Construcción y evidencias de validez de una escala abreviada de autoinforme para evaluar el autoritarismo

ANA CRISTINA ÁVILA-BATISTA
Universidade São Francisco, Brasil
ORCID: https://orcid.org/0000-0001-5820-5066
FABIÁN J. M. RUEDA*
Universidade São Francisco, Brasil
ORCID: https://orcid.org/0000-0001-5173-0802
NELSON HAUCK FILHO
Universidade São Francisco, Brasil
ORCID: https://orcid.org/0000-0003-0121-7079

Resumen

La agresión autoritaria, la sumisión autoritaria y el convencionalismo son creencias sociales o actitudes que forman parte del llamado *autoritarismo*. El presente estudio da cuenta de la construcción y análisis de las propiedades psicométricas de una escala abreviada para evaluar tendencias autoritarias, la Escala de Actitudes frente al Autoritarismo (ESCAUT). En total, participaron 786 brasileños adultos con edades entre los 18 y 75 años, el 70.7 % eran militares. Inicialmente, se elaboraron 42 ítems para captar los principales tipos de creencias autoritarias, y los resultados de los análisis factoriales ordinales permitieron retener 20 ítems de moderados a altamente discriminatorios (cargas > .50) de dos factores latentes: autoritarismo moral y punitivo (α = .88) y autoritarismo sumiso (α = .89). Las curvas de información revelaron una amplia cobertura de la variable latente para ambas subescalas. Incluso, el instrumento fue capaz de discriminar participantes militares de no militares, con grandes efectos para las diferencias entre los grupos. En conclusión, la ESCAUT consiste en una escala abreviada de autoinforme que puede ser utilizada en la investigación de las principales actitudes autoritarias presentes en la población general. Al final se discuten las limitaciones del estudio.
Palabras clave: actitudes, prejuicio, grupos sociales.

Construction and validity evidence of a brief self-report scale to assess authoritarianism

Abstract

Authoritarian aggression, authoritarian submission, and conventionalism comprise beliefs or attitudes know as *authoritarianism*. In the present study, we report on the development and the test of the psychometric properties of a brief scale for the assessment of authoritarian tendencies, the Attitudes toward Authoritarianism Scale (ESCAUT). Participants in the study were 786 adults with ages ranging from 18 to 75 years, 70.7 % military. An initial pool of 42 items written to capture the core features of authoritarianism was evaluated by specialists, and then answered by the participants. Results from ordinal factor analysis indicated 20 items with moderately to highly discriminative (factor loadings > .50) of two latent factors: Moral and punitive authoritarianism (α = .88), and submissive authoritarianism (α = .89). Test information curves revealed a broad coverage of the latent trait in both subscales. Moreover, the instrument could discriminate military from non-military participants, with large size differences. The ESCAUT is a brief self-report scale recommended for the assessment of the main features of authoritarianism in the general Latin American population. Limitations of the study are addressed.
Keywords: attitudes, prejudice, social groups.

*   Calle Waldemar César da Silveira, 105, Vl. Cura D'Ars (SWIFT), Campinas - São Paulo CEP 13045-510. Teléfono: +55 19-37793371. fabian.rueda@usf.edu.br

Construção e evidências de validade de uma escala abreviada de autorrelato para avaliar o autoritarismo

Resumo

A agressão autoritária, a submissão autoritária e o convencionalismo são crenças sociais ou atitudes que fazem parte do chamado "autoritarismo". Este estudo apresenta a construção e análise das propriedades psicométricas de uma escala abreviada para avaliar tendências autoritárias, a Escala de Atitudes ante o Autoritarismo (Escaut). No total, participaram 786 brasileiros adultos, entre os 18 e 75 anos, 70.7 % militares. Inicialmente, foram elaborados 42 itens para captar os principais tipos de crenças autoritárias, e os resultados das análises fatoriais ordinais permitiram reter 20 itens de moderados a altamente discriminatórios (cargas > .50) de dois fatores latentes: autoritarismo moral e punitivo (α = .88) e autoritarismo submisso (α = .89). As curvas de informação revelaram uma ampla cobertura da variável latente para ambas as subescalas. Inclusive, o instrumento foi capaz de discriminar participantes militares de não militares, com grandes efeitos para as diferenças entre os grupos. Em conclusão, a Escaut consiste numa escala abreviada de autorrelato que pode ser utilizada na pesquisa das principais atitudes autoritárias presentes na população em geral. Ao final do artigo, são discutidas as limitações deste estudo.
Palavras-chave: atitudes, preconceito, grupos sociais.

Introduction

Authoritarianism has piqued psychologists' interest as an important field of study since the late nineteenth century, gaining greater prominence from the mid-twentieth century (From Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950, Fromm, 1942). The phenomenon has been approached both from the perspective of interaction between social groups and from the

individual differences approach, including constituent personality traits, beliefs and situational influences (Brussino & Etchezahar, 2013). The evaluation of authoritarianism in individuals starts from the premise that there is a constellation of characteristics that make up something of an "authoritarian personality" (Adorno et al., 1950). Altemeyer (1981), in investigating what these central characteristics were, found three groups of correlated traits: *authoritarian submission* (a high degree of connivance with the authorities, which are perceived by the individual as legitimized by the society in which they live); *authoritarian aggression* (aggressiveness directed at people perceived as targets for sanctions by the established authorities); and *conventionalism* (a high degree of adherence, acceptance and commitment to conventions and traditional social norms endorsed by established authorities). The author proposed that these variables define something that he called right-wing authoritarianism. This study presents the construction of a brief self-report evaluation scale of these central aspects of authoritarianism, considering aspects of Brazilian and Latin American culture.

