civil service and Civil Society Organisations. 253 participants (75.1%) were old, while 62 (18.4%) were young while 22 (6.6%) did not specify their ages. Regarding educational qualification 194

participants (57.6%) were classified as having high educational qualifications (with a minimum of a Bachelor's degree), 98 participants (29.1%) were classified as having low academic qualifications (less than a Degree of Diploma) while 40 participants (11.9%) did not specify their educational qualifications.

Development of ATCS

The study was divided into two phases viz: (1) item generation and (2) scale standardization. Participants used for this phase were selected from Lagos State and were workers in Lagos State civil service, civil society organisations and the Nigeria Police Force.

Procedure

The process of scale development occurred in two phases. While the first phase focused on item generation, the second phase focused on scale standardization included the establishment of psychometric properties that is the reliability and validity of the instrument. Item generation was done using two basic methods. These include: literature review, semi-structured interview of 63 participants who responded to questions in written form, this was followed with a content analysis of the responses.

Items Construction

The construction of items for the Attitude towards corruption scale occurred in three phases which were: (i) specification of behavioural domain (attributes for measurement), (ii) generation of items and (iii) determination of appropriate scaling procedures which are in consonance with Likert's (1932) Summative linear model. Identified behavioural domain considered for measurement in ATCS include: Bribery, Embezzlement, Nepotism and Fraud. A total of 68 items were initially generated from Interview with experts, literature review about corruption and fraudulent behavior and these were passed on to experts who helped to establish content validity of the scale. Initially, 4 experts rated the scale and trimmed down from 68 to 56 items.

Trial testing

The Attitude Towards Corruption Scale was administered to 343 public and private workers (male 181, Female 120 and 36 participants who did not specify their sex) selected by purposive sampling technique in an initial pilot study. While about 400 questionnaires were administered only about 343 came in fully completed giving a response rate of 85.7%.

Exploratory Factor Analysis

To detect the factorial structure as well as determine inter-variable correlation, data obtained from participants was subjected to factor analysis. Furthermore, according to the recommendation of Ford, MacCallum and Talt (1986) factor analysis was chosen to detect items having the least latent root for deletion. Using Principal Component factoring procedure with Varimax rotation on the SPSS software, the data yielded a 10-factor solution. Using the SPSS software, items were further restricted to extract 4 factors, which were named: Bribery, Embezzlement, Nepotism and Fraud. The Kaiser-Meryer-Olkin (KMO) measure of sampling adequacy, approximated Chi-square as well as Barlett's test of sphericity yielded acceptable values as recommended by Brace, Kemp and Snelgar (2006, as cited in Akinbode, 2011). After the forced 4-factor loading, items 1, 2, 3, 4, 11 and 12 which didn't load to any factor were deleted and the test was again run with the remaining items loading very well as shown in table 3. This exercise reduced the number of items to 28.

RESULTS

A pool of an initial 68 items was generated for the instrument and given to experts for validation and review. Experts considered the scale in light of the four domains of corruption which were: fraud, embezzlement, nepotism and bribe which resulted in rephrasing of some items and deletion of those considered irrelevant. This reduced items on the scale to a total of 56 items. The initial 56 items were put in a questionnaire format using a 6–point Likert typed scale ranging from "Never" to "Very Often" and administered to a group of workers in a pilot study (n=50). Furthermore, the researcher was not satisfied with the result and further transmitted the 56-item version of the scale to experts selected from the Departments of Psychology in the University of Lagos, Akoka and Ekiti State University, Ado-Ekiti for review and establishment of content validity for the scale as suggested by Nunnally (1975, as cited in Akinfala, Akinbode & Ayodeji, 2014). The review and validation of items by a panel of experts, further reduced the number of items from 56 to 36. Another pilot study was then conducted to establish the psychometric properties of the scale (n=343). To determine the concurrent validity of ATCS the Pearson product moment correlation coefficient (r) of inter-correlation of the ATCS with the Psychopathic Deviate Scale (PD Scale) another standardised measure and a sub-scale of the Minnesota Multiphasic Personality Inventory (MMPI) developed by Hathaway and Mckinley (1943) was done. The PDS contains 50 self-report statements for determining the level of psychopathy in the respondents.

See table in Table 1.

