

# Preliminary Construction of the Perception of Organizational Rumor Scale (PORS) in a Sample of Workers in Puerto Rico<sup>4</sup>

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## Abstract

The objective of this study was to examine the psychometric properties of the Perception of Organizational Rumor Scale (PORS) in a sample of workers in Puerto Rico. The researcher developed the scale using Lawshe's Method with twelve subject matter experts. The sample consisted of 150 working adults, and 65% were females, and 59% worked in the private sector. The scale is a 7-point Likert scale ranging from 1= "hardly ever" to 7 = "almost always" and contained eight items that complied with the discrimination criteria and has a two-factor solution which explains the variance scorings, as well as possess a Cronbach's alpha of (.87). The results suggest that the scale has the potential to measure the construct.

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### Keywords

content validity; rumors; Lawshe's Method;  
Exploratory Factor Analysis; Likert Scale

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# Construcción preliminar de la Escala de Percepción de Rumor Organizacional (EPRO) en una muestra de trabajadores en Puerto Rico

## Resumen

El objetivo de este estudio es examinar las propiedades psicométricas de la Escala de Percepción de Rumor Organizacional (PORS) en una muestra de trabajadores en Puerto Rico. El investigador desarrolló la escala usando el Método de Lawshe con doce expertos en la materia. La muestra consistió en 150 adultos trabajadores, el 65% eran mujeres y el 59% pertenecían al sector privado. La escala se construyó en una escala Likert de 7 puntos que variaba de 1 = "casi nunca" a 7 = "casi siempre". Esta contenía ocho ítems que cumplían con los criterios de discriminación y una solución de dos factores que explican los puntajes de varianza, además de poseer un alfa de Cronbach de (.87). Los resultados sugieren que la escala tiene un potencial para medir el constructo.

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Palabras clave  
validez de contenido, rumores, Método Lawshe,  
Factor Análisis Exploratorio, Escala Likert.

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# Construção Preliminar da Percepção da Escala de Rumor Organizacional (PORS) em uma Amostra de Trabalhadores em Porto Rico

## Resumo

O objetivo deste estudo foi examinar as propriedades psicométricas da Percepção da Escala Organizacional de Rumor (PORS) em uma amostra de trabalhadores em Porto Rico. O pesquisador desenvolveu a escala usando o método de Lawshe com doze especialistas no assunto. A amostra foi composta por 150 adultos trabalhadores, sendo 65% do sexo feminino e 59% do setor privado. A escala construída é uma escala Likert de 7 pontos que varia de 1 = quase nunca a 7 = quase sempre e contém oito itens que cumprem os critérios de discriminação e tem uma solução de dois fatores que explica as pontuações de variância, além de terem um alfa de Cronbach de (.87). Os resultados sugerem que a escala possui um potencial para mensurar o constructo.

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Palavras chave  
validade de conteúdo, rumores, Método Lawshe, Fator  
de Análise Exploratória, Escala de Likert

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## Introduction

Rumors have its history, and throughout humankind's history, rumors have played a significant political, economic, psychological mechanism in human behavior. Its implications influence how individuals should think, behave, and what to believe. Rumors have been a negative psychological and sociological mechanism of control, and most of the time, certain individuals used rumors to fulfill their social-economic political agenda and interests (DiFonzo & Bordia, 2013; Rosnow & Fine, 1977).

In contemporary organizations, organizational rumors played a detrimental role in the workplace, on employee's behaviors, co-workers' work relationships, and impact on the organization itself. Many organizations faced negative rumors which produced a setback on their products, work production, consumer's relationships, and capital investments. Moreover, organizations had to invest their resources to build a new corporate campaign to fight off the harmful rumors and retain their clients, as well as the companies, can survive and run its operations (DiFonzo & Bordia, 2013; DiFonzo, Bordia & Rosnow, 1994; Kimmel, 2008, 2012).

