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Spanish Validation of the Acceptance of Modern Myths about Sexual Aggression Scale (AMMSA)
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Two studies were conducted with college students to validate the Spanish-language version of the “Acceptance of Modern Myths about Sexual Aggression” scale (AMMSA) (Gerger, Kley, Bohner & Siebler, 2007). This scale assesses modern myths about sexual aggression in a subtle way. In Study 1, 305 students completed the Spanish AMMSA and other scales with related content. In Study 2, 263 participants completed the Spanish AMMSA and answered questions about a hypothetical sexual assault perpetrated by a young man against a female acquaintance. The Spanish AMMSA showed high internal consistency and adequate evidence of validity in both studies. Compared to traditional scales of rape myth acceptance, mean scores on the AMMSA were higher and their distributions more closely approximated normality. These findings suggest that the Spanish version of the AMMSA scale is a useful instrument to study the social perception of sexual aggression.

Keywords: sexual aggression, scale, myths, validation, rape, violence against women.

Se realizaron dos estudios con estudiantes universitarios para validar la versión en español de la escala “Acceptance of Modern Myths about Sexual Aggression” (AMMSA) (Gerger, Kley, Bohner, & Siebler, 2007). Esta escala mide de manera sutil los mitos actuales sobre las agresiones sexuales. En el Estudio 1, 305 estudiantes completaron el AMMSA en español y otras escalas de contenido relacionado. En el Estudio 2, 263 participantes completaron el AMMSA en español y respondieron a preguntas acerca de un caso hipotético de agresión sexual a una mujer joven, perpetrado por un hombre al que conocía. La escala AMMSA en español mostró alta consistencia interna y evidencia adecuada de validez en ambos estudios. Comparada con las escalas tradicionales de aceptación de mitos sobre la violación, las puntuaciones medias en el AMMSA fueron mayores y sus distribuciones se aproximaron más a la normalidad. Estos hallazgos sugieren que la versión en español de la escala AMMSA es un instrumento útil para estudiar la percepción social de las agresiones sexuales.

Palabras clave: agresión sexual, escala, mitos, validación, violación, violencia contra las mujeres.

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Violence against women has become a global problem of startling proportions. The data provided by different reports reveal that the reality of this issue is alarming. For example, a multinational study by the World Health Organization (2005) found that between 13% and 61% of women, depending on the country, reported having been the victim of some form of physical violence at some time in their lives. In the same survey, between 20% and 75% of women reported having experienced psychological violence, and between 6% and 59% of women reported having experienced sexual violence.

That being said, the actual incidence of sexual violence against women is difficult to estimate because, among other factors, it is one of the most under-reported crimes (Kelly, Lovett, & Regan, 2005; Koss, 1992; Temkin & Krahé, 2008). In Spain, according to official statistics (Instituto de la Mujer, 2009), the total number of crimes against women’s right to sexual self-determination reported in 2007 rose to a total of 6,845 cases; of those, 2,320 were sexual abuse cases, 262 were sexual abuse cases with penetration, 431 were sexual harassment cases, 2,259 were sexual assaults, and 1,573 were sexual assaults with penetration. These data tell us that every day in Spain, about 18 cases of sexual crimes against women are committed. What is more, far from decreasing, these statistics indicate that cases of sexual violence against women that come to light are actually on the rise. According to data from the last 6 years, the number of reported crimes progressively increased, except for the year 2006, when a small decrease was observed from 2005 (number reported in 2002: 6,065; in 2003: 6,191; in 2004: 6,825; in 2005: 7,207; in 2006: 6,798; and in 2007 – up to December: 6,845) (Instituto de la Mujer, 2009). Nonetheless, these rates are far lower than the rates expected when survey data of Spanish populations are taken into account. For example, Medina-Ariza and Barberet (2003), in a study conducted at the national level, found that 4.70% of women interviewed disclosed having been the victim of a severe sexual assault perpetrated by current or former romantic partners.

One possible cause for the social invisibility of sexual violence against women lies in people’s attitudes toward the victims, perpetrators, and the act of rape itself. These attitudes frequently include blaming the victim, minimizing the psychological impact of the assault, and justifying the perpetrator’s actions, which leads to a certain tolerance toward sexual assault that has negative repercussions on victims, makes their recovery process more difficult (Campbell, Ahrens, Seif, Wasco, & Barnes, 2001; Kubany et al., 1995), and significantly decreases the probability that they will report the crime.

In the literature on the social perception of sexual violence, beliefs seen as relating to the origin and perpetuation of sexual violence have been grouped together under the label of “rape myths” (Brownmiller, 1975; Burt, 1980). “Rape myth acceptance” (RMA) has to do with people’s stereotypical ideas about rape, such as the notion that women falsely accuse men of rape, that rape is not painful, that women desire or enjoy rape, or that women themselves are the cause of rape or deserve to be raped for engaging in certain inappropriate or risky behaviors (Burt, 1980).

Lonsway and Fitzgerald (1994) defined rape myths as “attitudes and beliefs that are generally false but are widely and persistently held, and that serve to deny and justify male sexual aggression against women” (p. 134). However, this definition does not include the myths’ specific contents and also rests on two very elusive concepts: the criteria defining an attitude as “false” and the need for these beliefs to be “widely and persistently held” (Gerger, Kley, Bohn, & Siebler, 2007). To resolve these issues, Bohn (1998) proposed that rape myths be defined not as false, but as “wrong” from an ethical perspective, and that their prevalence over time be considered an empirical problem rather than a defining element.

Bohner’s (1998) approach, then, considered the myths’ content and functions as central components and defined them as “descriptive or prescriptive beliefs about rape (i.e., about its causes, context, consequences, perpetrators, victims, and their interaction) that serve to deny, belittle, or justify men’s sexual violence against women” (p. 14; authors’ translation).

