

Perception Of Institutional Corruption In Peru: Preliminary Analysis Of Validity And Reliability Among University Students

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ABSTRACT

In order to combat institutional corruption, it is necessary to know how people perceive it. However, there are no known instruments that assess the perception of institutional corruption. Therefore, the objective of this research was to design and establish the evidence of validity and reliability of a scale on institutional corruption among university students. It was an instrumental design research, 612 university students from different universities participated, and the data were analyzed using SPSS-26, JASP and Jamovi. The results showed that the proposed 29-item model has an adequate internal structure with the comparative adjustment indexes CFI and TLI above 0.90 and the goodness of fit indexes RMSEA and SRMR below 0.06, the factor loadings for each item were above 0.40. The reliability of the general scale was 0.92 and in its dimensions from 0.71 to 0.91. The proposed scale evaluates three types of perception: low, regular and high. The practical implications of its usefulness as an evaluation and diagnostic instrument are highlighted. Based on its results, educational institutions should develop activities to promote education in values and greater participation in politics by suppressing corruption in state institutions.

Keywords: Corruption, institutional corruption, values education, economic development.

INTRODUCTION

One of the goals in the United Nations (UN, 2022) 2030 agenda is decent work and economic growth, which has to do with the sustained growth of the economy to drive progress and generate decent jobs for all (Rasoolimanesh et al., 2023; Walker, 2021; Fonseca et al., 2020). We know that a problem that has caused great delays with economic development is corruption, which is understood as a social problem that develops in all areas of society and misuses power for collective and individual benefit (Khan & Krishnan, 2019), which leads them to coexist despite the efforts of organizations (Bahoo, 2020).

Corruption has developed in various institutions, distorting their purposes for which they were created (Ciziceno & Travaglino, 2019). But, above all, corruption substantially affects the political and economic development of peoples around the world, especially those in Latin America (Fernand, & Pastás, 2022; Imam et al., 2019; Xie et al., 2019), which somehow destabilizes the balance of power and the system of democracy (Adam, 2020). Currently, institutional corruption is the most notorious and has caused major problems in

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the economy of States (Sommersguter-Reichmann et al., 2018; Ojeka et al., 2019; Owusu et al., 2019).

According to Transparency International reports (2023), governments do not fight corruption, 95% of States make no effort to reduce it. Therefore, corruption cuts across the economy. In 2018, corruption cost the world \$2.6 trillion (United Nations, 2018). Currently, these figures have increased, reaching 5% of the world's gross domestic product, which adds up to a total of 13 trillion dollars stolen by corruption (United Nations, 2023). A reading of corruption, in the national context, indicates notable repercussions on the economy. In 2017, about 23% of companies had bribed governments to obtain contracts, surpassing the figures in Latin America and the Caribbean of 14% (Peruvian Institute of Economics, 2022). After the pandemic, the economic losses due to the corruption of institutions have been alarming. In 2022, corruption has generated a loss of S/ 24,419 million, of which 56% (S/ 13,721 million) was caused by regional governments and municipalities, followed by the national government with 44% (S/ 10,696 million). This represents a prevalence level of 13.4% at the national level (Office of the Comptroller General of the Republic, 2023).

This way in which corruption has been instrumentalized in the different institutions of the State, causes projects to be delayed, especially those aimed at improving people's quality of life. Therefore, institutional corruption is a problem that deserves special consideration, as it is one of the social problems that has the greatest incidence in countries with weak institutions that affect the economy (World Bank, 2022). For this reason, it is recognized that there are various studies carried out on corruption and most of them are oriented towards economic losses, with the effectiveness of government policies to combat it. Finally, corruption has been studied in the public health sectors and private sector enterprises. On the other hand, corruption has been studied with variables such as integrity, personal values, organizational culture, politics, and democracy (Sihombing, 2018; Balci et al., 2012; Yang, & Zheng, 2020; Fagbenro et al., 2019). But access to instruments that assess the perception of institutional corruption in the political and economic development of countries is limited.

