

Validity and Reliability of the Spanish Version of the Revised Self-Monitoring Scale

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Abstract. Self-Monitoring (SM) is a concept that refers to individual differences in this orientation toward regulation of social behavior. The goal of the present research was to provide a Spanish adaptation of Snyder and Gangestad's (1986) Revised SM Scale. After conducting an initial pilot study, results showed that the Spanish version of the scale had good internal reliability and adequate factor structure. In Study 1, analyses support a unidimensional structure of the scale ($\chi^2/df = 2.64$; GFI = .97; IFI = .97; TLI = .96; RMSEA = .06). In Study 2, the scale showed discriminant validity from other individual differences measures, such as Need for Cognition ($r = 0.12$, $p = 0.14$), Social Desirability ($r = 0.06$, $p > .45$) and Extraversion ($r = 0.28$, $p = .001$). In Study 3, the scale showed adequate test-retest reliability ($r = 0.71$, $p < .001$). Finally, using a paradigm of attitude-behavior consistency, Study 4 showed that the validated scale also had good predictive validity ($B = -0.819$, $p = .035$).

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People frequently need to know how they should act in social settings. Most people take into consideration how they think others see the situation and what they perceive others might expect them to do. However, people differ in the degree to which they control their own behavior and adapt to those perceived expectations in social contexts. Self-Monitoring (SM) is a concept that refers to individual differences in the degree to which people observe, regulate, and control their image and their expressive behavior (Snyder, 1974; 1987). People who are high in SM are oriented toward social approval and inclusion, while those who are relatively low in SM are more motivated to be consistent with their internal beliefs and values regardless of the situation.

The degree to which people monitor social environments and adjust their behavior to the context is at the core of the SM concept (Snyder, 1979). That is, low in SM want to be coherent with their internal states and thus they tend to show more attitude-behavior correspondence than people relatively high in SM, whose behavior is guided by situational cues (Ajzen, Timko, & White, 1982). Given the potential of this construct to make predictions about the correspondence of internal

states and observable behavior, SM has become a personality variable widely used to understand some psychological constructs in the social cognition domain, such as attitudes and persuasion, social influence, and all kinds of variations of priming (DeMarree, Wheeler, & Petty, 2005; Petty & Wegener, 1998; see, Briñol & Petty, 2005, for a review on individual differences in attitude change).

Although this motivation to control social behavior may vary depending on a large number of situational factors, the present paper is focused on SM as an individual difference that remains relatively stable over time. In fact, SM is one of the most widely used personality measures (Briggs & Cheek, 1988). For example, only in the last five years, a quick search on PsycINFO run on February the 12th 2015 reveals that the construct of self-monitoring appears in the title of 1,360 published articles.

Due to the importance of this psychological construct for understanding social behavior in many different domains, there are various instruments designed to measure individual differences in SM (e.g., Lennox & Wolfe, 1984; Snyder, 1974). The present research focuses on the adaptation of the Revised Self-Monitoring Scale (Snyder & Gangestad, 1986) to the Spanish language. This scale is widely used in individual differences literature and has been the center of a large series of scientific publications (e.g., Chen, Shechter, & Chaiken, 1996; DeBono & Krim, 1997). Therefore, the primary

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goal of the present research is to provide a short, reliable and valid instrument to assess individual differences in SM in Spanish.

The Self-Monitoring Scale

Snyder (1979) developed the Self-Monitoring Scale to evaluate individual differences in this psychological construct. The original scale presented adequate psychometric properties in terms of validity and reliability. Despite the wide use of this measure, some questions have emerged over this version of the scale, mostly with respect to its factor structure. That is, although Snyder (1979) argues that the original scale is unidimensional, others have argued that it has a two-factor structure (e.g., Briggs & Cheek, 1988; Lennox & Wolfe, 1984). From this latter point of view, the first factor (i.e. Public Performing) is concerned with the propensity to perform in social situations, and the second one (i.e. Other-Directedness) refers to displaying what others expect one to do in social situations (see Nowack & Kammer, 1987; Penner & Wymer, 1983; for further details). In an attempt to reconcile what it might seem as a discrepancy with regard to the scale structure, Snyder and Gangestad presented the 18-item revised Self-Monitoring Scale (Snyder & Gangestad, 1986). This instrument is similar but psychometrically superior to the original 25-item measure (see also Briggs & Cheek, 1988). More recently, Gangestad and Snyder (2000), compared the revised scale with the original one and found that the new scale has both a high internal consistency ($\alpha = .70$) and a purer factor structure.