Authoritarianism positively correlates with a wide range of negative variables and events in the interpersonal and social realms. In particular, it is associated with various forms of prejudice, including intergroup (Dáz-Lázaro, Castañeras, Ledesma, S., & Rand, 2014), racial and homophobic (Laythe, Finkel, & Kirkpatrick, Alacón, Moreno-Jiménez, & Moral-Toranzo, 2011), prejudice against refugees and immigrants (Gregurović, Kuti, & Župarić-Iljić, 2016), among others. These manifestations of prejudice seem to be especially elicited in situations of anger and sadness (Kossowska, Bukowski, & Hiel, 2008). In addition, authoritarian individuals tend to adopt rigid and extremely traditional attitudes, being more likely to advocate traditional roles for genders (Duncan, Peterson, & Winter, 1997), adopt fundamentalist religious beliefs (Johnson, Labouff, Rowatt, Patock-Peckham, And Carlisle, 2012), possess materialistic values (Barros, Torres, & Pereira, 2009), show less support for human rights and civil liberties (Moghaddam & Vuksanovic, 1990) and more tolerance of abusive behavior and use of torture by the authorities (Larsson, Björklund, & Bäckström, 2012). It is worth mentioning that authoritarian men are more inclined to blame women rape victims (Manoussaki & Veitch, 2015) and to commit sexual assault (Walker, Rowe, & Quinsey, 1993). This associative pattern emphasizes authoritarianism as a variable of social impact in several spheres.

At the individual level, there is controversy as to whether authoritarianism is a risk factor for psychological problems or whether it is a protective factor. One hypothesis raised in the literature is that individuals with an authoritarian

personality would be resilient and less prone to being impacted by stressful events (Onraet & van Hiel, 2014). If this hypothesis were correct, authoritarian people would be able to negatively affect other people's lives, but without being impacted by it. However, results are mixed in supporting this view. There is evidence that authoritarianism may work by buffering life events (Van Hiel & De Clercq, 2009), but also that, in the long run, it is associated with symptoms of depression (Duriez, Klimstra, Luyckx, Beyers, & Soenens, 2012). A literature review addressing this controversy pointed out that although authoritarian individuals interpret the world as a hostile place, the evidence does not reveal particularly high scores on anxiety, depression, or other variables of the internalizing spectrum (Onraet & van Hiel, 2014). Although the question is unresolved, both possibilities point to authoritarianism as a psychological phenomenon that deserves attention in the area of clinical evaluation.

One of the main tools for evaluating authoritarianism is the Right-Wing Authoritarianism Scale (RWA; Altemeyer, 1981). The RWA consists of a 24 items on a self-report inventory that evaluate the three traits of authoritarianism considered central by Altemeyer (authoritarian submission, authoritarian aggression and conventionalism). The instrument permits a total score, whose internal consistency found by Altemeyer (1981) was 0.88 according to the alpha coefficient. This instrument currently has adapted versions in several countries, such as Chile (Cárdenas & Parra, 2011), Spain (Seoane & Garzón, 1991), Sweden (Zakrisson, 2005), Russia (McFarland, Ageyev, & Abalakina-Paap, 1992) and South Africa (Duckitt, 1993), to name but a few. RWA has the distinction of being "the first modern technique of psychological measurement applied to the concept" (Dusso, 2017, 244), being perhaps the most employed in studies in the area (Dunwoody & Funke, 2016). The instrument has been especially successful in predicting, in social and political studies, restrictive attitudes to certain groups and minorities and the acceptance of government tyrannies (Gray & Durrheim, 2013).

Despite these qualities, RWA also presents some inconsistencies, especially with regard to its factorial structure. Although it was constructed to evaluate three sets of traits, Altemeyer (1996) often found one-and two-factor solutions as more fit to the data. The author attributed this divergence to the difficulty of finding items that are pure indicators of only one dimension of authoritarianism, given the multidimensionality of authoritarian behavior. In fact, studies that attempted to replicate Altemeyer's proposal found quite different solutions (for example, six factors in the study by Seoane & Garzón, 1992). In addition to the complexity and multidimensionality of the items, Mavor, Louis, and Sibley (2010) have suggested that this controversy may

be due to response styles, which have not been taken into account in studies in the area. After controlling for the acquiescence bias, Mavor et al. (2010) found support for a three-factor structure. Funke (2005) also recommended a three-factor solution, as opposed to a total recurring practice score in the area. The author has demonstrated that the instrument's overall score may be unrelated to an outcome, even though the three factor scores are predictive of this outcome. Limitations related to dimensionality have even inspired revisions of the instrument, such as the proposal of reduced versions, after the elimination of more problematic items (Manganelli Rattazzi, Bobbio, & Canova, 2007; Zakrisson, 2005).

Another issue to consider is the item content on the RWA scale, constructed in view of the Canadian context. Countries in Latin America, such as Brazil and Colombia, have a history of military dictatorship that has left a very specific cultural heritage. It is possible that authoritarian attitudes acquire a particular form of expression in these contexts, differing from other countries in the northern hemisphere. Although the use of evaluation tools already consolidated in other countries is valuable in providing cross-cultural comparisons, a scale elaborated to capture the nuances of authoritarianism as it occurs in Latin America would be useful. Like other Latin American countries, Brazil has experienced moments of ideological polarization, a fusion between religious and political fundamentalism, and rejection of social minorities (Silva, 2016). The choice of indicators more appropriate for this context could provide a more refined and informative assessment of the latent traits that explain the endorsement of authoritarian attitudes. Moreover, even if the three central themes of authoritarianism are contemplated, the factorial structure of an authoritarian attitudes scale could present a number of factors other than three in the Latin American context. Besides the benefits of a new measure, it would be interesting to study the factorial structure of an attitudes inventory composed of items written to capture typical aspects of Brazil and Latin America more broadly.