Since they were first proposed in the 1970s to the present day, numerous studies have analyzed the cognitive, affective, and behavioral functions of rape myth acceptance (for a review, see Bohn, Eyssel, Pina, Siebler, & Viki, 2009). At the cognitive level, high acceptance of these myths has been found to relate to increased victim blame and exoneration of the perpetrator. Furthermore, people with high RMA scores tend to consider rape less traumatic for the victim and are less likely to recommend she report what happened to the police (Frese, Moya, & Megias, 2004; Krahe, 1988). At the affective level, Bohn et al. (2009) suggest that women’s level of acceptance of these myths may influence their feelings of danger and vulnerability to rape. Women with high RMA scores maintain that rape only occurs to certain women who do not behave in a manner appropriate to their role and are therefore perceived differently, such that these women themselves would surely be spared such an assault. Conversely, women who clearly

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1 The Spanish Penal Code makes the distinction between sexual abuse (any act against the sexual liberty or indemnity of another person without violence or intimidation and without consent), sexual harassment (asking for favors of a sexual nature for oneself or a third person within the context of a working, teaching, or service-providing relationship, whether continuous or habitual, and with said behavior causing an objectively, severely intimidating, hostile, or humiliating situation for the victim), and sexual assault (any act against the sexual liberty of another person, with violence or intimidation).
reject these myths may experience negative effects on their self-esteem, perceiving rape as a potential threat to all women (e.g., Bohnet & Lampridis, 2004; Bohnet, Weisbord, Raymond, Barzvi, & Schwarz, 1993). Finally, at the behavioral level, rape myth acceptance has been consistently found to relate to various self-report measures of men’s rape proclivity (Abrams, Viki, Masser, & Bohnet, 2003; Bohnet et al., 1998; Bohnet, Siebler, & Schmelcher, 2006; Malamuth, 1981; Malamuth & Check, 1985).

Although RMA as a construct has been very useful in research on the social perception of rape, some authors have suggested certain methodological problems stemming from the way in which it is measured (Bohner et al., 2009; Eyssel & Bohnet, 2008; Gerger et al., 2007). Traditionally, various scales have been used, the most well-known being those by Feild (1978), Burt (1980), Costin (1985), and Payne, Lonsway, and Fitzgerald (1999), which cover traditional, “old-fashioned” rape myths (Eyssel & Bohnet, 2008). Although the specific content of the items on each scale varies in the majority of cases, they tend to blame the victim (e.g., “women sometimes provoke rape by their appearance or behavior”), exonerate the perpetrator (e.g., “men often cannot control their sexual urges”), and deny or downplay the violence inherent in rape (e.g., “if a woman isn’t a virgin, then it shouldn’t be a big deal if her date forces her to have sex”).

It is apparent from the phrasing of these items of scales measuring the acceptance of “traditional” rape myths that nowadays, they may sound overly explicit and obvious, leaving the scales very vulnerable to social desirability effects. Also, similar to other types of prejudice such as racism (Swim, Aikin, Hall, & Hunter, 1995) and sexism (Glick & Fiske, 1996), it may be that the content of rape myths has changed in recent decades such that nowadays, it would be more difficult socially to express clear agreement with the items included in the traditional scales. In fact, the averages observed by researchers who use these scales provide indirect evidence for the idea that the content of rape myths is in a state of flux. For example, Frese et al. (2004) used a Spanish language version of Burt’s (1980) scale and obtained an average RMA score of 2.7 on a Likert-type scale ranging from 1 to 7. Bohnet et al. (2006), using a German language version of Costin’s (1985) scale, found that men’s average scores were 2.6 (Exp. 1) and 2.7 (Exp. 2), also on a scale from 1 to 7. These findings point to the fact that the content of these myths may have changed.

That participants’ RMA scores are situated at the extreme low end of the scale implies an asymmetrical distribution; this poses an important methodological concern given that the majority of statistical analyses require normal distributions of scores or error terms. Furthermore, such low baseline scores make it more difficult to detect any effects of experimental manipulations aimed at reducing RMA or to show significant differences in RMA between groups or participants, due to a floor effect (Eyssel & Bohnet, 2008).

Gerger et al. (2007) addressed these issues by developing a new 30-item scale that measures the “Acceptance of Modern Myths about Sexual Aggression” (AMMSA). Following a similar logic to the one adopted in research about new forms of racism and sexism, this scale measures myths in a more subtle, less obvious way and not only refers to rape but also other, less severe forms of sexual aggression. In accordance with this new perspective, Gerger et al. defined myths about sexual aggression as “descriptive or prescriptive beliefs about sexual aggression (i.e., about its scope, causes, context, and consequences) that serve to deny, downplay, or justify sexually aggressive behavior that men commit against women” (p. 425; italics in original).

The content of AMMSA items covers the following categories (Gerger et al., 2007, p. 425): (a) denial of the scope of the problem (e.g., “Many women tend to misinterpret a well-meant gesture as a ‘sexual assault’”), (b) antagonism toward victims’ demands (e.g., “Women often accuse their husbands of marital rape just to retaliate for a failed relationship”), (c) lack of support for policies designed to help alleviate the effects of sexual violence (e.g., “Nowadays, the victims of sexual violence receive sufficient help in the form of women’s shelters, therapy offers, and support groups”), (d) beliefs that male coercion forms a natural part of sexual relationships (e.g., “When a woman starts a relationship with a man, she must be aware that the man will assert his right to have sex”), and (e) beliefs that exonerate male perpetrators by blaming the victim or the circumstances (e.g., “Any woman who is careless enough to walk through ‘dark alleys’ at night is partly to be blamed if she is raped”).