Keshky et al. (2022) in Saudi Arabia developed a research aimed at analyzing the psychometric properties of the Dirty Dozen Dark Triad in a sample of 1,329 respondents with an average age of 26 years, finding that the factor analysis yielded the constitution of three factors with factor loads between 0.29 and 0.83; The reliability of internal consistency and test-retest reliability were adequate (0.70–0.86 and 0.58–0.75). Moderate to high Pearson correlations supported the convergent and concurrent validity of the scale.

Sihombing (2018) in Indonesia, in order to know people's perception of corruption, developed a questionnaire with scores between 0 and 100, where zero implies that there is no corruption and 100 implies that it is a highly corrupt country. Vieira et al. (2022) designed and validated a scale to assess citizens' perception of corruption in a sample of 1,075 people, the results evidenced the configuration of five dimensions (behavior, knowledge, reflex, control and attitudes) with factor loads between 0.40 to 0.88, these factors represent more than 50% of the total variance explained; reliability was obtained using Omega and ranged from 0.75 to 0.87.

In Peru, the following works have been found, Freundt-Thurne & Tomás-Rojas, (2020) developed an instrument to assess common behaviors related to corruption in 340 students aged 17 to 29 from a private university in Lima, found that the content validity shows acceptable values, the evidence of the internal structure indicates a KMO of 0.86, Of the 15 items, only 19 were validated with absolute values of 0.30; The confidentiality values were 0.83 and 0.84. For their part, Orellana & Bossio (2021), analyzed the psychometric properties of a scale on attitudes towards corruption in a sample of 109 university students

considering various professional careers aged 18 to 26 years, finding that the factor analysis yielded the structure of seven dimensions and 20 items, the correlations between the dimensions were (0.20) and the reliability values was 0.82.

Empirical evidence indicates the approach to corruption in its different types. While it is true that instrumental studies show scales that measure similar variables such as attitudes, perception of corrupt behaviors, and only one evaluates the perception of corruption, there are limited psychometric studies that evaluate the perception that young people have about the perception of corruption in State institutions. its measurement remains a problem (Gouvêa Maciel et al., 2022). Under this problematic context, this research aims to determine the evidence of validity and reliability, and to develop a proposal for percentile norms of a scale on the perception of institutional corruption in university students.

METHODOLOGY

Research Design

According to the stated objective, the design selected in this research was instrumental, because it is aimed at determining the psychometric properties of a scale that evaluates the perception of institutional corruption (Ato et al., 2013).

Participants

The Institutional Corruption Perception Scale was applied to 612 university students from various faculties: psychology, engineering, administration, translation, among others. They were students from the first to the tenth cycle. Among their characteristics are that they are adolescents and young people who, due to problems with the justice systems and other State institutions, show attitudes and perceptions of rejection towards participation in political activities. Their ages range from 17 to 25 years old, however, some of them are older.

Instruments

To assess the perception of corruption in institutions, a scale on the perception of institutional corruption in university students was developed. The original version of the scale had 30 items distributed in three dimensions: perception of corruption in public institutions, perception of corruption of judicial institutions, perception of corruption of legislative institutions. When analyzing the factorial loads of the items, all those with loads less than 0.35 were suppressed, after this procedure, only 24 items were validated with a Likert-type response where 1 means total disagreement and 5 implies total agreement, the three dimensions originally proposed were maintained. The evidence of construct validity indicated that the indices of fit and goodness are acceptable (see table 2), and the reliability was higher than 0.70 at the general level and in its dimensions.

Procedures

Data collection was carried out during the months of April to July 2023. The application was online in order to reach a greater number of participants and optimize resources. Coordination was made with professors from various universities in the cities of Lima, Chiclayo and Piura so that they can apply the questionnaires to students during class hours and that they can also share them in their study groups among students and teachers. Second, the Excel sheets were downloaded in order to replace the answers in numerical values to be exported to statistical programs to perform the respective processing.

Data analysis

In order to analyze the data and develop the proposed objectives, the following programs have been used. The construct validity by means of confirmatory factor analysis was

processed in the JASP, the reason for the choice was that this software provides the indices of comparative fit and goodness which allows to determine if the proposed model has an adequate fit according to the data. Reliability was estimated using Cronbach's Alpha and Omega through the Jamovi. Finally, descriptive statistics, sociodemographic variables and percentile norms were processed with the SPSS-27 program.