As a result, the objective of the present study was to construct and test the psychometric properties of a brief new authoritarian attitudes evaluation scale—the Attitudes Toward Authoritarianism Scale (ATAS). The instrument was designed to capture the main conceptual aspects of authoritarianism, as described by Altemeyer (1981, 1988, 1996) and by more recent authors (Duckitt, Bizumic, Krauss, & Heled, 2010), including authoritarian aggression and submission, and conventionalism. The scale's items were elaborated considering particularities of the Latin American context, especially in Brazil, seeking to maximize latent coverage of authoritarianism in studies with such samples.

Another advantage is that ATAS had its items chosen based on factorial analyses appropriate to items of ordinal nature, following recommendations in recent literature (Asún, Rdz-Navarro, & Alvarado, 2015; Holgado-Tello, Chacón-Moscoso, Barbero-García , & Vila-Abad, 2010). Furthermore, the purpose was to construct an instrument whose number of items did not represent a burden when considering its inclusion in research protocols with multiple measures. In addition to performing the psychometric analysis of ATAS through factor analysis, internal consistency estimates and information curve inspection, scores on the instrument were compared between a group of military personnel and another group of non-military personnel. The hypothesis was that military personnel would score higher on the instrument's factors given that the military environment tends to encourage the adoption of authoritarian attitudes (Gatto, Dambrun, Kerbrat, & De Oliveira, 2009).

Method

Participants

The sample was non-probabilistic, composed of 786 Brazilian adults with ages ranging from 18 to 75 years (M = 33.04 years; SD = 10.48), of which 58% were male. In terms of schooling, the majority had a postgraduate degree (32.6%), followed by a 4-year university degree (25.3%), some university study (24.2%) and high school diploma (17.9%). As for the professional area, the majority were civil servants, mainly state soldiers, comprising 70.7% of the sample, followed by service providers (12.3%), commercial, industrial and third sector workers (7, 3%) and 9.7% did not specify. The predominant salary range was three to six times the minimum wage (42.1%), followed by one to three times (21%), six to nine times (16%), over twelve times (10.6%), and between nine and twelve times the minimum wage (10.3%). In terms of residence status, 81% of the sample resided in Minas Gerais, 7.3% in São Paulo, 1.7% in Rio de Janeiro, and 10% in other states.

Instrument

The items of ATAS were created from the definitions of the three trait groups described by Altemeyer (1981, 1988, 1996): authoritarian aggression, authoritarian submission and conventionalism. Just one theoretical difference should be mentioned: while Altemeyer considered authoritarianism to be a set of personality traits, this instrument's items were created to evaluate authoritarian attitudes. In other words, in writing the items, less focus was placed on stable patterns of intra-individual functioning, and beliefs about objects or

social situations were emphasized, which are more consistent with the classical concept of attitude (for a review, see Kruglanski et al. , 2015). In addition, modern conceptions of authoritarianism have criticized Altemeyer's notion of "authoritarian personality," and have rather considered the dimensions described as authoritarian ideological attitudes (Duckitt et al., 2010). Taking into account these conceptual differences, items were written to evaluate the three main themes of authoritarianism, conservatism, and traditionalism, common to Altemeyer's writings (1981), and to the more recent literature (Duckit et al., 2010).

Based on this model and the Brazilian context, 49 items were written, aiming to maintain balance in the number of items for each theoretical aspect, with 17 items being created for authoritarian aggression (e.g. For some crimes, the only solution is the penalty), 17 items created for authoritarian submission (e.g. Authorities know what is best for people), and 15 items for conventionalism (e.g. People who think differently than authorities should not be encouraged to voice their opinions). The pertinence of these items was then evaluated by six professors with doctorates in psychology or areas related to the subject, and with experience in instrument construction. The material containing the definitions of each theoretical dimension was sent to each of them, to assess the extent to which each item represented its target aspect. The evaluators were also asked to perform semantic analysis of the items. After receiving the evaluator's responses, items with less than 80% agreement between evaluators were withdrawn, according to the recommendations of Pasquali (2010). Some items were reformulated in light of the suggestions received. After this step, the 42 items comprising the first version of the scale were obtained. A four-point Likert type response format was chosen, where 1 = totally disagree, 2 = disagree, 3 = agree, and 4 = totally agree. Next the ATAS items were inserted into an online questionnaire and posted on a social network, and people were asked to share it on their pages. Email requests were also sent to the primary author's contact list with the access link. Given the nature of the instrument, several participation invitations were sent to individuals connected to Brazilian military institutions.

Procedure

First, the project was submitted to and approved by the Research Ethics Committee of a Brazilian university. Subsequently, authorization was granted for disclosure of the research in a public security agency in the state of Minas Gerais, as it was the primary author's workplace. ATAS was also disclosed on a social network as an online questionnaire, as well as through emails sent to the authors'

contact lists, with a hyperlink to the online questionnaires. In the military institutions the invitation was made personally. All participants gave their consent to participate after reading the Free and Informed Consent Form. The mean response time was 15 minutes.