In sum, the revised version of the Self-Monitoring Scale allows for a two-factor explanation but the construct may also be interpreted as unidimensional, identifying people simply as high or low in SM. The main goal of the present research is to adapt the revised Self-Monitoring scale to Spanish, since it is a measurement instrument with a good conceptual and methodological refinement.

Furthermore, despite the numerous publications on SM, to our knowledge there is not previous evidence in which the factorial validity has been studied using Confirmatory Factor Analysis. Thus, as a second goal, adapting the scale would allow us to provide with a further examination of the underlying factor structure.

In accordance with the recommendations of several authors (e.g. Cicchetti, 1994), a third goal is to reduce the length of the scale without affecting its psychometric properties in order to facilitate its use, especially in applied contexts. A final goal of the present research is to examine the extent to which the Spanish version of the SM scale is different from other constructs and capable of predicting the extent to which attitudes can predict behavioral intentions.

STUDY 1: Factorial Validity

Participants and Procedure

For this study, 383 participants (75% female), ranging from 18 to 65 years of age ($M = 28$ years; $SD = 13$) volunteered to complete the SM scale. Participants were recruited through an invitation to participate in a personality study for undergraduates and their relatives in Universidad Autónoma de Madrid. The study was presented as research on personality variables, and participants were informed that all collected data would be treated anonymously and confidentially. Participants completed the 18-item Self-Monitoring questionnaire translated into Spanish, indicating whether each item was True or False.

The current study was carried out following established recommendations for successfully adapting measures from one culture to another (Muñiz & Hambleton, 2000) and the revised model of the European Federation of Psychologists' Associations (EPPA) for the evaluation of the quality of tests (Evers et al., 2013). Specifically, a bilingual translator (Spanish-English) translated all items from the original 18-item Self-Monitoring scale to Spanish (Snyder & Gangestad, 1986). The translator was a person with knowledge of the SM literature and some experience related to the construction of personality questionnaires. Next, another bilingual translator translated the Spanish version back to English. Finally, two expert researchers compared this final translation with the original scale, reaching to a final Spanish version by consensus with the translators.

We conducted a pilot study with the purpose of reducing the scale in order to ease its use in applied research contexts. In this study, 154 participants completed the Spanish version of the 18-item scale. An Exploratory Factor Analysis was run, using the tetrachoric correlation matrix, Unweighted Least Squares as the estimation method, and Direct Oblimin as the rotation method (Ferguson & Cox, 1993). Based on the scree plot and MAP (O'Connor, 2000) results, two factors were extracted, explaining more than 40 percent of the total variance (see Table 1 and Table 2). Both statistical and theoretical criteria (Sireci & Faulkner-Bond, 2014) were used for the scale reduction. Selected items were thought to best theoretically represent each dimension, in addition to having $> .40$ factor loadings and a $> .30$ item-test correlation. Nine items remained in the scale after the selection process. The correlation with the 18-item version was .91.

Results

Reliability

The nine-item version test demonstrated acceptable internal reliability ($\alpha = .71$). All items presented a

Table 1. Eigenvalues and proportion of explained variance

Variable	Eigenvalue	Proportion of Variance	Cumulative Proportion of Variance
1	4.31038	0.23947	0.23947
2	3.14559	0.17475	0.41422
3	2.54093	0.14116	
4	1.38129	0.07674	
5	1.22198	0.06789	
6	1.03273	0.05737	
7	0.93546	0.05197	

corrected item-test correlation higher than .30, with the exception of two items (.29).

Factorial Validity

In order to analyze the factorial structure of the scale, a confirmatory factor analysis was run using LISREL 8.80. Robust Diagonally Weighted Least Squares (DWLS) estimator was used for the item-level CFAs. DWLS is appropriate for categorical-dichotomous data and small-to-moderate sample sizes (Flora & Curran, 2004; Wirth & Edwards, 2007). Three theoretical models were proposed and tested for this scale. The first one (G-Factor Only Model) consisted of one latent factor labeled "Self-Monitoring", the second one (Correlated-Factors Model) consisted of two correlated factors labeled "Public Performance" and "Other-Directedness", and the third one (BiFactor Model), specified that each item loads onto a g-factor as well as another specific s-factor (i.e., Either "Public Performance" or "Other-Directedness"). The former two models have been the most used when it comes to explaining the instrument's latent structure (Gangestad & Snyder, 2000). On the other hand, the bifactor model may be used as evidence to support either one of the first two models (Cheng, West, & Sousa, 2006). As Table 3 shows, all models yield good absolute and relative fit indexes. Specifically, we used the following fit indexes: Chi-square, Goodness of Fit Index (GFI), Non-Normed Fit Index (NNFI or TLI),