To carry out their validation and analysis of the AMMSA scale’s psychometric properties, Gerger et al. (2007) conducted 4 studies. Across studies, the scale’s internal consistency was found to range from .90 to .95 (Cronbach’s $\alpha$). In three of the studies, they also evaluated the scale’s test-retest reliability with delays between measurements ranging from 3 to 13 weeks, also obtaining acceptable values between .67 and .88. Item-total correlations ranged from .21 to .82, and analyses of the scale’s factor structure performed by Gerger et al. suggested a single factor. In addition, the scale exhibited high correlations (from .79 to .88) with one of the most recently developed measures of “traditional” rape myth acceptance, the IRMA (Payne et al., 1999). It also correlated highly (from .76 to .80) with other related constructs that express hostility toward women and masculine ideology such as hostile sexism (Glick & Fiske, 1996), as well as a series of beliefs that to some extent condone rape, such as “adversarial sexual beliefs” (Burt, 1980) or the “acceptance of interpersonal violence” (Burt, 1980). Similarly, Gerger et al. found significant, though lower, correlations between AMMSA scores and other constructs such as right-wing authoritarianism, social dominance orientation, and belief in a just world, which cover more general content but are all associated with
justifying and maintaining the “status quo” of social inequality.

Also, participants’ scores on the AMMSA scale were
symmetrically, almost normally distributed in all 4 studies
by Gerger et al. (2007). The AMMSA scale thus manages
to avoid some of the methodological problems mentioned
above afflicting traditional measures of RMA: asymmetrical
distributions of scores and their placement in the lower
range of the scale.

Several research studies conducted in recent years
(Bohner, Jarvis, Eyssel, & Siebler, 2005; Bohner et al. 2006;
Eyssel & Bohner, 2011; Eyssel, Bohner, & Siebler, 2006;
Temkin & Krahe, 2008) have provided consistent evidence
for the benefits of using the AMMSA scale in research on
sexual aggression. For example, Eyssel et al. (2006) used
it to study the effects of knowing other people’s AMMSA
scores on men’s expressed proclivity toward rape. Their
results showed that men scored lower on the measure of
rape proclivity when they were made to think that other
participants’ scores on the AMMSA scale were low. Temkin
and Krahe (2008), looking at judicial decisions, found that
participants scoring higher on the AMMSA scale
recommended shorter sentences for a defendant who was
found guilty of rape and also attributed more responsibility
for the rape to the victim. In addition, this study
demonstrated that the AMMSA scale measures beliefs about
sexual aggression in a subtle, non-obvious way: about 44% of
participants scored above the scale’s mid-point (59% of
men and 34% of women), which is evidence that with this
type of item wording, more participants show agreement
with myths about sexual aggression.

In light of the above, we consider it undoubtedly of interest
to adapt the AMMSA scale into Spanish because in Spanish,
we do not yet have access to any scale with its characteristics
that allows us to evaluate modern myths about sexual
aggression. As far as we know, in Spanish, only Burt’s (1980)
scale has been used to measure rape myths. (Frese et al., 2004),
which implies all the methodological problems with traditional
measures of myths discussed above. Nonetheless, Lottes’s
(1991) Rape Supportive Attitude Scale (RSAS) was recently
adapted into Spanish by Sierra, Rojas, Ortega, and Martin
(2007). As described in a study by Sierra et al. (2007), the
distribution of Spanish college students’ scores on the RSAS
continues to be biased toward the lower end of the scale,
with mean scores ranging from 1.30 to 2.97 on a Likert-type
scale (1 = totally disagree; 5 = absolutely agree), even
though its mid-point is 3. In fact, the percentage of participants
who expressed some degree of agreement with the content
of the majority of the items did not exceed 10%. Additionally,
the content of the RSAS’s items resembles that of other scales
measuring traditional myths, with a very blatant, unsubtle
phrasing of beliefs, which leads to participants agreeing very
little with its contents.

The present research includes two studies that will
analyze the psychometric properties of a Spanish AMMSA
scale and validate it. The scale had been previously translated
following the recommended process for translating transcultural
research instruments (Brislin, 1970): a bilingual
individual (psychologist and translator) translated the scale
from English to Spanish and another bilingual person
(translator) translated it back into English again. Any
discrepancies between the original and translated versions,
now both in English, were discussed and resolved through
agreement between this study’s authors and the translators,
which gave way to the definitive version in Spanish that
is presented here.

In the first study, 306 students at the University of
Granada responded to the Spanish version of the AMMSA
scale and to other scales that measure constructs that are
theoretically related to it. Specifically, they completed
Burt’s (1980) RMA scale as well as the ambivalent sexism
inventory (ASI; Glick & Fiske, 1996; Spanish version by
Exposito, Moya, & Glick, 1998), which measures hostile
sexism (HS) and benevolent sexism (BS). These data
allowed us to determine the scale’s factor structure, internal
consistency, and concurrent validity. Study 2 was conducted
with a different sample of 263 students at the University
of Granada and aimed to complete an analysis of the scale’s
factor structure as well as to obtain more external sources
of its validity. Specifically, with the help of a hypothetical
sexual assault scenario, correlations were computed
between scores on the scale and the constructs victim
blame, aggressor’s responsibility, “token resistance,”
the woman’s aggressiveness, and self-reported proclivity toward
rape (men only). We hypothesized that the AMMSA scale
would show a high correlation with Burt’s (1980) RMA
scale, a traditional measure of rape myth acceptance, as
well as with the HS (Glick & Fiske, 1996), which measures
hostile attitudes toward women. Though we also
hypothesized that there would be a relationship between
AMMSA and BS (Glick & Fiske, 1996) scores, we
expected this relationship to be weaker than those with
the rest of the constructs because BS implies apparently
more positive attitudes toward women than those addressed
in myths about sexual aggression. On a related note, we
expected that men’s scores on the AMMSA scale would
be a good predictor of their self-reported proclivity toward
rape (Bohner et al., 1998). Finally, we expected that there
would be a positive correlation between AMMSA scores and
both blaming the victim and belief in “token resistance.” At the same time, we hypothesized a negative
correlation between AMMSA scores and attributing
responsibility to the aggressor.