## Definition of Rumors

DiFonzo and Bordia (2013), argue that there were attempts to well-defined rumors and points out that Allport and Postman's classical definition of what they believe that rumors are passed along from person to person usually by word of mouth. However, Rosnow (1980;

1988; 1991), mentions that Allport and Postman's definition is outdated because there are other means for rumors to travel, such as in the printed press, through the Internet, and other communication media in which rumors can travel quickly.

According to Allport and Postman (1947), describe rumors as a particular or topical proposition of a belief that is passed along from person to person by word of mouth without having standards shred of evidence. From a sociological point of view, Shibunati (1967), defines rumor as an alternate form of communication in which individuals are caught together in an ambiguous situation and predicament. The individuals will attempt to construct an understanding-logical interpretation by drawing on their intellectual resources and used it as a form of group collective problem-solving. Rosnow (1988, 1991), states that rumors are technically a proposition as well a belief system of a topical local reference without official verification. Rosnow and Fine (1977) and Rosnow (1991) assert that rumor is a process of explaining things about the world or local events and integrates a range of findings based on four conditions: personal anxiety, general anxiety, credulity, and local importance, which may predict rumors. Kimmel (2012), term rumors as public communication embellished by allegations or attributions based on circumstantial, unverified evidence, that reflect people's assumptions about how the world works. Clegg and Iterson (2009), express that rumor is characterized by the desires and the interpretation of ambiguous or threatening situations.

Similarly, Bordia and Rosnow (1998), Bordia (1996), DiFonzo and Bordia (2013), define rumor as false information that is

usually of local news or current issues that people tends to believe the rumors. Rumors are like news; rumors tend to explain important events that can be about people or other public affairs, which can be either positive or negative, however, rumors by definition states that are unconfirmed. Rumors serve people as a belief system, especially when there is a lack of information. Therefore, rumors are speculations for people to be able to answer any discrepancies.

On the other hand, DiFonzo and Bordia (2013), say that the rumors are unverified, and relevant information in people that arise in contexts of ambiguity, danger, or when people believe there is a potential threat coming towards them. Its function is to help people make sense and manage risk. DiFonzo and Bordia (2013) believe that rumors are an enduring force of social and organizational landscapes that attract attention, hysteria, evoke emotions in people, and make people come together; it affects the individual's behavior. Furthermore, rumors are not only a social psychology topic, and it became an interest in other fields in the social sciences and the organizational phenomenon that includes social cognition, attitude formation, prejudices, group dynamics, intergroup relations, social influence, organizational trust, and communication.

Bordia and DiFonzo (2013); DiFonzo (2008) and Rosnow and Foster (2005), affirm that rumors are like prejudices when a story agrees with the already established popular conventional belief system in people; it is more likely that the people will view it to be true. According to Bergmann (1993), says that rumors do not refer to the individual or about the person's affairs and do not require the construction of a particular network, rumors are

unauthorized messages, which are of universal interests, and spreads diffusely.

## Rumor Theory

The Rumor Transmission Theory of Buckner. Buckner (1965), argues that there are two patterns of rumors; the first type of rumor is when a rumor moves from person to person in a serial sequence and a series of single interactions. The second type of rumor is called the network in which a broader audience of people hears the rumor from more than one source. The two-group level variables operate to encourage or to slow down the spreading or replication rumors. Also, individuals bring together a group of people, which becomes a public audience. As a result, the general audience continues to spread the rumor, and there is active participation from the audience in spreading the rumor. Meanwhile, a rumor holds a keen interest in a group. In the end, the individual can interact with more than one person. Thus, the rumor will be more accurate at each stage of transmission due to cross-checking with the available references to test the truth.

In other words, Buckner's theory, there is a close group of individuals that have high involvement participation in a rumor activity. Consequently, the individuals participating in rumor activity would generate a good deal of interaction and recirculation, and rumors will recirculate, thus creating a higher level of multiple interactions, rather than a single chain reaction of rumor transmission. A dispersed group of individuals having a higher rumor involvement ought to generate serial chains of communications and a few bits of

information recirculation; subsequently, moderate levels of multiple interactions. Next, the close group of individuals having a low rumor involvement will result in a few smaller serial chains and bits of information and recirculation, once again generating only multiple moderate interactions. Lastly, the dispersed group of individuals having a low rumor involvement would generate shorter serial chains and low multiple interactions (Bordia, 1996; Buckner, 1965; Bordia & Rosnow, 1998; DiFonzo & Bordia, 2013).