Data Analysis

First, the factorability data were evaluated through the Keizer-Meyer-Olkin coefficient (KMO), which provides a measure of correlations between items. The Mardia test was used to test the multivariate normality of the data. Next, the data dimensionality was investigated using three distinct techniques: parallel analysis with permutation values (Timmerman & Lorenzo-Seva, 2011), minimum partial correlations (Velicer, 1976) and Hull (Lorenzo-Seva Urban, Timmerman, & Kiers, 2011). The parameters of the most interpretable solution were then estimated using weighted least squares (Weighted Least Squares Means and Variance-adjusted—WLSMV) from the matrix of correlations between polychoric variables. This estimator is robust and especially recommended for the analysis of items of ordinal categorical nature, such as the four-point Likert scale (Asún et al., 2015). In view of the proposal that the instrument was brief, only items with moderate to high discrimination (i.e., factor loadings above 0.50 in at least one of the factors), were retained for the final version of ATAS. The selection also sought to avoid items with redundant content, seeking to maximize latent trace coverage. The reliability of the scales composed by the items of each factor was estimated by the traditional internal consistency coefficients as well as by the information curve of the items and the test. These information curves are more specific than the traditional estimates of internal consistency because they reveal the reliability of the expected instrument for each latent trace range. Finally, mean comparison tests were conducted to investigate the instrument's ability to discern between military and non-military individuals. The analyses were performed using R software, Factor (Lorenzo-Seva & Ferrando, 2013) and Mplus (Muthén & Muthén, 2014).

Results

In assessing the results, first the data quality was verified, and then factorial analysis, internal consistency calculation and information curves were carried out. Finally, the means comparisons between military and non-military groups were performed.

The Kaiser-Meyer-Olkin index was 0.95, suggesting a sufficient level of commonality among the variables for factorial analysis. The Mardia test revealed significant deviations ($p < 0.001$) from multivariate normality in the initial set of 42 items, which provided another reason to use the robust estimator chosen for the factorial analyses. Data dimensionality was investigated next. The retention methods were not unanimous, with a two-factor recommendation when considering the parallel analysis with data permutation and the minimum mean partial method, and only one factor when considering the Hull method. In addition, many items had low commonalities or a tendency to cross loads when considering solutions of more than one factor. Bearing in mind that the purpose of the instrument was to be brief, these items were excluded, leaving only the 20 best items. The next decision was to test the fit of one- and two-factor exploratory factor solutions using the RMSEA, CFI and TLI indices. While the one-factor model presented a poor fit to the data (RMSEA = 0.091, CFI = 0.890 and TLI = 0.877), the two-factor model presented good fit (RMSEA = 0.062, CFI = 0.954 and TLI = 0.942). It is worth noting that a three-factor solution was also evaluated. However, this possibility was immediately ruled out due to lack of pattern interpretability of the factorial loads produced. Results, then, favored the two-factor model, whose items, respective factor loads and internal consistency estimates are presented in Table 1.

As shown in Table 1, the factorial solution was found to be simple and with cross loads of low magnitude ($<|0.27|$), with each explanatory factor being 10 items, predominantly. Factor 1 explained items related to authoritarian aggression and to conventionalism described by Altemeyer (1981), and is therefore termed "Moral and Punitive Authoritarianism." Factor 2, in turn, explained items with specific content on submission to authority, thus being called "Submissive Authoritarianism." The two factors were almost orthogonal, correlated in only $r = 0.05$. As seen in Table 1, the internal consistency estimates (Cronbach's Alpha standard), calculated taking into account the ordinal nature of the variables, were high for the scales formed by both factors. An internal consistency analysis with all items resulted in an even higher alpha of 0.92.

The next step was to explore, in greater depth, the reliability of the instrument constructed from the information curves of the two scales. These analyses revealed differences in the functioning of each scale. The Moral and Punitive Authoritarianism scale presented a higher accuracy level for the interval between -1.50 and +1.50 of the theta scale, evidencing that it provides information on a broad latent spectrum above and below the population mean (standardized as 0,00). Meanwhile, the Submissive Authoritarianism scale showed a better functioning in lower latent regions, between -3.00 and 0.00, but nonetheless with ample coverage. These analyzes have suggested that items in the Moral and Punitive Authoritarianism scale evaluate more severe aspects of authoritarian attitudes compared to the Submissive Authoritarianism scale.