Table 2. Minimum Average Partial test results

Dimensions	Averaged Partial
1	0.06766
2	0.05271*
3	0.06552
4	0.12559
5	0.39857
6	0.99999

Note: *Advised number of dimensions: 2

Comparative Fit Index (CFI), the Consistent Akaike Information Criteria (CAIC) and Root Mean Square Error of Approximation (RMSEA).

The lower the values of chi-square, CAIC and RMSEA, and the higher the values of GFI, CFI and TLI, the better the model fits the data. Precisely, as a general rule, it can be pointed out that $GFI \geq 0.95$, $TLI \geq 0.90$, $CFI \geq 0.90$ and $RMSEA \leq 0.08$ indicate an adequate fit to the data (Hu & Bentler, 1999). On the other hand, CAIC is a comparative index that penalizes model complexity (Bozdogan, 1987). Tables 5 to 7 show the standardized solution for the three models. All weights in the three models were significant ($p > .05$), although weights in model 2 are generally higher. Tables 8 to 10 show areas of low fit in the models. These results suggest that all models offer an overall equally robust factorial structure¹, but regression weights of model 3 suggest that most of the variance could be due to a general factor. For this reason, a unidimensional approach of the scale provides the most adequate fit to the data. Thus, in the present research, we have not used the two specific factors.

Discussion

Confirmatory Factor Analysis showed that a one latent factor model provided the best fit to the data. As Gangestad and Snyder (2000) suggest, however, both the unidimensional and bidimensional structures of the SM construct are conceptually plausible. As we noted, these two possibilities are consistent with most of the existing literature (Briggs & Cheek, 1988; Lennox & Wolfe, 1984). Since both models yield similar fit indices but the third model tends to favor the unidimensional interpretation, we consider the general factor interpretation of the scale to be the most plausible interpretation of the current findings. After analyzing the properties of the scale, we moved to examine the extent to which the scale was related to other individual differences constructs.

STUDY 2: Discriminant Validity

In Study 2, the main goal was to analyze the relationship between the new shortened translated version of the SM scale and some other constructs that have been historically related to it (Lennox & Wolfe, 1984; Snyder & Gangestad, 1986). Therefore, in this study, we compared scores on SM with scores in Social Desirability, Extroversion, and Need for Cognition.

Participants and Procedure

Participants were 139 undergraduate students (75% female) with ages ranging from 18 to 44 ($M = 20$;

¹The correlation between the total score of the scale and the OD factor was .72. correlation between the total score and the PP factor was .90. The correlation between the two factors was .37

Table 3. Confirmatory Factor Analysis of the items from the translated and shortened self-monitoring scale. Study 1 (Estimation method: Diagonally weighted least squares)

Model	χ^2	df	GFI	CFI (IFI)	TLI	RMSEA	CAIC
1. G-Factor Only Model ('Self-Monitoring')	71.48	27	0.97	0.97	0.96	0.06	196.55
2. Correlated-Factors Model ('Public Performing' and 'Other-Directedness')	80.55	26	0.98	0.97	0.96	0.06	196.28
3. Bifactor Model (one g-factor and two s-factors)	34.37	18	0.99	0.99	0.99	0.05	221.96

Note: All χ^2 : $P < .01$.

Table 4. Confirmatory Factor Analysis of the items from the translated and shortened self-monitoring scale. Study 2 (Estimation method: Diagonally weighted least squares)

Model	χ^2	df	GFI	CFI (IFI)	TLI	RMSEA	CAIC
1. G-Factor Only Model ('Self-Monitoring')	53.43	27	0.96	0.96	0.95	0.08	160.24
2. Correlated-Factors Model ('Public Performing' and 'Other-Directedness')	60.37	26	0.96	0.97	0.96	0.08	161.38
3. Bifactor Model (one g-factor and two s-factors)	30.90	18	0.98	0.98	0.97	0.07	84.90

Note: All χ^2 : $P < .001$.