## The Aim of this Study

The objective of this study was to access the psychometric properties of the Perception of Organizational Rumor Scale (PORS) to measure organizational rumors in the Puerto Rican workforce since there were no previous instruments to measure the phenomenon in Puerto Rico.

## Methodology

This study followed a quantitative non-experimental cross-sectional design. The scale was constructed using the recommendations by Crocker and Algina (1986) when developing an instrument based on the extant literature review, concept analysis and the construction of the definitions and terms and theories.

## Sample

The criteria of selection for the participants to participate in this study that they currently worked at least part-time either in public or private sector in Puerto Rico and were 21 years old and older and of both sexes. The criteria of inclusion were jobs that were of freelancing, professional services by contract or by temporary contract. The sample of this study consisted of 150 participants, and 65 % ( $n=97$ ) were females, and the mean age of the participants was 36.55, and the age range was from 21 to 65 years old. Most the participants belong to the Generation Y (1981-1999) was 49 % ( $n=73$ ), the Generation X (1965-1980) was 32%, and the Baby Boomers (1946-1964) was (19 %). A 48 % ( $n=72$ ) participants were single and a 29 % ( $n=44$ ) has a Bachelor's degree. A 71% ( $n=107$ ) live in the Southern region; a 59 % ( $n= 88$ ) worked in the private and 41% in the public sector. In tenure, the majority 45 % ( $n= 67$ ) worked 1 to 5 years in the organization. A 79 % ( $n=119$ ) held a non-management position and a 22 % held a management position.

## Instruments

The instrument is the Perception of Organizational Rumor Scale was used to measure organizational rumors a 7-point Likert scale ranging from 1= "hardly ever" to and 7 = "almost always." The scale has an overall Cronbach's alpha of (.87). It consists of two subscales, which is Existence of Rumors that is the fact of the existence or a present of rumors. The second is Veracity of Rumors that is the conformity to the facts, accuracy, and verification of rumors.

The second instrument was the Socio-demographic Questionnaire, which contained the independent variables such as sex, sector (public and private), geographic workplace location, age, tenure, civil status, the level of education, and job position. The third instrument is the 9-item, Utrecht Work Engagement Scale short version by Schaufeli et al. (2006) was used to perform a divergent validity with the Perception of Organizational Rumor Scale. The fourth instrument is the Spanish version of the 9-item Office Gossip Scale of Schmidt validated by the researcher, which went through a back-translation process from English to Spanish and has a Cronbach's alpha of (.92). The scale is a 7-point Likert Scale ranging from 1 = "hardly ever" to 7 = "almost always" was used to perform a convergent validity with the Perception of Organizational Rumor Scale.

## Procedure

First, to comply with the aim of this research and the university's Institutional Review Board (IRB). It requires a researcher to request permission before conducting research. It is essential that all participants, subject matter experts, and authors of the instruments sign a consent form before participating in the study as required by the IRB.

Second, the researcher contacted twelve subject matter experts (SME) in the areas of Industrial-Organizational Psychology and Clinical Psychology with doctoral degrees and current residents from Puerto Rico. The researcher had communicated with the SME by email, by telephone, or in person, and agreed to send the Rumor Questionnaire and a letter of

participation upon the SME's petition. The original scale contained 49 items, which was a list of items based on the literature review of rumor transmission, definitions, and rumor theories.

Third, a consent form was handed out to the participants, which they were informed about the purpose of the study, their rights to volunteer and withdrawal from the study, the confidentiality, and when the results are available. The participants were asked to participate voluntarily and use word of mouth in the study. Another method used to collect the data was the snowball method, also known as snowball sampling. A snowball sampling was used because the researcher confronted difficulty obtaining permissions from some of the organizations due to the delicate subject of the research and declined to participate.