Table 1.
Results of Factorial Analysis with WLSMV Estimator

|	F1	F2
1. Today's society is characterized by the immorality and decadence of traditional values.	0.78	-0.05
2. For certain crimes, the only solution is the death penalty.	0.70	-0.23
3. Children who do not obey their parents or teachers should be punished.	0.69	-0.04
4. Modern education is making teenagers rebellious, which undermines good values.	0.65	0.02
5. Drug users should be punished, not treated.	0.64	0.04
6. Society will become chaotic if morality and good manners are not followed.	0.64	0.15
7. People only learn what is right if they are rigorously punished.	0.58	0.11
8. Traditional family values should be maintained at all costs.	0.57	0.27
9. Society should severely punish those who commit any type of crime.	0.53	0.00
10. People who deviate from standards should be punished to serve as examples and to ensure their actions do not recur.	0.52	0.17
11. Leaders should be followed, not questioned.	-0.15	0.93
12. What the religious say must be followed by all.	-0.01	0.75
13. Religious teachings were meant to be followed, not questioned.	0.01	0.74
14. Established standards should not be questioned.	0.04	0.70
15. The authorities know what is best for the people.	-0.01	0.68
16. Society needs submissive people who do not question what is established.	0.02	0.66
17. People who think differently from authorities should not be encouraged to express their opinions.	0.00	0.65
18. People should follow the moral principles dictated by the authorities.	0.07	0.56
19. People must comply with what the authorities require.	0.07	0.53
20. Only God-fearing people can be considered good.	0.13	0.53
Alpha coefficient	0.88	0.89
Reliability of rotated factors	0.90	0.91
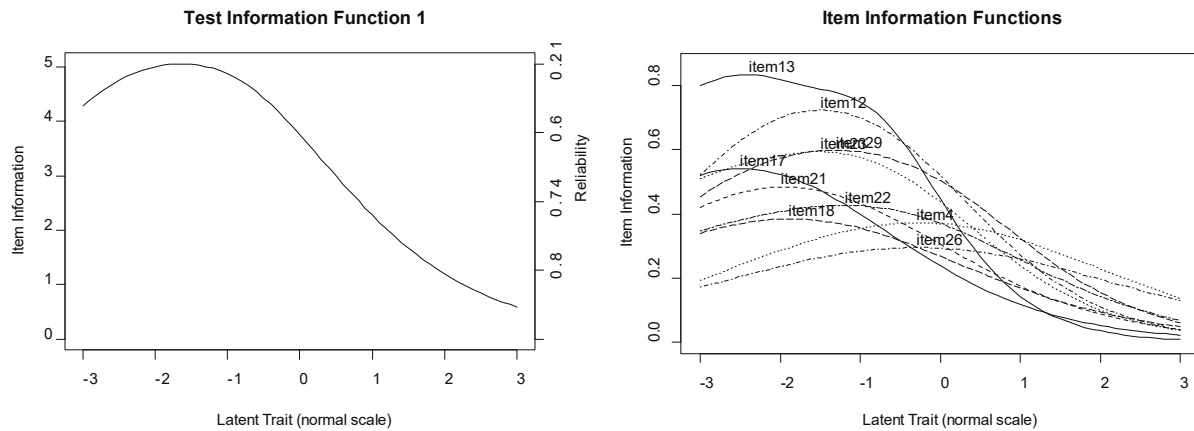
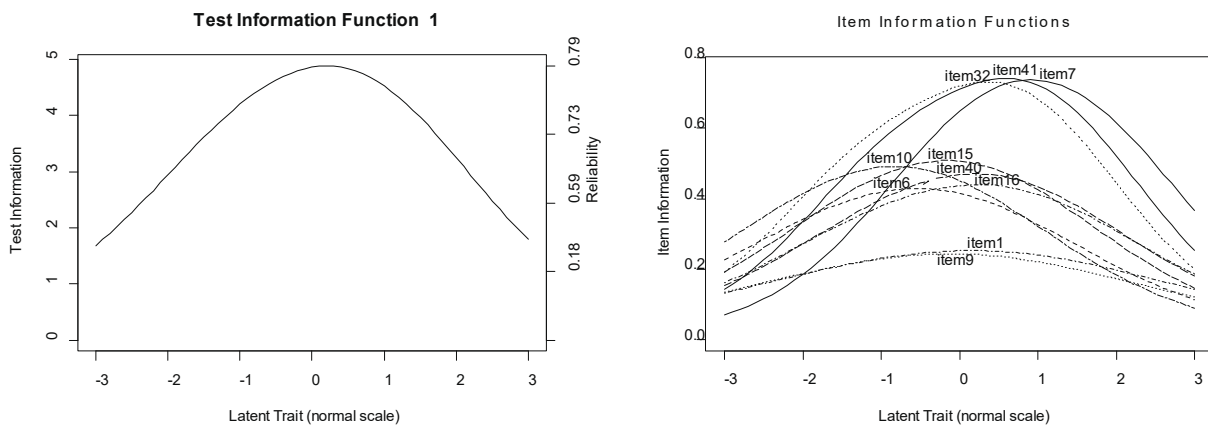*Figure 1*. Scale information curves and Moral and Punitive Authoritarianism items.

Figure 2. Scale information curves and Submissive Authoritarianism items.

An additional test of the instrument's discriminative capacity was made by comparing military and non-military means included in the present study sample. All comparisons revealed a large magnitude effect size for mean differences. More specifically, in comparison to non-military, military scored significantly higher on the Moral and Punitive Authoritarianism: $M_{non-military} = 2.21$ ($DP_{non-military} = 0.55$), $M_{military} = 2.86$ ($DP_{military} = 0.62$), $F(1, 786) = 241.30$, $p < 0.001$, $d = 1.11$; and in the factor Submissive Authoritarianism $M_{non-military} = 3.19$ ($DP_{non-military} = 0.46$), $M_{military} = 3.57$ ($DP_{military} = 0.38$), $F(1, 786) = 160.50$, $p < 0.001$, $d = 0.90$. Military personnel also scored significantly higher on the total instrument score: $M_{non-military} = 2.70$ ($DP_{non-military} = 0.42$), $M_{military} = 3.21$ ($DP_{military} = 0.45$), $F(1, 786) = 275.30$, $p < 0.001$, $d = 1.17$. A complementary comparison of means with the robust Mann-Whitney-Wilcoxon test also showed statistically significant differences favoring the military in Moral and Punitive Authoritarianism ($W = 120,750$, $p < 0.001$) and Submissive Authoritarianism ($W = 116,320$, $p < 0.001$), as well as in the ATAS total score ($W = 123,850$, $p < 0.001$).

Discussion

The objective of this article was to present the construction and testing of the psychometric properties of a brief self-report scale to evaluate the central components of authoritarian attitudes (Altemeyer, 1981, 1988, 1996). The ordinal factorial analysis of the elaborated items allowed us to arrive at an interpretable solution of two almost orthogonal factors, containing 10 items for each factor. The first factor, called Moral and Punitive Authoritarianism, explained items more characteristic of aspects of authoritarian aggression and, partially, of conventionalism, such as those described by Altemeyer (1981). This means that individuals who score highly on this factor tend to manifest excessive adherence to traditional norms and values, combined with hostility directed at groups or individuals perceived as deviant from these norms. It is possible that the factor is predictive of prejudice, xenophobia and sympathy for the use of violence by the authorities, and may also be related to high scores in emotional instability and low scores in kindness. Nevertheless, these possible associations still need new empirical tests. In turn, the second factor, called Submissive Authoritarianism, proved to be interpretable as a combination of Altemeyer's authoritarian submission and conventionalism. People with high scores in the factor tend to manifest an inflexible obedience to the authorities, who are seen as having morally correct conduct in all circumstances. This factor may be related to religious fundamentalism and, in terms of personality, to traits such as conscientiousness and emotional instability.