$SD = 3.5$), recruited via an invitation to participate in the study sent to college students in the Psychology building in the Universidad Autónoma de Madrid. The procedure was similar to the one followed in Study 1. The study was presented as research regarding individual differences, and participants were informed that all data collected for this study would be treated confidentially and anonymously. Participants completed a questionnaire that included the shortened version of the SM scale in Spanish, the Social Desirability Scale (Crowne & Marlowe, 1960), the Extroversion subscale from the Big Five (Costa & McCrae, 1992) and the Need for Cognition Scale (Cacioppo & Petty, 1982).

Table 5. Standardized solution in model 1

Item	Model 1
	SM
1	.53
2	.71
3	.57
4	.68
5	.54
6	.47
7	.69
8	.45
9	.48

Instruments

Social Desirability

This construct refers to the tendency of people to answer questions in a manner that will be viewed favorably by others (Crowne & Marlowe, 1960). Among other reasons, the relationship between the Spanish version of Social Desirability (Ferrando & Chico, 2000) and SM was analyzed because both constructs pertain to the importance of social presence as a source of change in one's behavior. One could argue, in fact, that

Table 6. Standardized solutions and correlations between factors in model 2

Item	Model 2	
	O-D	PP
1	.65	–
2	–	.72
3	–	.59
4	–	.69
5	–	.55
6	–	.48
7	–	.70
8	.55	–
9	.57	–
PP	1	.73
O-D	.73	1

Table 7. Standardized solutions and correlations between factors in model 3

Model 3		
O-D	SM*	PP
NS	.46	–
–	.83	NS
–	.57	NS
–	.70	NS
–	.53	NS
–	.47	NS
–	.68	NS
NS	.35	–
NS	.45	–

Note: NS = Not Significant.

*General Factor of Self-Monitoring. All weights for this factor are significant ($p < .01$)

Table 8. Summary Statistics for Standardized Residuals and Largest Modification Indexes for Model 1 in Study 1

Standardized Residuals	Statistics
Smallest Standardized Residual	–2.842
Median Standardized Residual	0.000
Largest Standardized Residual	3.715
Error Correlation	Modification Index
E1-E8	24.07
E2-E5	21.88
E4-E6	13.54

Table 9. Summary Statistics for Standardized Residuals and Largest Modification Indexes for Model 2 in Study 1

Standardized Residuals	Statistics
Smallest Standardized Residual	–2.473
Median Standardized Residual	0.000
Largest Standardized Residual	2.603
Error Correlation	Modification Index
E2-E5	18.96
E4-E6	12.62
E4-E9	12.31

SM is just a different expression of Social Desirability. Despite their theoretical similarities, correlations between their respective scales have been in the $-.2$ range (Fuglestad & Snyder, 2009). Actually, there are some differential predictions of criterion behaviors that help to distinguish the concern for social appropriateness

Table 10. Summary Statistics for Standardized Residuals and Largest Modification Indexes for Model 3 in Study 1

Standardized Residuals	Statistics
Smallest Standardized Residual	–2.346
Median Standardized Residual	0.000
Largest Standardized Residual	2.379
Error Correlation	Modification Index
E3-E	59.53

(Self-Monitoring) from the defensive posturing to avoid disapproval (Social Desirability; Snyder, 1974). Based on this evidence, it was predicted that there would be no relation between these two measures.

Extraversion

In the Big Five theory of personality (Costa & McCrae, 1992), Extraversion is one of the five core traits believed to make up human personality. Extraversion is characterized by sociability, talkativeness, assertiveness and excitability. We used the Spanish version of the scale developed by Benet-Martínez and John (1998). Although previous versions of the scale included an “Extraversion” factor, the unidimensional nature of this version lead to the prediction that SM, measured with this scale, would correlate positively, yet moderately, with Extraversion because of similar conceptual elements.

Need for Cognition

The Spanish version of Need for Cognition (Falces, Briñol, Sierra, Becerra & Alier, 2001) was also included for discriminant validity purposes. Need for Cognition (NC) refers to a person’s preference for the activity of thinking (see Petty, Briñol, Loersch, & McCaslin, 2009, for a recent review). It was predicted that these two constructs would not correlate significantly with each other since adapting one’s behavior to the situation (high SM) does not necessarily require more liking for the activity of thinking (high NC), an activity that can actually be done automatically (Chartrand & Bargh, 1999).