Further, the researcher conducted a field study and visited government public areas such as cafeterias and lobbies, and asked participants to participate, and explained the purpose of the study; distributed a consent form in which the participants signed and agreed to take part in the study. The participants received the questionnaires, and the researcher waited until the participants completed in answering the scales or agreed on a date and a time to collect the scales according to the participant's convenience.

Last, the Lawshe's Method (1975) is a standard method for researchers and subject matter experts to select the essential and non-essential items in constructing and validating a new scale or an instrument. The items were selected by using the Content Validity Ratio (CVR) according to Lawshe's Method with the

indications from the Schipper Table using the formula  $CVR = (ne - N/2) / (N/2)$  where  $CVR =$  content validity ratio,  $ne =$  number of SME panelists indicating the essentials,  $N =$  total of the number of SME panelists. Next, the scale was statistically tabulated and calculated using IBM SPSS computer software version 23 to find the content validity ratio, discrimination index, and reliability score.

## Statistical Analysis

The data for the statistical analysis was performed with the SPSS IBM version 23 software. The Cronbach's Coefficient Alpha formula and the Exploratory Factor Analysis was used to compute and then select which of the items from the scale will remain. The first phase is to calculate the content validity ratio (CVR) of the scale using Lawshe's Method. Next, during the second phase, the selection of items was the analysis of the items by using the criterion of discrimination index greater than or equal to .30 (DeVellis, 2016).

The items that complied with the criteria were selected and submitted in the

third phase which was an exploratory factor analysis performed, and a load factor greater than or equal to .30 was established as a criterion (Kline, 2000). The extraction method of principal axis factoring and direct rotation oblimin was performed on the items that complied with the criteria of (.30). The next phase was to compute the final version of the scale with the Cronbach's Alpha Coefficient formula. Lastly, to test the convergent and divergent analysis, Pearson correlation coefficient was used to test the construct of the Perception of Organizational Rumor Scale.

## Results

### Content Validity

The Lawshe's Method was employed and which states that for twelve subject matter experts, the Content Validity Ratio (CVR) must be equal to or higher than (.56). The following Table 1 presents the values of CVR for each of the original 49 items of the PORS instrument.

Table 1  
Content Validity Ratio of the 49 Items from PORS

Item	CVR	Item	CVR	Item	CVR	Item	CVR
1	1.00*	14	.66*	27	0.5	40	1.00*
2	.83*	15	0.5	28	.66*	41	1.00*
3	0.5	16	.66*	29	.66*	42	.83*
4	.66*	17	1.00*	30	0.33	43	.83*
5	0.33	18	0.5	31	.66*	44	1.00*
6	0.33	19	.66*	32	1.00*	45	.66*
7	.66*	20	.66*	33	.83*	46	0
8	1.00*	21	0.33	34	0.5	47	.83*

Continúa

Continuación

Item	CVR	Item	CVR	Item	CVR	Item	CVR
9	0.33	22	<b>.66*</b>	35	0.5	48	<b>.83*</b>
10	<b>.66*</b>	23	0.5	36	0.33	49	0.5
11	<b>.83*</b>	24	0	37	0.33		
12	0.33	25	<b>.83*</b>	38	<b>1.00*</b>		
13	<b>.83*</b>	26	<b>1.00*</b>	39	<b>1.00*</b>		

Note: \* Selected Items that complied with the criteria of  $\geq .56$  are bolded.

According to the table, the scale ended up with 31 items. Although the 31 items obtained a CRV equal or greater than .52, it was decided to eliminate nine items because it was redundant and the nine items were identical and repetitive within each other. Also, a preliminary Cronbach's alpha analysis was used to determine if the repetitive items and item correlation index improve the alpha score of the scale which after deleting the nine items, there was an improvement of the preliminary reliability score. DeVellis (2016) argue that to improve an instrument to check the index of discrimination that scores at least (.30) and by removing an item can improve the Cronbach's alpha of an instrument. Therefore, the scale ended with 22 items. The 22 items were used to construct the scale in which it established the Content Validity Index, which was (.83). Consequently, the scale was administrated to the participants, and the data was collected, and then conducted an analysis of items, specifically Item-Scale Correlations. A value greater than or equal to .30 suggested by Kline (2000) was established to select which items are valid. The following table 2 presents the discrimination index of the 22 items of the scale.