Ethical aspects

In order to be governed by ethical principles in research involving human beings, the deontological criteria of the Code of Ethics of the College of Psychologists of Peru and the regulations established by the APA have been used as a standard. Informed consent was considered, which was given at the beginning of the survey where they expressed their voluntary participation. With regard to intellectual property, for this purpose, the authors have been correctly cited in accordance with the APA standards in their seventh edition. The confidentiality of the data has been guaranteed, for this reason, the surveys were answered anonymously and only sociodemographic data of special relevance were requested, and the name of the universities that have participated is kept confidential, only the faculties are mentioned. Finally, the principles of beneficence and non-maleficence were considered, i.e. the conduct of the study generates a benefit for the community, at no time was the integrity or deliberate publication of the information jeopardized.

RESULTS

Table 1 Descriptive analysis of sociodemographic variables

Variable	Description	F	%
Sex	Man	186	30,4
	Woman	426	69,6
	Total	612	100,0
Racing	Psychology	444	72,5
	Engineering	55	9,0
	Translation	49	8,0
	Administration	39	6,4
	Other	25	4,1
	Total	612	100
Origin	Piura	380	62,1
	File	205	33,5
	Other	27	4,4
	Total	612	100,0
Age	Minimal	Maximum	Stocking
	16	42	19,96

A total of 612 university students participated in the research, 30.4% of whom were men and 69.6% women. It should be noted that the largest number of participants were female students. Regarding the distribution of the sample by faculties, it is observed that most of them were psychology students with 72.5% of the total number of participants and the rest were from other faculties, but in a lower percentage. Regarding origin, the majority (62.1%) were from the city of Piura, 33.5% from Lima, and a small minority were from other cities. Regarding age, it is evident that the minimum age was 16 and the maximum was 42, with the average age of the participants being 19.96 years.

Table 2 Descriptive statistics of the items

Items	N	Minimal	Maximum	Stocking	SD	Asymmetry	Kurtosis
P1	612	1	5	2,3529	1,04542	,402	-,496
P2	612	1	5	3,4657	,99613	-,638	,068
P3	612	1	5	3,3072	1,06595	-,417	-,373

P2	0.1	0.2	0.2	0.2	0.4	0.0	0.3	0.3	0.4	0.4	0.5	0.3	1.0
2	6	3	3	5	3	9	2	5	7	7	2	7	0
P2	0.1	0.2	0.2	0.3	0.0	0.3	0.4	0.5	0.4	0.4	0.4	1.0	
3	4	4	0.2	1	4	9	2	3	2	6	9	0.4	5
P2	0.0	0.1	0.1	0.3	0.1	0.3	0.4	0.5	0.5	0.5	0.4	0.4	0.6
4	8	9	8	9	7	4	6	2	8	1	6	4	6
P2	0.0	0.2	0.1	0.3	0.1	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.5
5	8	6	0.2	9	7	1	2	8	5	6	7	4	9
P2	0.1	0.2	0.2	0.2	0.3	0.0	0.3	0.3	0.3	0.4	0.3	0.3	0.4
6	3	3	7	1	9	8	4	4	4	5	4	4	1
P2	0.1	0.2	0.2	0.2	0.3	0.0	0.3	0.3	0.4	0.4	0.3	0.4	0.5
7	2	1	6	3	5	8	2	7	6	8	3	6	9
P2	0.1	0.2	0.2	0.1	0.3	0.1	0.3	0.4	0.4	0.5	0.4	0.4	0.5
8	2	1	8	8	6	5	9	1	6	2	9	5	9
P3	0.0	0.1	0.0	0.1	0.2	0.1	0.2	0.3	0.4	0.4	0.3	0.3	0.5
0	3	3	9	4	5	2	4	5	6	1	4	7	6
P3	0.0	0.2	0.1	0.1	0.3	0.1	0.3	0.4	0.5	0.5	0.5	0.4	0.5
2	4	8	6	1	6	6	1	2	6	2	7	5	6
P2	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.4	0.4	0.4	0.3	0.5	0.4
9	5	3	1	1	0.3	4	5	0.4	4	1	5	1	4

The analysis of the correlation matrix indicates that most of them have significant and highly significant correlations; However, some of them have correlation coefficients that are not significant, but this occurs only with some, such as item 9, 1, only in those cases.