**STUDY 1**

Study 1’s purpose was to determine the factor structure
and internal consistency of the Spanish version of the
AMMSA scale, as well as correlations between it and other
related constructs. Specifically, participants filled out a questionnaire that included the AMMSA scale together with Burt’s (1980) RMA scale and the ASI (Glick & Fiske, 1996; Spanish version by Expósito et al., 1998).

Method

Participants

Three hundred and five students belonging to 8 different departments at the University of Granada participated in this study, representing several different fields: Natural Sciences, Social Sciences, Humanities, and Engineering. Their mean age was 21 years ($SD = 2.7$). Of all the participants, 206 were women with an average age of 20.8 years ($SD = 2.5$) and 99 were men with a mean age of 21.3 years ($SD = 3.0$). The difference in age between men and women did not turn out to be statistically significant, ($t(304)$ $= -1.60, p = .11$).

Instruments

Participants completed the following scales:

1) The Acceptance of Modern Myths about Sexual Aggression Scale (AMMSA; Gerger et al., 2007). The AMMSA scale (see appendix) consists of 30 items that subtly evaluate the acceptance of modern myths about sexual aggression. It is a self-report measure in which participants indicate their level of agreement or disagreement with each statement on a Likert-type scale ranging from 1 (totally disagree) to 7 (totally agree). Sample items from the AMMSA scale are: “Once a man and a woman have started ‘making out,’ a woman’s misgivings against sex will automatically disappear;” “It is a biological necessity for men to release sexual pressure from time to time;” “If a woman invites a man to her home for a cup of coffee after a night out this means that she wants to have sex;” “The discussion about sexual harassment on the job has mainly resulted in many a harmless behavior being misinterpreted as harassment;” “Alcohol is often the culprit when a man rapes a woman.” In studies of the scale’s development and validation (Gerger et al., 2007), its English and German versions showed high internal consistency (Cronbach’s $\alpha$ between .90 and .95) and good test-retest reliability (between .87 and .88).

2) Rape Myth Acceptance Scale (RMAS; Burt, 1980). This consists of items that contain myths surrounding rape. In our study, a shorter version was used that took 10 items from the Spanish adaptation, previously translated and used by Frese et al. (2004). Items on the RMAS have a 7-point Likert-type response format where 1 means “totally disagree” and 7 means “totally agree” with the statement presented. The following items, for example, are included on this scale: “One reason that women falsely report a rape is that they frequently have a need to call attention to themselves;” “In the majority of rapes, the victim is promiscuous or has a bad reputation;” “Many women have an unconscious wish to be raped, and may then unconsciously set up a situation in which they are likely to be attacked.” The scale’s internal consistency in this study was found to be $\alpha = .72$, similar to what was observed in other studies conducted by our research group ($\alpha = .73$, Frese et al., 2004).

3) Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996; Spanish version by Expósito et al., 1998). This scale comprises 22 items that represent two sub-scales of 11 items each; its objective is to assess the components of ambivalent sexism: hostile sexism (HS) and benevolent sexism (BS). All items are assessed on a Likert-type scale with six response options ranging from “0” (totally disagree) to “5” (totally agree). Some example items measuring BS are: “Many women have a quality of purity that few men possess; Women should be cherished and protected by men; Every man ought to have a woman whom he adores; Men are incomplete without women”. Some example items measuring HS are: “Most women fail to appreciate fully all that men do for them; Women are too easily offended; Most women interpret innocent remarks or acts as being sexist.” The ASI’s internal consistency observed in this study was $\alpha = .92$, with $\alpha = .90$ for HS and $\alpha = .85$ for BS. In line with the findings of prior research, HS and BS were found to be positively correlated in our study, $r = .61; p < .001$

Procedure

Each group of students completed the questionnaire in their usual classroom for approximately 30 minutes. The instructions, both verbal and written, guaranteed to participants the anonymity and confidentiality of their responses. All participants consented to answering the questionnaire anonymously, collaborating in a completely voluntarily manner without any compensation or reward for participation. As for the scales’ order of presentation, participants completed the RMAS first, the ASI second, and the AMMSA third. Finally, they were asked to provide some personal data (age, sex and degree/department).

Results

Exploratory Factor Analysis.

Exploratory factor analysis was applied to determine the factor structure of the Spanish AMMSA. The results of Bartlett’s test of sphericity, $\chi^2(435) = 2952.6, p < .0001$, and a value of the KMO index over .80 confirmed that the matrix of correlations was suitable to carry out this analysis. Next, a principal components analysis was applied to the AMMSA’s 30 items using SPSS (version 15.0). This yielded
7 components with eigenvalues greater than one, together explaining 57.75% of variance. The first seven eigenvalues were: 9.06, 1.88, 1.53, 1.37, 1.31, 1.12 and 1.04. The ratio between the first eigenvalue and the second was 4.82, in other words, the first factor explained more than 4 times as much of the total variance as any of the other factors. This ratio, as well as a visual inspection of the scree plot, suggested a one-factor solution, thus replicating the structure of the original scale (Gerger et al., 2007).

Estimating Reliability

The 30 items that comprise the AMMSA scale showed high internal consistency (α = .91), similar to that of the original version of the scale (α between .90 and .95; Gerger et al., 2007). The correlations between each item and the total2 ranged from .21 to .68, also very similar to those found for the original scale by Gerger et al. (2007). Therefore, we retained all the items on the scale; each participant’s mean across the 30 items was defined as their AMMSA score.