Table 2

*Discrimination Index for each Item on PORS*

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Discrimination Index
1	67.85	1123.02	<b>.37*</b>
2	66.00	1107.67	<b>.35*</b>
3	67.48	1108.50	<b>.45*</b>
4	67.69	1115.14	<b>.40*</b>
5	66.41	1099.92	<b>.40*</b>
6	67.06	1103.02	<b>.41*</b>
7	66.92	1104.56	<b>.39*</b>
8	67.11	1105.92	<b>.37*</b>
9	66.75	1093.79	<b>.42*</b>
10	66.87	1092.39	<b>.46*</b>
11	66.82	1101.35	<b>.47*</b>
12	66.96	1102.40	<b>.43*</b>
13	66.06	1124.30	.20
14	66.40	1093.74	<b>.42*</b>
15	67.18	1108.80	<b>.38*</b>
16	66.06	1114.95	.24
17	65.67	1133.40	.11
18	68.00	1127.22	.29
19	63.63	570.85	-.01
20	67.26	1093.20	-.00
21	66.91	1113.66	.28
22	66.89	1119.50	.28

Note: \* Selected Items that complied with the criteria  $\geq .30$  and bolded



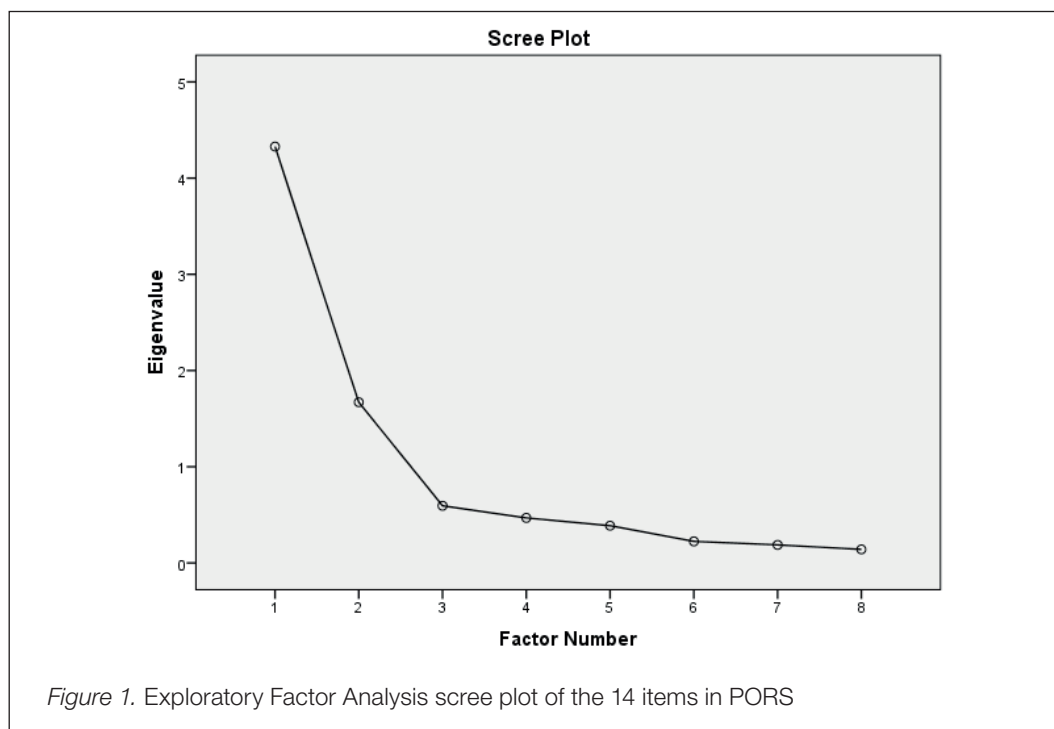
According to the table, it shows that the eight items were removed because it received a discrimination index less than (.30).