Table 4 Confirmatory Factor Analysis Indices

Description of Statisticians	Value
Kaiser-Meyer-Olkin test	0.946
Bartlett's test	< .001
CFI	0.913
TLI	0.903
RMSEA	0.065
SRMR	0.050

The comparative fit and goodness indices obtained from the model proposed in the confirmatory factor analysis are in ranges recommended by the literature. When performing the factor analysis, it was necessary to verify whether there was an adequate sampling adequacy. Having obtained a KMO of 0.946, the rest of the results were estimated, and the sphericity test showed highly significant values. When analyzing the comparative adjustment indices of IFC and TLI, both were higher than 0.90 acceptable values, the same happened with the goodness indices that were less than 0.065. With these results, the analysis of the factors was carried out, having previously fulfilled these statistical conditions.

Table 5 Factor Loads of the Items of the Attitudes Towards Corruption Scale

	Item Description	Factor loads	P
	Factor I: Corruption of public institutions		
1	In state institutions you are taught to be corrupt	0.372	< .001
2	When you work in state institutions, you must align yourself with the rules of your immediate boss, otherwise you will not last in the position	0.589	< .001
3	To enter the state institutions to work, you need to have an acquaintance to help you enter	0.740	< .001

4	To work in a municipality, you have to belong to the party that won in order to get a position	0.709	< .001
5	Jobs in some institutions are fixed under the table	0.706	< .001
9	It is impossible to put an end to the dishonesty of state officials	0.347	< .001
Factor II: Corruption of Judicial Institutions			
12	Justice is only for a few who have money and who can drag out the processes	0.629	< .001
17	Institutions such as the prosecutor's office and the judiciary have lost their raison d'être	0.595	< .001
19	Justice systems are totally corrupted by money	0.719	< .001
20	Politicians are mostly more favored by justice than ordinary people	0.712	< .001
21	Justice takes a long time in the country because there are corrupt judges	0.670	< .001
18	Justice's actors always obey hidden orders to act for or against someone	0.582	< .001
Factor III: Corruption of legislative institutions			
22	The congressmen of the Republic look after the interests of their parties or leaders	0.599	< .001
23	The Congress of the Republic is full of incompetents	0.742	< .001
24	Congressmen are not interested in the people, but in filling their pockets	0.774	< .001
25	Congressmen's campaigns are funded by some corporations	0.648	< .001
26	Congressmen come in to return favors	0.645	< .001
27	Congress is always on the side of the big transnationals	0.651	< .001
28	Congressmen act as puppets of economic groups	0.721	< .001
30	Political parties never keep their promises	0.665	< .001
32	Politicians promise to get elected, then forget their promises	0.720	< .001
29	Peru does not have autonomy in its political decisions	0.609	< .001

The original version of the institutional corruption perception scale proposed by its authors had 32 items. When the data were subjected to a confirmatory factor analysis, all items were loaded into their proposed factors; however, the comparative adjustment indices (CFI and TLI) were less than 0.90, therefore, the proposed three-dimensional, 32-item model did not fit the data. Therefore, items with factorial loads below 0.35 were eliminated. The items eliminated were 6,7,8,10,11,13,14,15,16,31, when these items were eliminated, it was observed that the comparative adjustment indices were greater than 0.90 which indicate that the model is acceptable. Finally, the scale of perception of institutional corruption has been composed of 22 items with absolute values between 0.36 and 0.70 that are significant. The dimension called perception of public institutions is composed of the following items (1,2,3,4,5,9); The second dimension, which was called perception of judicial institutions, is composed of the items (12,17,18,19,20,21); and finally, the third dimension was called perception of legislative institutions, which is made up of the items (22,23,24,25,26,27,28,29,30,32). The response scale for all items is Likert-type ranging from 1 to 5, where 1 implies total disagreement and 5 strongly agree.