Results and Discussion

As expected, the correlation between Social Desirability and Self-Monitoring was nonsignificant ($r = 0.06, p > .45$) as well as the relationship between Self-Monitoring and Need for Cognition ($r = 0.12, p = .14$), while the correlation between Self-Monitoring and Extraversion ($r = 0.28, p \leq .001$) was significant but low, suggesting that although related, these are two unique constructs. Finally, the Cronbach’s alpha of participants’ scores on the Self-Monitoring scale was .73. A Confirmatory

Factor Analysis was run, testing the same models that were tested in Study 1 using the sample of Study 2. The results obtained support the conclusions drawn from Study 1 (see Table 4).

The present findings replicate previous ones (e.g. Leary & Hoyle, 2009), suggesting that our shortened translated instrument resembles not only the structure, but also the relation between Self-Monitoring and other similar constructs. Future work should also examine the relationship between this version of the SM scale and other recently validated instruments relevant to the domains of social cognition, such as the Spanish version of the Need for Closure Scale (Horcajo, Díaz, Gandarillas, & Briñol, 2011), and the Spanish version of the Need to Evaluate Scale (Horcajo, Díaz, Briñol, & Gandarillas, 2008). The next step in analyzing the properties of the new instrument consisted of examining its long-term consistency.

STUDY 3: Test-Retest Reliability

The goal for this study was to analyze the test-retest reliability for the shortened Spanish Self-Monitoring scale. In previous studies, the range of test-retest reliability for the different versions of the SM scale varies between .55 in a two-year period (Anderson, 1991) to a .83 in an one-month interval (Snyder, 1974). In the present study, our aim was to test the temporal stability of the proposed version of the scale.

Method

Participants and Procedure

One hundred and sixty-four participants² (76% female) ranging from 21 to 68 years of age ($M = 39.2$; $SD = 10.38$) volunteered for an online study. Participants were contacted and filled out the questionnaire through Qualtrics software. Just as in Study 1, participants were recruited through an invitation to participate in an online personality study for undergraduates and their relatives. The study was presented as a research on personality variables, and participants were informed that all collected data would be treated anonymously and confidentially. Participants completed a questionnaire with the 9-item Spanish SM questionnaire. After 48 days, participants were contacted again to complete the same questionnaire.

Results

Test-Retest Correlation

Participants' scores showed a good temporal reliability, with a test-retest correlation of $r = 0.71$, $p < .0001$. Also,

²Fourteen participants were taken out of the analyses because they did not complete the second measure

participants' scores reliability was $\alpha = .72^3$. These results suggest that the scale's temporal stability is similar to the original English revised version (Snyder, 1974).

Discussion

The results of Study 3 indicate that the proposed version of the scale has a good temporal stability, just as the original English revised version. Despite the high variance in the sample, the results are stable enough to claim that the measure is as stable in time as the original English version. After showing that our shortened translated instrument has a good, reliable structure, we finally moved to the examination of its ability to predict relevant outcomes.

STUDY 4: Predictive Validity

The goal for this study was to analyze the validity of the shortened version of the SM scale by measuring attitudes and behavioral intentions and by examining the extent to which our shortened translated instrument could moderate the relationship between those two constructs. In line with previous research (Azjen et al., 1982), it was predicted that the consistency between attitudes and behavioral intentions would be moderated by the scores on the SM scale. People low in SM are interested in acting according to their internal states, and thus they are likely to show more attitude-behavior correspondence than those who score high in SM (more likely to act in accord with external rather than internal demands; Snyder & Swann, 1976; Zanna, Olson, & Fazio, 1980).

Method

Participants and Procedure

One hundred and thirty-nine undergraduates (75% women) ranging from 18 to 44 years of age ($M = 20.82$; $SD = 3.518$) at the Universidad Autónoma de Madrid participated in partial fulfillment of a course requirement. Participants completed a questionnaire with all necessary instructions. Specifically, they began by reading a cover story that led them to believe they were taking part in a research regarding students' opinions about eating vegetables. Next, they were asked to indicate their attitudes and their behavioral intentions towards vegetables. A measure of Self-Monitoring was taken using the current Spanish scale. Finally, participants were debriefed, thanked and dismissed.