## Initial Construct Validity

The construct validity and the internal structure of the scale were examined; several factor analyses were performed on the 14 items that complied with .30 as the criteria for discrimination index. Also, to determine the construct validity of the instrument, a factor analysis was performed using the Principal Axis Factoring extraction with an oblique rotation to explain the variance and considered the criteria of factor loading of (.30). From the Exploratory Factor Analyses, the results suggest an internal structure of two-factor solutions in which later on were labeled into two subscales as follows: Existence and Veracity. The inspection of the correlation matrix revealed the presence of many coefficients of .30 and above. The Test

Kaiser-Meyer-Olkin supports the adequacy of the sampling data for the analysis of the KMO =.818 exceeding the recommended value of .6 (Kaiser, 1970). The Bartlett's Test of Sphericity (Bartlett, 1954) showed a significant of  $X^2(28) = 783.146$ ,  $p < .001$ , indicating that the correlation between the items was significant enough to perform a factor analysis and support the factorability of the correlation matrix.

The 14 items of the scale were subject to a Principal Axis Factoring. The Principal Axis Factoring revealed the presence of two-component with eigenvalues exceeding 1, explaining the first component a 54.101% and the second component a 20.881% of the variance respectively. The scree plot suggests that the scale has two factors or two components. An inspection of the scree plot revealed a clear break after the second component. It was decided to retain two components for further investigation using Catell's (1966) scree test (see Figure 1).



The two-component solution explained a total of 67.10% of the variance, with Component 1 contributing a 50.23% and Component 2 contributing a 16.86%. A direct rotation oblimin was performed to aid in the interpretation of the two components. The rotated solution revealed the presence of a simple structure with both components showed a number of high factor loadings and all variables loading substantially on each component. There was a strong correlation between the two factors ( $r = .464$ ). An Exploratory Factor Analysis revealed that the scale might contain two subscales, and the items were rearranged confirmed by the Pattern and Structure Matrix. However, only eight items complied with the criteria in the Communalities Matrix. The following table 3 shows the factor loadings obtained from the items from the scale.

Table 3  
*Factor Loadings and the Eigenvalues Explained and the Cumulative Percent of the Items belonging to PORS with the Exploratory Factor Analysis of Variance Performed*

Subscale/ Item	Factor		h <sup>2</sup>
	1	2	
Existence			
6	<b>.91</b>		.75
7	<b>.82</b>		.75
8	<b>.82</b>		.73
22	<b>.75</b>		.57
Veracity			
9		<b>.72</b>	.56
10		<b>.68</b>	.45
11		<b>.94</b>	.81
12		<b>.77</b>	.76
Eigenvalues	4.02	1.35	
% Variance Explain	50.23	16.86	
% Cumulative Variance	50.23	67.1	

Note: Items  $\geq .30$  are bolded for interpretation and displays the rotated factors loadings.

Since a Principal Axis Factoring and a direct oblimin was performed, it is recommended to report the Pattern Matrix and the Structure Matrix with the factor loadings of each item. The following table 4 presents the results from the Pattern and Structure Matrix for Principal Axis Factoring with Oblimin Rotation of the two-factor solution of the scale with the Exploratory Factor Analysis performed.

Table 4  
*Pattern and Structure Matrix of PORS*

Item	Pattern coefficients		Structure coefficients		h <sup>2</sup>
	Component 1	Component 2	Component 1	Component 2	
6	0.91	-0.1	0.86	0.32	0.75
7	0.82	0.08	0.86	0.47	0.75
8	0.82	0.07	0.85	0.45	0.73
22	0.75	0.01	0.75	0.35	0.57
9	0.05	0.72	0.39	0.75	0.56
10	-0.03	0.68	0.28	0.67	0.45
11	-0.09	0.94	0.34	0.9	0.81
12	0.18	0.77	0.54	0.85	0.76