Means

Table 1 displays participants’ mean scores on the AMMSA and RMAS scales, separate for each sex. The average AMMSA scores were found to be in the range of those obtained by Gerger et al. (2007) for both men (M = 3.32; range of means on the original scale: 3.15 to 3.60) and women (M = 2.96; range of means on the original scale: 2.72 to 3.30). Evidently, mean AMMSA scores were significantly higher than mean RMAS scores for men and women alike, which is evidence of the AMMSA’s greater sensitivity in detecting myths. A mixed model ANOVA, 2 (type of scale: AMMSA vs. RMAS) x 2 (Sex), confirmed those impressions, indicating main effects of both type of scale, F(1, 303) = 544, p < .001, η² = .64, and sex, F(1, 303) = 10.6, p = .001, η² = .03. The interaction effect was not significant.

Distributions

The distribution of AMMSA and RMAS scores for the present study’s sample is displayed in Figure 1. It shows that the distribution of the AMMSA scale is virtually normal, which is confirmed by the nonsignificant result of a Kolmogoroff-Smirnov test, p = .22. Conversely, the distribution of RMAS scores is clearly asymmetrical and is far from normal, p < .0001. Thus, one of our most important objectives in proposing to validate this scale has been met in that we have obtained a measure with a symmetrical distribution of scores that is nearly normal.

External Evidence of Validity

As expected, participants’ scores on the AMMSA scale were highly correlated (r = .57) with scores on the RMAS scale, which evaluates acceptance of traditional rape myths. Of the two types of sexism measured by the ASI (Glick & Fiske, 1996), we expected a higher correlation between the AMMSA and hostile sexism, compared to benevolent sexism. In support of our predictions, the AMMSA was found to be significantly correlated with both, but more so with HS (r = .71) than with BS (r = .58), z (283) = 3.44, p < .001.

Discussion

We can conclude from the results of this study that the Spanish version of the 30-item AMMSA scale has adequate internal consistency, and evidence for its construct validity has been provided as well. On a related note, scores on this scale followed a symmetrical, almost normal distribution, thereby resolving some of the methodological problems that have been attributed to traditional scales that measure rape myth acceptance. The psychometric properties of the Spanish version of the AMMSA scale were found to be very similar to those reported for the original German and English versions developed by Gerger et al. (2007); this leads us to assert that we have achieved a good adaptation of the original instrument. The fact that the correlation between the AMMSA scale and the measure of traditional myths (RMAS) used in the present research was lower (r = .57) than the one observed between AMMSA and IRMA by Gerger et al. (2007) (r around .80) may be due to the content of the items on Burt’s (1980) RMAS scale, which detect more traditional and out-of-date myths than does the IRMA scale by Payne et al. (1999), which was created much later.

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2 The Appendix presents the means of all items and each one’s correlation with the scale’s total.
In order to contribute further evidence of the Spanish AMMSA’s validity while at the same time confirming its factor structure, we conducted a second study in which we evaluated its relationship with a series of constructs that have been found to correlate with RMA: amount of blame attributed to female victims of sexual violence, responsibility attributed to the perpetrators, evaluation of women’s behavior as “token resistance” to sexual interactions, and men’s proclivity toward sexual violence. To do so, we constructed a scenario describing a hypothetical rape committed by a man against a woman and asked participants about the issues above. Male and female participants were asked the same things except for questions about rape proclivity, which were directly only to the men.

Numerous studies of rape myth acceptance have dealt with attributions of blame in rape scenarios (for reviews, see Krahé, 1991; Pollard, 1992). From the earliest research about the RMA construct, one of the most consistent findings has been that respondents’ RMA levels are positively correlated with victim blame and negatively correlated with attributing responsibility to the perpetrator (Eyssel & Bohner, 2008).

Another construct related to self-reported proclivity to rape is the perception of “token resistance” (e.g., Masser, Viki, & Power, 2006). People who hold this idea believe that when a woman resists sexual advances, she really does so to give the appearance of being virtuous and chaste, whereas deep down, she wants to submit to the man. Thus, this construct should also be positively correlated with AMMSA scores.

To assess rape proclivity, Bohner et al. (1998) developed an instrument containing various scenarios describing acquaintance rape (though the word “rape” is not mentioned in the descriptions). For each scenario, participants were asked to indicate, first, if they would have behaved like the perpetrator and second, how much they would have enjoyed getting their way in that situation. Participants’ mean scores of these two items across all the scenarios were used to measure their proclivity toward rape. Several studies have observed a significant relationship between rape myth acceptance and this measure of rape proclivity both when traditional measures of myths were used (e.g. Abrams et al., 2003) and when the AMMSA was employed (Eyssel, Bohner, Süssenbach, & Schreiber, 2009; Gerger et al., 2007, Study 4).

**Method**

**Participants**

263 students participated in this study, different from those in Study 1 and belonging to 7 different departments at the University of Granada representing the fields of Natural Sciences, Social Sciences, Humanities, and Engineering. Their average age was 20.7 years ($SD = 2.2$). Of all the participants, 150 were women with a mean age of 20.7 years ($SD = 2.2$) and 111 were men with a mean age of 20.8 years ($SD = 2.3$). The age difference between men and women was not significant, $t(259) = -.53, p = .60$. 

![Figure 1. Distributions of Scores on the Acceptance of Modern Myths About Sexual Aggression Scale (AMMSA) and the Rape Myth Acceptance Scale (RMAS).](image-url)
Instruments

Participants responded to a questionnaire that included the following instruments:

1) The “Acceptance of Modern Myths about Sexual Aggression Scale” (AMMSA; Gerger et al., 2007) described above.