³A Confirmatory Factor Analysis using the same models that were used in the previous studies was run for this study. The fit indexes were as follows: Model 1: GFI = .97, CFI = .98, TLI = .97, RMSEA = .07, CAIC = 153.55. Model 2: GFI = .97, CFI = .97, TLI = .96, RMSEA = .07, CAIC = 160.70. Model 3: GFI = .98, CFI = .98, TLI = .97, RMSEA = .07, CAIC = 193.19.

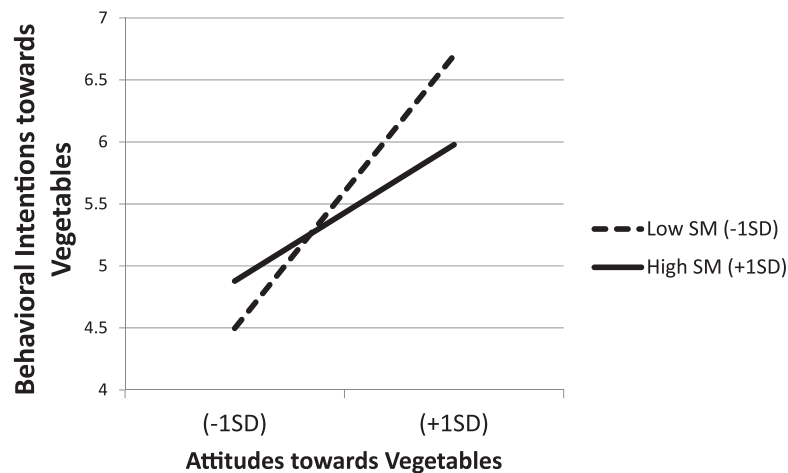


Figure 1. Two-way interaction between Self-Monitoring and Attitudes towards Vegetables on Behavioral Intentions towards Vegetables.

Independent/predictor Variables

Attitudes

Participants were asked to answer to a series of questions related to their opinion towards vegetables. Specifically, attitudes toward vegetables were measured by using three 9-point (1–9) semantic differential scales (i.e., valuable, fundamental, and recommendable). Scores on the three total items were averaged to form a composite measure of attitudes ($\alpha = .70$). Similar measures have been used in previous studies to evaluate attitudes toward vegetables (e.g. Briñol, Horcajo, Becerra, Valle, & Gallardo, 2004; Briñol, Petty, & Tormala, 2004)

Self-Monitoring

After reporting their attitudes, participants completed the 9-item version of the SM scale in Spanish. ($\alpha = .72$).⁴

Dependent Measures

Behavioral Intentions

Participants' behavioral intentions towards vegetables were measured by using three 9-point (1–9) semantic differential scale asking the occurrence likelihood of future events (i.e., "I will recommend other people to eat vegetables", "I will pay close attention to a conversation about vegetables", "I will read a blog on vegetables"). Scores on the two total items were averaged to form a composite ($\alpha = .66$).

⁴A Confirmatory Factor Analysis using the same models that were used in the previous studies was run for this study. The fit indexes were the following: Model 1: GFI = .96, CFI = .96, TLI = .95, RMSEA = .08, CAIC = 89.42. Model 2: GFI = .96, CFI = .96, TLI = .95, RMSEA = .09, CAIC = 91.06. Model 3: GFI = .98, CFI = .99, TLI = .97, RMSEA = .06, CAIC = 188.23.

Results

Behavioral Intentions

It was predicted that attitudes would be a significantly better predictor of behavioral intentions for participants who scored lower in the SM scale than for those who scored higher. Regressing the behavioral intentions index onto the relevant variables (SM and Attitudes), a significant interaction emerged between the attitude index and the SM scale $B = -0.819$, $t(138) = -2.121$, $p = .035$. As expected, this interaction revealed that participants' attitudes exerted a stronger effect on behavioral intentions when scores in the SM scale were lower, $B = 0.8138$, $t(138) = 5.890$, $p < .001$, than when they were higher, $B = 0.406$, $t(138) = 3.195$, $p = .001$.