Note: Items with significant factor loadings  $\geq .30$  are bolded; h<sup>2</sup> = Communalities

## Reliability Analysis

Subsequently, a reliability analysis was performed on each dimension of the scale using the Cronbach's Alpha Coefficient formula. The Existence Subscale contains four items while the Veracity Subscale has four items and the scale ended with eight items. DeVellis (2016) says that a reliability index higher than or equal to .70 can be used to establish the reliability of the Likert scale. Also, the measurement of the standard error of measurement (SEM) was calculated, and the results of the analysis were Existence Subscale ( $\alpha = .897$ ), and the SEM was 2.17. The Veracity Subscale ( $\alpha = .868$ ) and the SEM were 2.48, and the

Perception of Organizational Rumor Scale ( $\alpha = .875$ ) and the SEM a 4.08. The results from the Cronbach's Alpha Coefficient

Formula with the corrected item-total correlations. Table 5 presents the results.

Table 5  
*Corrected-Item Total Correlation of PORS*

Existence Subscale	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
6	9.33	25.99	0.81	0.85
7	9.98	27.51	0.79	0.86
8	9.84	27.35	0.78	0.86
22	9.32	26.4	0.7	0.89
Veracity Subscale	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
9	9.18	28.79	0.68	0.84
10	8.98	28.39	0.62	0.86
11	8.82	25.04	0.8	0.79
12	8.94	26.83	0.75	0.81
Organizational Rumor Scale	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
6	21.3	104.79	0.61	0.86
7	21.95	103.79	0.7	0.85
8	21.82	103.84	0.69	0.85
22	21.29	103.71	0.59	0.86
9	22	106.31	0.6	0.86
10	21.8	107.71	0.5	0.87
11	21.64	102.56	0.62	0.86
12	21.76	99.99	0.75	0.84

Consequently, the raw sample scores were transformed into standardized scores. As a result, the descriptive statistics were used in scale. The next table presents the results. The Existence Subscale the mean score was 12.83 and the standard deviation (6.79). The Veracity Subscale mean score was 11.97 and the standard deviation (6.81). The entire scale combined with the two subscales labeled as Perception of Organizational Rumor Scale, the score mean it was 24.80 and the standard deviation (11.56).

## Convergent and Divergent Validity Analysis

A bivariate relationship between the 9-item, Utrecht Work Engagement Scale short version by Schaufeli et al. (2006) with the PORS instrument were analyzed with a correlation Pearson's coefficient to assess the divergent analysis. The results show that it scored low and a negative

significant of ( $r = -.168$ ,  $n = 150$ ,  $p < .05$ ) meaning it measures different constructs, and there is no significant association between the variables. Next, the 9-item Spanish version of the Office Gossip Scale of Schmidt (2010) with the PORS instrument was analyzed to assess the convergent analysis, and the results show a significant of ( $r = .436$ ,  $n = 150$ ,  $p < .005$ ) meaning each scale measure the similar construct.

## Discussion

The importance of constructing the Perception of Organizational Rumor Scale Spanish version was to measure organizational rumors in the Puerto Rican workforce and to contribute new literature review. The results indicate that the scale has high-reliability Cronbach's alpha of .87 and the scale measures the validity of the construct of the phenomenon in the organizations which may show promising results and later further validation in future studies.

During the first phase, the results of the Content Validity Ratio (CVR), the items were selected according to Lawshe's Method and also DeVellis (2016), says that a set of highly intercorrelated items may indicate that each item should correlate substantially with the entire remaining items of the scale. To compute an item-scale correlation, one of the first steps is to check the corrected item-scale correlation when an item is under study with the other rest of the items, but excluding itself with the rest of the items. The second step is to verify the uncorrected item scale in which searches if there is a correlation

between an item with the other items but including itself. In theory, the uncorrected value may mention how well an item is significant or representative of the entire scale.