2) A fictional scenario describing an interaction between a young man and woman who, after meeting at a bar, spend the better part of the night having fun together at the bar. When it closes, the man invites the woman to his apartment and she accepts. Over the course of their time together at his apartment, he begins to make sexual advances, but she rejects them. Nevertheless, the man disregards her protests and ends up sexually assaulting her. After reading the story, participants were asked to respond to a series of items expressing their evaluation of the victim’s level of blame for what happened (4 items, of which 2 were created for the purposes of this research and 2 were selected from those used by Abrams et al., 2003, and Cameron & Stritzke, 2003), the perpetrator’s responsibility (3 items; Abrams et al., 2003; Cameron & Stritzke, 2003), and the “token resistance” exhibited by the victim (5 items; Masser et al. 2006). The scale’s internal consistencies were, respectively, \( \alpha = .78 \) for victim blame, \( \alpha = .51 \) for the aggressor’s responsibility and \( \alpha = .92 \) for “token resistance.”

3) Subsequently, only male participants responded to the two items measuring their self-reported proclivity toward sexual assault (Bohner et al., 1998; Romero-Sánchez, Durán, Carretero-Dios, Megías, & Moya, 2010). The first asked participants to what extent they would have behaved in the same way as the man in the story if placed in a similar situation, and the second item asked if in a similar situation, they would have enjoyed getting their way. According to the suggestions of Bohner et al. (1998), answers to these two items were combined into a single, mean value for both; this was our measure of self-reported proclivity. The consistency of this short scale was \( \alpha = .75 \).

Procedure

Study 2’s procedure was similar to the one described in Study 1. The order of presentation was always such that participants completed the AMMSA scale first, read the scenario next, and finally answered the items about blaming the victim, the aggressor, “token resistance,” and rape proclivity (men only).

Results

Exploratory Factor Analysis

With the intention of determining the factor structure of the AMMSA scale using a new sample, we repeated the same process as in Study 1. The results of Bartlett’s test of sphericity, \( \chi^2(435) = 2625.9, p < .0001 \), and a KMO index value over .80 confirmed that the matrix of correlations was suitable to perform this analysis. Next, a principal components analysis of the scale’s 30 items was carried out. This yielded 8 components with eigenvalues greater than 1 that together explained 59.23% of variance. The first eight eigenvalues were: 8.22, 1.80, 1.68, 1.57, 1.27, 1.17, 1.04 and 1.01. The ratio between the first and second eigenvalues was 4.56, which means that the first factor explained more than 4 times the amount of variance than each of the other factors did. This ratio, as well as a visual inspection of the scree plot, once again suggested a one-factor solution, thus replicating the results of Study 1. Though in the literature on RMA, multi-factor solutions are sometimes reported, this tends to be inconsistent across different studies. Also, at the moment, there is no theory in place to suggest that this construct has a multidimensional structure (for a more in-depth discussion, see Gerger et al., 2007, footnote 3, pp. 430-431).

Confirmatory Factor Analysis

Next, confirmatory factor analysis (CFA) was performed (LISREL 8.8) for the 30 AMMSA items. The CFA was based on an asymptotic covariance matrix, and the method of diagonally weighted least squares was used (DWLS in LISREL). The one-factor model was tested. According to the recommendations of Hu and Bentler (1999), and Tanaka (1993), next we used multiple approximations to evaluate the model’s goodness of fit, specifically the following indices: root mean square error of approximation (RMSEA), the adjusted goodness of fit index (AGFI) and the non-normal fit index (NNFI, also known as the Tucker-Lewis coefficient, TL) (Browne & Cudeck, 1993). These measures indicated that the model fit the data well (\( \chi^2(405) = 1,714.07, \quad \text{RMSEA} = .07, \quad \text{AGFI} = .93, \quad \text{NNFI} = .92 \)). Therefore, a one-factor solution was deemed most appropriate for the AMMSA scale.

Estimating Reliability

The 30 items on the AMMSA scale showed high internal consistency (\( \alpha = .90 \)), very similar to the level observed in Study 1 (\( \alpha = .91 \)) and that reported for the scale’s original version (\( \alpha \) between .90 and .95; Gerger et al., 2007). The correlations of each item with the total ranged from .26 to .68, also very similar to the findings of Study 1 and Gerger et al. (2007). In sum, these data corroborate the one-factor solution, so all the items on the scale were retained.

Mean Scores

As in Study 1, participants’ mean AMMSA scores fell into the range observed by Gerger et al. (2007) for both men (\( M = 3.60 \); range of means in the original scale: 3.15 to 3.60) and women (\( M = 3.07 \); range of means in the original...
scale: 2.72 to 3.30) and were very similar to the scores observed in Study 1. Also, as expected, men scored higher on the AMMSA than did women, \( t(261) = 4.73, p < .0001 \).

**External Evidence of Validity**

AMMSA scores were found to be positively and significantly correlated with attribution of blame to the victim for women \( (r = .36, p < .001) \) as well as men \( (r = .51, p < .001) \), such that participants who showed greater acceptance of myths estimated the victim’s responsibility for the incident as higher. Conversely, responsibility attributed to the aggressor was found to be negatively correlated with AMMSA scores (women: \( r = -.17, p = .05; \) men: \( r = -.21, p < .05 \), indicating that greater acceptance of myths is associated with the tendency to blame the aggressor less. Finally, AMMSA scores were also found to correlate positively with the belief that the woman who was sexually assaulted had shown “token resistance” to the man’s sexual advances (women: \( r = .36, p = .001; \) men: \( r = .51, p < .001 \)). For men, we also analyzed the correlation between their AMMSA scores and their rape proclivity; as expected, that correlation was also found to be positive and statistically significant \( (r = .27, p < .01) \).

**Discussion**

The results of Study 2 corroborate the one-factor structure of the AMMSA scale in Spanish, which again showed a high internal consistency. AMMSA scores’ significant and meaningful correlations with victim blame, exonerating the perpetrator, perceptions of “token resistance,” and rape proclivity provided additional sources of evidence for its criterion validity.