General Discussion

The current research introduces a new instrument in Spanish, capable of measuring SM through the adaptation and shortening of the 18-item Self-Monitoring Scale (Gangestad & Snyder, 1985; Snyder & Gangestad, 1986). With regard to reliability measures, the four samples in the Self-Monitoring Scale offered good reliability scores. All items showed a correlation higher than .29 with the rest of the scale in all the studies. Moreover, the factorial validity of the scale was tested using Exploratory Factor Analysis and Confirmatory Factor Analysis (CFA). As noted, to the best of our knowledge, this is the first time that this scale has been analyzed with this latter approach. Previous research has only used Exploratory Factor Analysis (EFA), a technique lacking of the precision and flexibility that CFA offers (see Floyd & Widaman, 1995). The results of our analysis (e.g., Model 3) revealed that a greater amount of variance may be explained by the g-factor (versus the two specific factors), indicating that the

unidimensional approach was the most adequate. Both the unidimensional and bidimensional models offer a good fit to the data.

In the second study, correlations between the Self-Monitoring Scale and other constructs were either low or non-significant, showing good discriminant validity. The third study showed that the temporal stability is equally good to that of the original measure (Snyder, 1974). Finally, in the fourth study low self-monitors relied more on internal cues to guide their intentions and behavior than high self-monitors did.

Why Do We Need a Self-Monitoring Scale in Spanish?

Individual differences in SM have been shown to have ample implications over diverse psychological phenomena. Researchers examining human behavior in social context can benefit from examining individual differences in SM. For instance, it has been shown that high self-monitors tend to attribute their own behavior to situational influences and to define their identities in terms of situational features (Snyder, 1979) while someone lower in SM would be more likely to explain his/her behavior on the basis of his/her own internal principles. Similarly, Fuglestad and Snyder (2009) argue that high and low self-monitors ask themselves different questions when facing social situations. High self-monitors ask, "Who does this situation want me to be and how can I be that person?" whereas low self-monitors ask "Who am I and how can I be me in this situation?"

These different self-conceptions extend to a wide variety of social situations, including work-related and inter-personal behaviors and decisions. For instance, high self-monitors usually report greater job involvement, greater role ambiguity, and less commitment to the job than low self-monitors (Day, Schleicher, Unckless, & Hiller, 2002). Concerning romantic relationships, low self-monitors look for the growth of trust, commitment, and satisfaction and are more prone to steady, long-term relationships compared to high self-monitors (e.g., Snyder & Simpson, 1984). With regard to friendship, high self-monitors prefer to perform an activity (such as playing tennis) with friends who are highly skilled in the activity, whereas low self-monitors choose to perform the activity with friends they like best (Snyder, Gangestad, & Simpson, 1983).

SM also influences the way people perceive status implications in their social interactions. That is, high self-monitors are more likely to offer their help to others and ask for others' help than low self-monitors, while they give the impression of a generous exchange partner (Flynn, Reagans, Amanatullah, & Ames, 2006). This ability to understand group dynamics and adapt to the demands of the environment is a potential

explanation of why high self-monitors tend to acquire elevated social status among their peers.

Not only researchers interested in social interactions could find this instrument highly useful, but also other researchers conducting more basic research in the lab. Consider the topic of prime-to-behavior. Primed social constructs can influence a wide variety of outcomes, ranging from person perception to performance and motor behavior (Dijksterhuis & Bargh, 2001; Horcajo, Briñol, & Becerra, 2009). Recent research has shown priming people with stereotypes can affect self-perceptions. For example, in one study, participants who were primed with the African American stereotype demonstrated increased feelings of aggressiveness compared to control participants (Briñol, DeMarree, & Petty, in press; see also, DeMarree, Wheeler, & Petty, 2005). According to the *Active-Self Model* (Wheeler, DeMarree, & Petty, 2007), changes in self-perceptions and behavior are particularly likely to occur when people view the accessible mental contents as self-diagnostic. Importantly, individual differences in SM can determine whether accessible mental contents are seen as self-diagnostic, and thus are influential on one's own self-views and behavior. As noted, research finds that low self-monitors, who are likely to modify self-perceptions in response to information that seems to be self-informative, show changes in self-perceptions and behavior following out-group primes (DeMarree et al., 2005; Wheeler et al., 2008). As this example illustrates, having a valid measure of SM in Spanish can help researchers to find differences in subtle phenomenon such as priming.

In conclusion, previous research shows that SM is a very relevant construct in order to understand and predict numerous psychosocial processes. All this evidence suggests that having a valid and reliable instrument in Spanish that allows evaluating SM in a simple way may prove very useful for many Spanish-speaking researchers interested in these psychological phenomena. Having this simple, valid, precise, and reliable instrument available in Spanish will allow researchers to analyze moderation processes over a great amount of social phenomena.