The final set of 20 items presented excellent psychometric properties. Both factors had internal consistency close to 0.90, with the alpha of the total scale being 0.92. These values are higher than those found for RWA, which was 0.88 in Altemeyer (1981) and 0.72 in Cárdenas and Parra (2010), for example. It is worth mentioning that the internal consistency of the ATAS was also superior to that found for the reduced versions of the RWA, elaborated from the best items of the scale (for example, from 0.72 to 0.80 in Zakrisson, 2005, and 0.85 in Rattazzi et al., 2007). The analysis of the information curves conducted in the present study revealed that this high internal consistency was not obtained at the cost of including redundant items. Rather, the maintenance of items was prioritized to cover a wide range of authoritarian attitudes. Although this is considered more satisfactory for factor 1 (whose peak of information is more adjusted to the population mean, see Figure 1), the instrument can be regarded as a tool capable of providing a rapid and highly informative evaluation of authoritarian attitudes in the general population. For this reason, ATAS is considered useful for research in various social groups, from less authoritarian individuals to people with more authoritarian characteristics.

The findings also support the instrument's ability to discern groups of individuals with varying levels of authoritarianism. For the present research, a sample of military personnel was chosen as the group against which the other adults were compared. As expected, there were very large differences between the groups exactly in the expected direction, namely with military personnel showing higher scores than non-military ones. Although these results support the validity of ATAS, they should be viewed with caution. The mean differences reported here should not be taken as evidence that military will always manifest more authoritarian attitudes than non-military individuals. Just to illustrate, comparing a group of officers classified as "innovative" and another so-called "traditional", Carlson, Thayer and Germann (1971) found that only the second group scored higher than a sample of students in a measure of authoritarianism. While, in fact, the military and police work environment inspires respect for authority and the endorsement of authoritarian attitudes (Gatto et al., 2009; Worden, 1995), the level of authoritarianism in military and police may depend on other aspects, including their function within the organization (Perrott & Taylor, 1995; Rubinstein, 2006). In short, the belief that military personnel and police officers are always authoritarian and aggressive does not necessarily hold empirically, and should not be

unreasonably generalized to other groups besides the sample employed here (Laguna, Linn, Ward, & Rupslaukyte, 2010).

Yet another observation must be made. Altemeyer's theoretical proposal was that there would be three theoretical dimensions of authoritarianism: authoritarian submission, authoritarian aggression, and conventionalism (Altemeyer, 1981). However, the instrument that the author elaborated to evaluate these characteristics does not present a consistent factorial structure. To explain this limitation in factorial replicability, several hypotheses in the literature have been considered, such as that some items have poor psychometric properties (Manganelli Rattazzi et al., 2007; Zakrisson, 2005) or that the instrument is contaminated by response styles Mavor et al., 2010). Similarly, in the present study, no three distinct dimensions were found, but rather two, a result also found by Altemeyer (1996) for his RWA scale. In general, these findings call into question the legitimacy of Altemeyer's three theoretical dimensions as distinct factors that act as latent causes explaining individuals' behaviors. It is possible that just two dimensions are enough to explain the most central aspects of authoritarianism: "Moral and Punitive Authoritarianism" and "Submissive Authoritarianism." In order to shed light on the issue, future studies could compare the consistency and interpretability of the standard of external correlations of two, versus three, factors of authoritarianism in the context of a variety of measures of authoritarianism or related aspects.

Although it supports the use of ATAS for research purposes, the present study also has some limitations. One aspect is that there was no control of response styles in the investigation of the internal structure of the instrument. Response tendencies such as extreme and acquiescent responses can impact on the correlation between items and thus skew the parameters of a factorial solution (Van Vaerenbergh & Thomas, 2013). It would be important for future studies to evaluate the impact of extreme and acquiescent responses on the factorial and reliability structure of ATAS. Another limitation concerns the possible differential functioning of the items according to the sex of the respondents. Mean comparisons, such as those performed to estimate differences between military and non-military, assume that ATAS items function in an equivalent way (that is, they have the same factor load and intercept) for men and women. It would be important to test this aspect in future investigations, which would further refine the instrument, perhaps by identifying items with differential functioning that should be suppressed when comparing groups.

The ATAS consists of a brief self-report scale that can be used to search for the main authoritarian attitudes present in the general population. The authors hope that this scale may contribute to the understanding of relevant individual and collective phenomena. In view of the historical similarities of the Brazilian context to other Latin American countries, it is anticipated that Spanish translations of the scale may prove useful to many other researchers interested in the study of authoritarianism.

References

Adorno, T. H., Frenkel-Brunswik, E., Levinson, D., & Sanford, N. (1950). *The Authoritarian Personality*. New York: Harper.

Altemeyer, B. (1981). *Right-Wing Authoritarianism*. Winnipeg: University of Manitoba Press.

Altemeyer, B. (1988). *Enemies of freedom: Understanding Right-Wing Authoritarianism*. San Diego, CA: Jossey-Bass Inc., Publishers.

Altemeyer, B. (1996). *The Authoritarian Specter*. Cambridge: Harvard University Press.