Table 1: showing names of extracted factors and item loadings

Item no	Item Name	Factor Loading	Factor No/ Name
1	Evade payment of taxes.	.8	8
2	Disobey traffic rules to beat a hectic traffic e.g. follow a one-way route	.63	Shortcut
19	Falsify resumption time on the official log book	.40	1
25	Influence examiners with gifts for special consideration during exams.	.56	
26	Promise impossible things to secure votes/support	.62	Fraud
27	Offer money to buy people's votes for an elective post in your office.	.59	
28	Increase product prices illegally, to remit lower than actual sales price.	.51	
30	Offer sexual favours to influence a decision.	.71	
34	Delay staff salary in fixed accounts for some quick returns.	.69	
35	Inflate project cost as a government contractor.	.74	
6	Distort facts or falsify documents to make some cash.	.67	2
7	Bad mouth a colleague at work to gain favour or promotion	.74	
8	Take advantage of new employees using your position and influence.	.74	Nepotism i
9	Use office money to solve personal issues.	.56	
18	Solicit For tips/bribes before doing your job.	.49	
23	Solicit sexual favour to influence a situation.	.50	
5	Use office facilities for personal purposes without approval.	.67	5 Nepotism ii
10	Bend office rules to meet some needs, or favour some friends	.59	

11	Be trusted with large sums of money to keep for your office.	.42	6
4	Provide false information such as age, or other status to get a job.	.66	Embezzlement
22	Be absolutely honest in money matters.	.69	
13	Deceive someone about the cost of a product to make quick gains.	.58	3
14	Enroll your children in special exam centers for guaranteed success.	.56	
15	Inflate contract figures to make money.	.76	Misappropriation
16	Pay illegal funds to pass an examination.	.67	
517	Demand some % from contractors before awarding them contracts	.78	
20	Offer token to settle law enforcement agents for an offense to avoid delay.	.65	4 Bribery
21	Offer gratification/money, to get through a difficult process quickly.	.79	
31	Oppose the prosecution of corrupt friends or relatives	.61	7
32	Favour friends/relatives above more qualified others in a job selection.	.63	Bias
33	Cheat in an examination to get success.	.67	
3	Return lost but found items.	.78	9
24	Offer gifts to decision makers (costly or cheap) to get consideration.	.41	Compromise
12	Keep excess balance if mistakenly given more after a transaction.	.89	10

However, the items were further restricted to extract 4 factors which yielded the results in Table 2.

Table 2: table of forced extraction of 4-factor solution

Rotated Component Matrix				
	Component			
	1	**2**	**3**	**4**
atcs15	.709			
atcs17	.680			
atcs16	.680			
atcs13	.612			
atcs25	.612			
atcs28	.587			
atcs14	.470			
atcs22	.407			
atcs4				
atcs11				
atcs1				
atcs3				
atcs7		.783		
atcs8		.686		
atcs6		.680		
atcs9		.545		
atcs30		.543		
atcs18		.533		

atcs23		.480		
atcs34			.650	
atcs33			.580	
atcs35			.559	
atcs32			.531	
atcs27			.497	
atcs31			.474	
atcs26			.416	
atcs12				
atcs20				.664
atcs21				.643
atcs5				.624
atcs10				.580
atcs19				.540
atcs24				.466
atcs2				
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization				
a. Rotation converged in 9 iterations.				

The Kaiser-Meryer-Olkin (KMO) measure of sampling adequacy yielded .94, the approximated Chi-square as well as Barlett's test of sphericity yielded 4883.08, values which are acceptable according to Brace, Kemp and Snelgar (2006, as cited in Akinbode, 2011). Furthermore, after the forced 4-factor loading, items 1, 2, 3, 4, 11 and 12 which didn't particularly load to any factor were deleted. After deletion of the unrelated items, the test was run again and the items loaded well as shown in table 3. The four identified factors were thus labelled: Fraud – 8 items; Bribery – 6 items; Nepotism – 7 items and Embezzlement – 7 items. Six items which did not load on any factor were subsequently deleted, thus reducing the total number of items on the resulting scale to 28 items with maximum iterations of convergence of 25. All factors loaded very well with table of Rotated Component Matrix shown in Table 3.

Table 3: Table of Rotated Component Matrix

	Component			
	1	2	3	4
atcs1	.338	.138	above	-.119
atcs2	.176	.159	.009	.383
atcs3	.277	.042	.135	.057
atcs5	.239	-.158	.327	.537
atcs6	.240	.203	.655	.269
atcs7	.119	.177	.772	.064
atcs8	.195	.193	.688	.070
atcs9	.134	.181	.526	.307
atcs10	-.084	.077	.391	.488
atcs11	.340	-.151	.288	-.235
atcs13	.626	.002	.407	.111
atcs14	.519	.196	.242	.196
atcs15	.733	.132	-.027	.300
atcs16	.691	.245	.237	.088
atcs17	.698	.228	.147	.070
atcs18	.339	.396	.478	.121

atcs19	-.068	.291	.110	.554
atcs20	.101	.219	.140	.694
atcs21	.121	.059	.174	.639
atcs22	.391	-.157	.313	.061
atcs23	.192	.208	.460	.326
atcs24	.404	.195	.066	.463
atcs25	.597	.484	.048	.293
atcs26	.201	.461	.300	.253
atcs27	.176	.550	.408	.202
atcs28	.516	.417	.188	.202
atcs30	.295	.527	.431	.059
atcs31	.110	.520	-.072	-.349
atcs32	.159	.459	-.076	.350
atcs33	.037	.608	.226	.173
atcs34	.138	.722	.260	.203
atcs35	.217	.615	.142	.242

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 9 iterations.