Table 6 Reliability of scale and scale dimensions

Description	Stocking OF	Cronbach's Alpha	McDonald's ω
Corruption of public institutions	3.19	0.679	0.713
Corruption of judicial institutions	3.74	0.712	0.833

Corruption of legislative institutions	3.87	0.709	0.913	0.915
Institutional corruption	3.65	0.595	0.918	0.924

The analysis of the reliability values of the institutional corruption scale indicates results in acceptable ranges. The dimension perception of corruption of public institutions has a reliability coefficient of 0.729; perception of corruption of judicial institutions (0.841); corruption of legislative institutions 0.915. The global scale of institutional perception has a reliability of 0.924.

Table 7 Proposal for percentile norms

		Corruption of public institutions	Corruption of judicial institutions	Corruption of legislative institutions	Institutional corruption
N	Valid	612	612	612	612
Stocking		19,13	22,45	38,74	80,32
Desv. Deviation		4,076	4,274	7,087	13,099
Minimal		6	6	10	22
Maximum		30	30	50	110
Percentiles	5	12	15	28	59
	10	14	17	30	64
	15	15	18	30	67
	20	16	19	33	70
	25	17	19	34	72
	30	17	20	36	75
	35	18	21	37	76
	40	18	22	38	78
	45	19	22	39	80
	50	19	23	39	81
	55	20	23	40	82
	60	20	24	40	84
	65	21	24	42	85
	70	21	24	43	87
	75	22	25	44	89
	80	22	26	45	92
	85	23	27	46	94
90	24	28	48	98	
95	26	30	50	100	
100	30	30	50	110	

Because the scale is a proposal to evaluate the corruption of state institutions from the perspective of students, it is important to develop scales in order to assess the characteristics of their perception of institutional corruption. They have developed percentile norms at a general level and by dimensions, considering three categories of evaluation: low perception, regular perception, and high perception of institutional corruption. On the overall scale, direct scores of 59 to 72 are within a percentile below 25 that puts you in a low category; Scores from 75 to 89 are within the 26 to 75 percentile which implies regular perception. Finally, direct scores from 92 to 110 are within the percentiles from 76 to 100 that places them in a high perception category of institutional corruption.

DISCUSSION

Corruption within state institutions directly affects the economy and the development of public investment projects for the benefit of the community. For this reason, one of the Sustainable Development Goals in the United Nations 2030 agenda is to promote decent

work and economic growth. To achieve this goal, it is a priority to develop mechanisms to reduce corruption in public institutions of the State. However, a considerable limitation is having a valid and reliable instrument to assess the perception of institutional corruption. Under this problematic context, this research aimed to design and determine the evidence of validity and reliability of the institutional corruption scale in a sample of university students.

The first specific objective was to determine the evidence of the internal structure through factor analysis, finding that it was feasible to perform the confirmatory factor analysis by finding a KMO of 0.946 and the values in the sphericity test of 0.000. In the factor extraction matrix, all three dimensions have been confirmed; However, of the 32 items originally proposed, 10 items have been eliminated, leaving the scale made up of three dimensions and 22 items with absolute values greater than 0.40. The model proposed and validated by the factor analysis is valid because the CFI and TLI comparative fit indices are higher than 0.90, and the goodness-of-fit RMSEA and SRMR indices were less than 0.06, which is within the scope recommended by the literature (Sun, 2005; Heene et al., 2011). This means that the proposed factor structure after the elimination of the items fits the data and the characteristics of the study population.

Other psychometric studies have found similar values, although with related variables. For example, Keshky et al. (2022) in Saudi Arabia developed a research aimed at analyzing the psychometric properties of the Dirty Dozen Dark Triad in 1,329 people, finding absolute values of 0.20 and 0.83 in the factor analysis and the adjustment indices presented acceptable values. On the other hand, Vieira et al. (2022) designed and validated a scale to assess citizens' perception of corruption in a sample of 1075 subjects, obtaining five dimensions (behavior, knowledge, reflex, control, and attitudes) with factor loads between 0.40 to 0.88, these factors represented more than 50% of the total variance explained. Although it is true that access to instruments that evaluate the perception of institutional corruption is limited, it can be observed that the research consulted shows that the items that have been proposed configure the proposed factors and also evaluate the construct of corruption in a large percentage.