Furthermore, when there are a few items, there will be a substantial difference in inclusion and exclusion of the item under consideration as well when the item is under construction forming part a new scale. It is wise to study the corrected item-total correlation, as well as an item that has a high value and how it correlates because it is more desirable to select it versus from a low-value item. The relationship in psychometrics called discrimination in which it is how well an item differentiates and usually in research, a value of .30 or more is a standard criterion to establish which items in a scale will be valid. The items of the scale were eliminated because it scored very low .30 in the corrected item-total correlation or the discrimination index (DeVellis, 2016). Only 14 items from the rest of the 22 items were selected.

During the third phase, the Exploratory Factor Analysis (EFA) indicated that only six items from the 14 items did not comply with the criteria because it scored very low in the factor loadings. According to Kline (2000), suggests that an item should score .30 or higher; therefore, it can be selected. In the initial EFA process, a principal axis factoring was utilized as a method with an oblique rotation direct oblimin which the results indicated a simple structure or two-factor loading. In the final step, the EFA results revealed an eight-item two-subscale which have stronger reliability. The last step was to apply the Cronbach's Alpha Coefficient formula which revealed that each

subscale and the overall has excellent reliability. The Cronbach's alpha was selected according to DeVellis (2016), states that a scale should have a Cronbach's Alpha Coefficient at least (.70). Therefore, the scales can be considered reliable; however, the preferable punctuation is .80 or above.

## Limitations of this Study

The small sample size was a significant restriction. Most of the participants indicated that they reside and work in the South and Southwest region, and only a few reported that they reside in other locations in Puerto Rico. Also, the geographical work location may have an impact, whether a rural region versus an urban region may have produced different results. Working and residing in a small municipal compared to a larger municipality that has a higher population of people; rumors may have a different type dynamic, and people from larger municipalities might perceive rumors differently.

The scale was only administrated only one time and was limited to generalize the results. Even more, there were no available studies at the date of the research to compare the study with other studies in Puerto Rico on organizational rumors. The literature review used for this study was mostly in English and from academic articles and research from the United States and international studies which

the researcher employed it as a guide to constructing the scale.

Another limitation may have been the subject matter experts (SME) during the process of selecting the essential items for the scale. It may have been that the different opinions from the SME reduced the scale to 22 items and contained fewer questions for the participants to answer about rumors in the workplace. Also, that the SME did not take into consideration the other items and the participants were limited to specific questions. Lastly, exploratory factor analysis is not enough to validate a scale to its full potential.

## Recommendations

One of the recommendations is to administrate the scale in a larger sample size and a probabilistic sample with robust statistics and a better cross-sectional design such a longitudinal study to produce stronger empirical results. Also, conduct new studies in Puerto Rico and to examine if the scale will have the same reliability and consistency. The scale should be conducted in cross-cultural studies in other Latin-speaking countries to explore if the scale may generate similar results and examine if the cultural background has an impact and if the workers and organizations perceive organizational rumors as in the Puerto Rican sample. Lastly, apply confirmatory factor analysis to determine if the scale is consistent and measure the latent construct.

## Conclusion

The results of this study may be a valuable contribution in the literature review, in the Industrial-Organizational Psychology discipline in Puerto Rico and other academic areas such as in the Business Management, and in the Human Resources. This study may contribute to new research in Puerto Rico, and that there is a valid preliminary instrument available for Industrial-Organizational Psychologists and other scientific-practitioners apply it for the Puerto Rican workforce population as well as the scale possesses a strong Cronbach's alpha. Like any study has its limitations, especially this study used a small sample size and non-probability snowball technique which may have limited to measure the latent construct, especially there is non-existing literature review on rumors in the place of work in Puerto Rico. The scale may indicate a possible perception of rumors in the workplace and rumors may be part of an informal communication channel which employees depend as a credible source of information. Further, rumors can create ambiguity in the place of work, and the effects of unreliable information, workers may renounce their jobs and turnover may take place which usually affects the organization because employees may feel there is no job security. Moreover, role ambiguity of supervisors and managers play a crucial in the diffusion of negative rumors, and they have a vital leadership position to the organization success to combat negative informal communication in the workplace.

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