Asún, R. A., Rdz-Navarro, K., & Alvarado, J. M. (2015). Developing Multidimensional Likert Scales Using Item Factor Analysis: The Case of Four-point Items. *Sociological Methods & Research*, 0049124114566716-. https://doi.org/10.1177/0049124114566716

Barros, T. S., Torres, A. R. R., & Pereira, C. (2009). *PsicoUSF (Impresso)*. *PsicoUSF* (Vol. 14). Universidade São Francisco. Retrieved from http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1413-82712009000100006

Brussino, S., & Etchezahar, E. (2013). Psychological perspectives in the study of authoritarianism. *Journal of Alternative Perspectives in the Social Sciences*, 5(3), 495–521. Retrieved from http://www.academia.edu/5869902/Psychological_perspectives_in_the_study_of_authoritarianism

Cárdenas, M., & Parra, L. (2011). Adaptación y validación de la Versión Abreviada de la Escala de Autoritarismos de Derechas (RWA) en una muestra chilena. *Revista de Psicología*, 19(1), 61–79. https://doi.org/10.5354/0719-0581.2010.17098

Carlson, H., Thayer, R. E., & Germann, A. C. (1971). Social Attitudes and Personality Differences among Members of Two Kinds of Police Departments (Innovative vs. Traditional) and Students. *The Journal of Criminal Law, Criminology, and Police Science*, 62(4), 564. https://doi.org/10.2307/1141714

Diáz-Lázaro, C. M., Castañeras, C., Ledesma, R. D., S., V., & Rand, A. (2014). Right-Wing Authoritarianism, social dominance orientation, empathy, and materialistic value orientation as predictors of intergroup prejudice in Argentina. *Salud & Sociedad*, 5(3), 282–297. https://doi.org/10.22199/S07187475.5014.0003.00004

Duckitt, J. (1993). Right-Wing Authoritarianism Among White South African Students: Its Measurement and Correlates.

50

The Journal of Social Psychology, *133*(4), 553–563. https://doi.org/10.1080/00224545.1993.9712181

Duckitt, J., Bizumic, B., Krauss, S. W., & Heled, E. (2010). A Tripartite Approach to Right-Wing Authoritarianism: The Authoritarianism-Conservatism-Traditionalism Model. *Political Psychology*, *31*(5), 685–715. https://doi.org/10.1111/j.1467-9221.2010.00781.x

Duncan, L. E., Peterson, B. E., & Winter, D. G. (1997). Authoritarianism and Gender Roles: Toward a Psychological Analysis of Hegemonic Relationships. *Personality and Social Psychology Bulletin*, *23*(1), 41–49. https://doi.org/10.1177/0146167297231005

Dunwoody, P. T., & Funke, F. (2016). The Aggression-Submission-Conventionalism Scale: Testing a new three factor measure of authoritarianism. *Journal of Social and Political Psychology*, *4*(2), 571–600. https://doi.org/10.5964/jspp.v4i2.168

Duriez, B., Klimstra, T. A., Luyckx, K., Beyers, W., & Soenens, B. (2012). Right-Wing Authoritarianism: Protective Factor Against or Risk Factor for Depression? *European Journal of Personality*, *26*(5), 536–549. https://doi.org/10.1002/per.853

Dusso, A. (2017). Race and Right-Wing Authoritarianism: How Scoring High in Authoritarianism Does Not Necessarily Lead to Support for Right-Wing Candidates*. *Social Science Quarterly*, *98*(1), 244–260. https://doi.org/10.1111/ssqu.12302

Fromm, E. (1942). *The fear of freedom*. London: Routledge.

Funke, F. (2005). The Dimensionality of Right-Wing Authoritarianism: Lessons from the Dilemma between Theory and Measurement. *Political Psychology*, *26*(2), 195–218. https://doi.org/10.1111/j.1467-9221.2005.00415.x

Gatto, J., Dambrun, M., Kerbrat, C., & De Oliveira, P. (2009). Prejudice in the police: On the processes underlying the effects of selection and group socialisation. *European Journal of Social Psychology*, *40*, 252–269. https://doi.org/10.1002/ejsp.617

Gray, D., & Durrheim, K. (2013). Collective Rights and Personal Freedoms: A Discursive Analysis of Participant Accounts of Authoritarianism. *Political Psychology*, *34*(4), 631–648. https://doi.org/10.1111/j.1467-9221.2012.00932.x

Gregurović, M., Kuti, S., & Župarić-Iljić, D. (2016). Attitudes towards Immigrant Workers and Asylum Seekers in Eastern Croatia: Dimensions, Determinants and Differences. *Migracijske I Etničke Teme*, *32*(1), 91–122. https://doi.org/10.11567/met.32.1.4

Holgado–Tello, F. P., Chacón–Moscoso, S., Barbero–García, I., & Vila–Abad, E. (2010). Polychoric versus Pearson correlations in exploratory and confirmatory factor analysis of ordinal variables. *Quality & Quantity*, *44*(1), 153–166. https://doi.org/10.1007/s11135-008-9190-y

Johnson, M. K., Labouff, J. P., Rowatt, W. C., Patock-Peckham, J. A., & Carlisle, R. D. (2012). Facets of Right-Wing Authoritarianism Mediate the Relationship Between

Religious Fundamentalism and Attitudes Toward Arabs and African Americans. *Journal for the Scientific Study of Religion*, *51*(1), 128–142. https://doi.org/10.1111/j.1468-5906.2011.01622.x

Kruglanski, A. W., Jasko, K., Chernikova, M., Milyavsky, M., Babush, M., Baldner, C., & Pierro, A. (2015). The rocky road from attitudes to behaviors: Charting the goal systemic course of actions. *Psychological Review*, *122*(4), 598–620. https://doi.org/10.1037/a0039541