As a second specific objective, we sought to determine the reliability of the scale on the perception of institutional corruption, using the Omega coefficient, a reliability of 0.924 was found and in its dimensions it presented values between 0.72 and 0.91, which indicates acceptable values (Ventura & Caycho, 2017, Sánchez et al., 2018). This means that the scale has less variability, and its results, when applied in different or similar contexts, will have characteristics of precision and accuracy (Rojas & Robles, 2015, Aravena et al., 2014). Other research has also found similar results. Freundt-Thurne & Tomás-Rojas (2020) in Lima, Peru, designed an instrument to assess behaviors associated with corruption in 340 students aged 17 to 29, where they found confidentiality values of 0.83 and 0.84. For their part, Orellana & Bossio (2021), analyzed the psychometric properties of a scale on attitudes towards corruption in a sample of 109 university students from various professional careers, obtaining a reliability of 0.82. Therefore, the results of the scale, when applied in different contexts and over time, will have precision and accuracy, giving greater consistency to the data and serving to guide future intervention measures.

Finally, as a third specific objective, we sought to develop a proposal for percentile norms to identify the characteristics of the perception of corruption within institutions. Consequently, by means of percentiles, a proposal of scales has been developed at a general level and by dimensions, considering three categories of evaluation: low, regular and high perception. Overall, direct scores from 59 to 72 are within a percentile below 25 that puts you in a low category; scores from 75 to 89 are within the 26 to 75 percentile which implies regular perception; Finally, direct scores from 92 to 110 are within the percentiles of 76 to

100, which places them in a high category of perception of institutional corruption. Its elaboration will allow that in any area where the scale is applied, whether in university populations or other analogues, it will be possible to determine how people perceive corruption within State institutions. In other words, the direct scores will be converted into percentiles (Aragón, 2004) and in this way it will be possible to identify the type of perception that students have.

As a complementary part of this section, it is important to note the practical and methodological implications of this research. On the one hand, because corruption occurs and impacts many aspects of people's daily lives, especially in the economic sphere (Sommersguter-Reichmann et al., 2018; Ojeka et al., 2019; Owusu et al., 2019). As a consequence, the people lose confidence in the government, especially young people, for whom the issue of corruption is one of the main reasons why they have lost interest in talking about politics and government. If young people don't want to talk about corruption, how can they be interested in fighting it? (Sihombing, 2018). Therefore, it is essential to know what is the perception they have about institutional corruption in university students. In this sense, the construction of this scale will allow us to know the characteristics of their perception of corruption, and in this way be able to promote values such as integrity, honesty, work from early childhood programs in children in order to be trained academically, but also morally, which has to do with the practice of values. On the other hand, knowing the perception of institutional corruption will allow the development of activities to encourage participation in politics, that is, to see politics as an opportunity to work for the development and well-being of the community and not to obtain personal benefits.

CONCLUSIONS

Because institutional corruption is a problem that is expressed in the different institutions of the State and that affects the quality of life of people and, above all, makes young people uninterested in participating in politics because of the corruption of public officials. The objective of this research was to construct and determine the validity and reliability processes of a scale to evaluate the perception of institutional corruption in university students, finding as a result that the proposed model has an adequate internal structure and enjoys reliability indices above those expected. Therefore, it is feasible to use it as an assessment and diagnostic tool in university and other analogous contexts.

The proposed scale will allow to identify the characteristics of the institutional perception in students, consequently, educational institutions will be able to promote an education in values that include work, integrity, respect for the property of others, teamwork and honesty in students, only in this way will students be formed who are not only academically trained, but also academically but also morally. Another benefit of the research is that education in values will help promote greater participation in politics, aspects that are currently neglected due to the bad actions of officials of state institutions.

Among the limitations, two can be mentioned basically: first, as far as is known, this is a first instrument that evaluates the perception of institutional corruption, therefore, it has not been possible to estimate convergent validity, therefore, it would be important for future research to be able to estimate this type of validity. Finally, the other limitation is based on the scales, that is, only one proposal has been made at a general level, it has not been possible to establish scales by sex or age because the distribution of the population in terms of sex has not been homogeneous. It is recommended that further research consider homogeneous samples and that a proposal for scales based on sex and age group can be developed.

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