The identified factors, and the number of items that loaded on each factor are shown in table 4

Table 4: Table of factors loaded and their item loadings:

FACTOR	LABEL	ITEMS	Total item
1	FRAUD	13, 14, 15, 16, 17, 22, 25, and 28	8
2	NEPOTISM	6, 7, 8, 9, 18, 23 and 30	7
3	EMBEZZLEMENT	26, 27, 31, 32, 33, 34 and 35	7
4	BRIBERY	5, 10, 19, 20, 21 and 24	6

To obtain norm of the Attitude Towards Corruption Scale as administered to participants, the means and standard deviations of all participants were computed across sexes, the results are shown in table 5

Table 5: Table of Means and Standard Deviation of participants on the ATCS

No	Scale (measures)	Nos of items	Mean		Mean (M/F)	SD		SD (M/F)	Alpha
			Male	Female		Male	Female		
1	Fraud	8	14.34	13.31	13.16	4.95	6.35	6.40	.83
2	Nepotism	7	11.24	11.17	10.66	4.99	4.61	5.16	.83
3	Embezzlement	7	12.54	11.85	11.66	5.07	4.52	5.48	.73
4	Bribery	6	11.96	11.27	11.09	4.88	4.17	5.20	.72
5	General ATCS	34	62.45	59.69	60.95	19.55	17.94	19.01	.91

Table 5 shows that fraud received the highest mean rating compared to Nepotism, Embezzlement and Bribery. The inter-correlation matrix of each of the identified factors with General Attitude Towards Corruption Scale is shown in table 6.

Table 6: Inter-correlation matrix of factors on the ATCS and General ATCS

Measures	1	2	3	4	5
1 Fraud	1				
2 Nepotism	.71**	1			
3 Embezzlement	.62**	.63**	1		
4 Bribery	.62**	.65**	.56**	1	
5 ATCS	.82**	.78**	.75**	.71**	1
Mean	13.16	10.66	11.66	11.09	60.95
SD	6.40	5.16	5.48	5.20	19.01
**. Correlation is significant at the 0.01 level (1-tailed).					

Table 6 shows a significant positive inter-correlation among all factors of the ATCS as well as statistically significant positive relationship between each factor and General ATCS.

Reliability

Reliability of the ATCS refers to the extent to which the scale produces replicable results. The Cronbach's alpha reliability coefficient computed for the General Attitude Towards Corruption Scale yielded .91. Also shown in table 7 are Cronbach's alpha reliability coefficients for each of the factors on the General ATCS as shown:

Table 7: Reliability analysis of factors on the ATCS

Scale	Cronbach's alpha	Split-half	Items
Fraud	.83	.82	8
Nepotism	.83	.76	7
Embezzlement	.73	.78	7
Bribery	.72	.64	6
General ATCS	.91	.83	28

Validity

The concurrent validity of the ATC-Scale using Pearson product moment correlation coefficient (r) of inter-correlation with the Psychopathic Deviate Scale (PD Scale) yielded a coefficient of 0.33.

DISCUSSION

This study has shown the process of development and validation of the Attitude Towards Corruption Scale and provided strong evidence of the reliability and validity of the Scale. The construction of items covered areas of behavioural domains identified, particularly Bribery, Embezzlement, Nepotism and Fraud, while also covering the three components of attitudes as demonstrated. Although there have been arguments regarding whether attitudes towards a an issue actually translates into actual behavior, however it has been shown that the scale construction is an important contribution to knowledge which will especially aid future researches into the issue of corruption at the individual level. The scale development helps to address the dearth of measurement instruments on the issue of corruption and probing the corrupt tendencies of individuals, both within the Nigerian context and the world at large. The Scale has proven to be a reliable instrument in researching into corruption and corruption disposition. The instrument will be useful to government, the organized private sector, and other employers of labour for staff evaluation for training, and capacity building as well as staff posting in the bid to reduce incidences of corruption in its many forms and manifestations.

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Conflict of Interest
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