**General Discussion**

We were successful in validating the AMMSA scale in Spanish so as to provide a more subtle measure of modern myths about sexual aggression. The psychometric analyses performed in Studies 1 and 2 indicated that the Spanish version of the scale possesses adequate consistency, and provided evidence that its construct validity was similar to that of the original versions in English and German (Gerger et al., 2007).

Study 1 demonstrated that participants’ distribution of scores on the scale follows a symmetrical, almost normal distribution, thereby resolving one of the problems afflicting traditional measures of rape myths. As mentioned above, the fact that the traditional measures’ contents are so explicitly, obviously expressed gives way to an asymmetrical, biased distribution of scores that tends toward the low end of the scale. The same occurred in Study 1 with participants’ scores on one such scale (RMAS; Burt, 1980). Such a biased distribution of scores violates some of the common assumptions made in conducting statistical analyses, which makes it difficult to test hypotheses about mean differences, especially in studies with a limited number of participants. Similarly, such low mean scores as are often obtained with traditional measures of rape myths can mask, because of a possible floor effect, the potential impact of interventions designed to change rape-related attitudes. The RSAS scale (Lottes, 1991), which was recently validated in Spanish by Sierra et al. (2007), is affected by the same problems derived from a biased distribution of scores. It is thus possible that the Spanish version of the AMMSA is currently the only Spanish-language scale that allows for these difficulties to be avoided.

Regarding the Spanish AMMSA’s factor structure, the analyses carried out in Studies 1 and 2 revealed that a one-factor structure is most consistent. Our analysis of the eigenvalues’ ratio, the scree plot, and confirmatory factor analysis corroborated this notion. The one-factor structure was also confirmed by the high internal consistency of the 30 items obtained in both Studies 1 and 2. Hence, the factor solution of the Spanish version replicates the one adopted by Gerger et al. (2007) for the original versions in English and German.

Construct validity was indicated by the fact that participants’ AMMSA scores were highly positively correlated with scores on another scale (RMAS, Burt, 1980) that measures rape myth acceptance, the construct most closely related to acceptance of myths about sexual aggression. Furthermore, as hypothesized, AMMSA scores were found to be positively correlated with scores of hostile (HS) and benevolent (BS) forms of ambivalent sexism (Glick & Fiske, 1996). Nevertheless, the correlation was larger with HS than with BS, which indicates greater conceptual proximity between myths about sexual aggression and hostility toward women. In this case, too, the relationship between the AMMSA and the two forms of ambivalent sexism was similar to the one reported by Gerger et al. (2007).

Study 2 provided additional, new sources of external validation of the scale. With the help of a hypothetical scenario narrating a sexual assault committed by an acquaintance in a social/dating situation, we were able to determine participants’ attributions of blame to the victim and the perpetrator for the incident. In addition, they reported their opinions about the notion of “token resistance” to sexual advances on the part of the victim, and men also reported their predisposition to behave like the aggressor in a situation similar to the one described (rape proclivity). As hypothesized, participants’ AMMSA scores were found to be positively correlated with the level of blame attributed to the victim and negatively correlated with the responsibility attributed to the aggressor. Similarly, acceptance of modern myths about sexual aggression was found to be positively correlated with the belief that the woman who was sexually assaulted only feigned her resistance and protest against
the aggressor. These results reinforce the findings of Gerger et al. (2007) and expand on them by incorporating data about “token resistance,” a construct with which this scale had not previously been related.

Furthermore, AMMSA scores were found to correlate positively with self-reported rape proclivity in men. The higher their scores on the scale, the greater was the agreement they reported with the possibility of behaving like the aggressor in the scenario and enjoying it if they were in a similar situation. In a study by Gerger et al. (2007; Study 4), this correlation was found to be significant only in a sample of German-speaking men, but not in a sample of English-speaking men. Although this difference may have been related to cultural differences between the two samples, Gerger et al. (2007) attributed this unforeseen result mainly to their small sample size. In larger samples such as ours, regardless of cultural differences, the correlation between AMMSA and proclivity toward rape seems to be sufficiently robust (see also Eyssel et al., 2009).

It is important to note, however, that the correlations in Study 2 between the AMMSA and the different variables mentioned above were always found to fall between .3 and .5, which correspond to medium-large sizes (Cohen, 1988), except for the correlations with the variable “proclivity toward rape,” where the value was .27, and in correlations with the variable “responsibility attributed to the aggressor,” which, though significant, were small in size (Cohen, 1988). In this last case, this may have been due to the low internal consistency of the items measuring this variable.

The studies comprising the present research also imply certain limitations that deserve mention. First of all, both studies’ samples were convenience samples, comprised exclusively of college students. Applying and validating this scale in new samples of the general population would be an interesting complement to this research. That being said, although our samples were not representative of the general population, they were in many respects more homogeneous than the general population, which implies a more conservative test situation for many of the correlations we have used to validate this scale. Second, the scale should also be validated in an experimental context, similar to what is underway in research on the original version (Eyssel et al., 2006; Eyssel & Bohner, 2011). Third, to determine the predictive validity of the AMMSA regarding sexual assault, it would be useful to have access to objective behavioral measures of sexual assault in addition to the self-report measures of proclivity.

In summary, we conclude that the Spanish version of the AMMSA scale exhibits adequate psychometric properties of internal consistency, sufficient sources of validity, and the statistical distribution needed to be used to measure the acceptance of modern myths about sexual aggression. It expands the area of application from rape to sexual aggression in general and its items have more subtle, indirect phrasing and content, allowing for greater sensitivity in the detection of this type of belief.