Laguna, L., Linn, A., Ward, K., & Rupslaukyte, R. (2010). An Examination of Authoritarian Personality Traits among Police Officers: The Role of Experience. *Journal of Police and Criminal Psychology*, *25*(2), 99–104. https://doi.org/10.1007/s11896-009-9060-0

Larsson, M. R., Björklund, F., & Bäckström, M. (2012). Right-wing authoritarianism is a risk factor of torture-like abuse, but so is social dominance orientation. *Personality and Individual Differences*, *53*(7), 927–929. https://doi.org/10.1016/j.paid.2012.06.015

Laythe, B., Finkel, D., & Kirkpatrick, L. A. (2001). Predicting Prejudice from Religious Fundamentalism and Right-Wing Authoritarianism: A Multiple-Regression Approach. *Journal for the Scientific Study of Religion*, *40*(1), 1–10. https://doi.org/10.1111/0021-8294.00033

Lorenzo-Seva, U., & Ferrando, P. J. (2013). FACTOR 9.2: A Comprehensive Program for Fitting Exploratory and Semiconfirmatory Factor Analysis and IRT Models. *Applied Psychological Measurement*, *37*(6), 497–498. https://doi.org/10.1177/0146621613487794

Lorenzo-Seva, U., Timmerman, M. E., & Kiers, H. A. L. (2011). The Hull Method for Selecting the Number of Common Factors. *Multivariate Behavioral Research*, *46*(2), 340–364. https://doi.org/10.1080/00273171.2011.564527

Manganelli Rattazzi, A. M., Bobbio, A., & Canova, L. (2007). A short version of the Right-Wing Authoritarianism (RWA) Scale. *Personality and Individual Differences*, *43*(5), 1223–1234. https://doi.org/10.1016/j.paid.2007.03.013

Manoussaki, K., & Veitch, F. (2015). Ambivalent Sexism, Right Wing Authoritarianism and Rape Myth Acceptance in Scotland. *International Journal of Gender & Women's Studies*, *3*(1). https://doi.org/10.15640/ijgws.v3n1a9

Mavor, K. I., Louis, W. R., & Sibley, C. G. (2010). A bias-corrected exploratory and confirmatory factor analysis of right-wing authoritarianism: Support for a three-factor structure. *Personality and Individual Differences*, *48*(1), 28–33. https://doi.org/10.1016/j.paid.2009.08.006

McFarland, S. G., Ageyev, V. S., & Abalakina-Paap, M. A. (1992). Authoritarianism in the former Soviet Union. *Journal of Personality and Social Psychology*, *63*(6), 1004–1010. https://doi.org/10.1037/0022-3514.63.6.1004

Moghaddam, F. M., & Vuksanovic, V. (1990). Attitudes and Behavior Toward Human Rights Across Different Contexts the Role of Right-Wing Authoritarianism, Political Ideology,

and Religiosity. *International Journal of Psychology*, *25*(2), 455–474. https://doi.org/10.1080/00207599008247877

Muthén, L. K., & Muthén, B. O. (2017). *Mplus user's guide.* (Seventh Ed). Los Angeles: Muthén & Muthén.

Nuñes-Alacón, M., Moreno-Jiménez, M. P., & Moral-Toranzo. (2011). Modelo causal del prejuicio religioso. *Anales de Psicologia*, *27*(3), 852–861.

Onraet, E., & van Hiel, A. (2014). Are Right-Wing Adherents Mentally Troubled? Recent Insights on the Relationship of Right-Wing Attitudes With Threat and Psychological Ill-Being. *Current Directions in Psychological Science*, *23*(1), 35–40. https://doi.org/10.1177/0963721413514249

Perrott, S. B. ., & Taylor, D. M. (1995). Attitudinal Differences Between Police Constables and Their Supervisors. *Criminal Justice and Behavior*, *22*(3), 326–339. https://doi.org/10.1177/0093854895022003009

Rubinstein, G. (2006). Authoritarianism Among Border Police Officers, Career Soldiers, and Airport Security Guards at the Israeli Border. *The Journal of Social Psychology*, *146*(6), 751–761. https://doi.org/10.3200/SOCP.146.6.751-761

Seoane, J., & Garzón, A. (1991). Creencias sociales contemporáneas, autoritarismo y humanismo. *Psicología Política*, *5*, 27–52. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=2826354

Timmerman, M. E., & Lorenzo-Seva, U. (2011). Dimensionality assessment of ordered polytomous items with parallel analysis. *Psychological Methods*, *16*(2), 209–20. https://doi.org/10.1037/a0023353

Van Hiel, A., & De Clercq, B. (2009). Authoritarianism is good for you: Right-wing authoritarianism as a buffering factor for mental distress. *European Journal of Personality*, *23*(1), 33–50. https://doi.org/10.1002/per.702

Velicer, W. (1976). Determining the number of components from the matrix of partial correlations. *Psychometrika*, *41*(3), 321–327. https://doi.org/10.1007/BF02293557

Walker, W. D., Rowe, R. C., & Quinsey, V. L. (1993). Authoritarianism and sexual aggression. *Journal of Personality and Social Psychology*, *65*(5), 1036–1045. https://doi.org/10.1037/0022-3514.65.5.1036

Worden, R. E. (1995). Police officers' belief systems: a framework for analysis. *American Journal of Police*, *14*(1), 49–81. https://doi.org/10.1108/07358549510152979

Zakrisson, I. (2005). Construction of a short version of the Right-Wing Authoritarianism (RWA) scale. *Personality and Individual Differences*, *39*(5), 863–872. https://doi.org/10.1016/j.paid.2005.02.026