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## Spanish Version of the “Acceptance of Modern Myths about Sexual Aggression” Scale

<table>
<thead>
<tr>
<th>Item</th>
<th>Item-total Correlations</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cuando se trata de contactos sexuales, las mujeres esperan que sean los hombres quienes tomen la iniciativa.</td>
<td>.45</td>
<td>4.54</td>
</tr>
<tr>
<td>2. En cuanto un hombre y una mujer empiezan a “enrollarse”, los reparos de la mujer respecto al sexo desaparecen automáticamente.</td>
<td>.29</td>
<td>2.86</td>
</tr>
<tr>
<td>3. Muchas mujeres se quejan de agresiones sexuales por motivos insignificantes, sólo para demostrar que son mujeres con fuertes convicciones igualitarias.</td>
<td>.60</td>
<td>1.97</td>
</tr>
<tr>
<td>4. Para conseguir la custodia de sus hijos/as, las mujeres a menudo acusan falsamente a sus ex maridos de tener inclinaciones hacia la violencia sexual.</td>
<td>.56</td>
<td>2.96</td>
</tr>
<tr>
<td>5. Interpretar gestos “innocentes” como “acoso sexual” es un arma muy común en la batalla de los sexos.</td>
<td>.64</td>
<td>2.99</td>
</tr>
<tr>
<td>6. Para los hombres es una necesidad biológica liberar de vez en cuando su tensión sexual acumulada.</td>
<td>.51</td>
<td>4.23</td>
</tr>
<tr>
<td>7. Tras una violación, las mujeres hoy en día reciben mucho apoyo.</td>
<td>.41</td>
<td>4.02</td>
</tr>
<tr>
<td>8. Hoy en día, un amplio porcentaje de violaciones está causado, en parte, por mostrar la sexualidad en los medios de comunicación, ya que esto incrementa el impulso sexual de potenciales violadores.</td>
<td>.43</td>
<td>3.18</td>
</tr>
<tr>
<td>9. Si una mujer invita a un hombre a tomar una copa en su casa después de haber salido por la noche, significa que quiere sexo.</td>
<td>.45</td>
<td>3.40</td>
</tr>
<tr>
<td>10. Mientras no vayan demasiado lejos, los comentarios e insinuaciones sexuales que se hacen a las mujeres quieren decirles solamente que son atractivas.</td>
<td>.54</td>
<td>3.69</td>
</tr>
<tr>
<td>11. Cualquier mujer que sea tan poco precavida como para andar sola de noche por callejones oscuros tiene parte de culpa si es violada.</td>
<td>.46</td>
<td>1.80</td>
</tr>
<tr>
<td>12. Cuando una mujer comienza una relación con un hombre, debe tener claro que el hombre hará valer su derecho de mantener relaciones sexuales.</td>
<td>.50</td>
<td>2.38</td>
</tr>
<tr>
<td>13. La mayoría de las mujeres prefiere ser elogiada por su físico que por su inteligencia.</td>
<td>.47</td>
<td>3.00</td>
</tr>
<tr>
<td>14. La sensibilidad de nuestra sociedad hacia los delitos sexuales es desproporcionada debido a que la sexualidad ejerce de por sí una atracción social desproporcionada.</td>
<td>.55</td>
<td>2.63</td>
</tr>
<tr>
<td>15. Aunque a las mujeres les gusta hacerse las tímidas, eso no significa que no quieran sexo.</td>
<td>.57</td>
<td>4.20</td>
</tr>
<tr>
<td>16. Muchas mujeres tienden a exagerar el problema de la violencia machista.</td>
<td>.65</td>
<td>2.76</td>
</tr>
<tr>
<td>17. Cuando un hombre presiona a su pareja para mantener relaciones sexuales, esto no puede llamarse violación.</td>
<td>.39</td>
<td>2.20</td>
</tr>
<tr>
<td>18. Cuando una mujer soltera invita a un hombre soltero a su piso está indicando que no es reacia a mantener relaciones sexuales.</td>
<td>.53</td>
<td>3.38</td>
</tr>
<tr>
<td>19. Cuando los políticos tratan el asunto de las violaciones, lo hacen sobre todo porque este tema atrae a los medios de comunicación.</td>
<td>.38</td>
<td>3.68</td>
</tr>
<tr>
<td>20. Cuando se habla de “violación en el matrimonio”, se confunde entre coito conyugal normal y violación.</td>
<td>.47</td>
<td>2.74</td>
</tr>
<tr>
<td>21. La sexualidad de un hombre funciona como una olla a presión –cuando la presión es muy alta, tiene que “soltar vapor”.</td>
<td>.51</td>
<td>3.62</td>
</tr>
</tbody>
</table>
22. Las mujeres a menudo acusan a sus maridos de violación conyugal sólo para vengarse de una relación fracasada.  .57  2.60
23. En numerosas ocasiones, el debate sobre el acoso sexual en el trabajo ha provocado que un comportamiento inofensivo haya sido malinterpretado como acoso.  .62  3.14
24. En las citas lo que suele esperarse es que la mujer “eche el freno” y el hombre “siga adelante”.  .57  3.51
25. Aunque los robos armados conllevan peligro para la vida de las víctimas, estas personas reciben mucho menos apoyo psicológico que las víctimas de violaciones.  .44  4.09
26. El alcohol es a menudo el causante de que un hombre viole a una mujer.  .41  3.68
27. Muchas mujeres tienden a interpretar exageradamente gestos bienintencionados como “acoso sexual”.  .68  2.74
28. Hoy en día, las víctimas de violencia sexual reciben ayuda suficiente en forma de centros de acogida de mujeres, posibilidades de terapia y grupos de apoyo.  .40  3.76
29. En lugar de preocuparse por supuestas víctimas de violencia sexual, la sociedad debería atender problemas más urgentes, como es la destrucción medioambiental.  .53  2.25
30. Hoy en día, los hombres que realmente agreden sexualmente a las mujeres reciben un castigo justo.  .21  1.90

Nota: Los datos son de Estudio 1 (N = 305). Cada ítem de escala de respuesta rango de 1,”totalmente disagree” a 7,”totalmente agree”.

MODERN MYTHS ABOUT SEXUAL AGGRESSION