References

- Anderson L. R. (1991). Test-retest reliability of the Revised Self-Monitoring Scale over a two-year period. *Psychological Reports*, 68, 1057–1058. <http://dx.doi.org/10.2466/pr0.1991.68.3.1057>
- Ajzen I., Timko C., & White J. B. (1982). Self-monitoring and the attitude-behavior relation. *Journal of Personality and Social Psychology*, 42, 426–435. <http://dx.doi.org/10.1037//0022-3514.42.3.426>
- Benet-Martínez V., & John O. P. (1998). Los Cinco Grandes across cultures and ethnic groups: Multitrait-multimethod analyses of the Big Five in Spanish and English. *Journal of*

- Personality and Social Psychology*, 75, 729–750. <http://dx.doi.org/10.1037//0022-3514.75.3.729>
- Bozdogan H.** (1987). Model selection and Akaike's information criterion (AIC): The general theory and its analytical extensions. *Psychometrika*, 52, 345–370. <http://dx.doi.org/10.1007/BF02294361>
- Briggs S. R., & Cheek J. M.** (1988). On the nature of self-monitoring: Problems with assessment, problems with validity. *Journal of Personality and Social Psychology*, 54, 663–678. <http://dx.doi.org/10.1037//0022-3514.54.4.663>
- Briñol P., DeMarree K. G., & Petty R. E.** (in press). Validating a primed identity leads to expectations of group-relevant outcomes. *International Journal of Social Psychology*.
- Briñol P., Horcajo J., Becerra A., Valle C., & Gallardo I.** (2004). El efecto de la ambivalencia evaluativa sobre el cambio de actitudes [The effect of evaluative ambivalence on attitude change]. *Psicothema*, 16, 373–377.
- Briñol P., & Petty R. E.** (2005). Individual differences in attitude change. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The Handbook of Attitudes and Attitude Change* (pp. 575–616). Hillsdale, NJ: Erlbaum.
- Briñol P., Petty R. E., & Tormala Z. L.** (2004). The self-validation of cognitive responses to advertisements. *Journal of Consumer Research*, 30, 559–573.
- Cacioppo J. T., & Petty R. E.** (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42, 116–131. <http://dx.doi.org/10.1037//0022-3514.42.1.116>
- Chartrand T. L., & Bargh J. A.** (1999). The chameleon effect: The perception–behavior link and social interaction. *Journal of Personality and Social Psychology*, 76, 893.
- Cheng F. F., West S. G., & Sousa K. H.** (2006). A comparison of bifactor and second-order models of quality of life. *Multivariate Behavioral Research*, 41, 189–225.
- Cicchetti D. V.** (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment*, 6, 284–290. <http://dx.doi.org/10.1037//1040-3590.6.4.284>
- Costa P. T., & McCrae R. R.** (1992). Normal personality assessment in clinical practice: The NEO personality inventory. *Psychological Assessment*, 4, 5–13. <http://dx.doi.org/10.1037//1040-3590.4.1.5>
- Crowne D. P., & Marlowe D.** (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349–354. <http://dx.doi.org/10.1037/h0047358>
- Chen S., Shechter D., & Chaiken S.** (1996). Getting at the truth or getting along: Accuracy versus impression-motivated heuristic and systematic processing. *Journal of Personality & Social Psychology*, 71, 262–275. <http://dx.doi.org/10.1037//0022-3514.71.2.262>
- Day D. V., Schleicher D. J., Unckless A. L., & Hiller N. J.** (2002). Self-monitoring personality at work: A meta-analytic investigation of construct validity. *Journal of Applied Psychology*, 87, 390–401. <http://dx.doi.org/10.1037//0021-9010.87.2.390>
- DeBono K. G., & Krim S.** (1997). Compliments and product perception: An individual difference perspective. *Journal of Applied Social Psychology*, 27, 1359–1366. <http://dx.doi.org/10.1111/j.1559-1816.1997.tb01810.x>
- DeMarree K. G., Wheeler S., & Petty R. E.** (2005). Priming a new identity: Self-monitoring moderates the effects of non-self primes on self-judgments and behavior. *Journal of Personality and Social Psychology*, 89, 657–671. <http://dx.doi.org/10.1037/0022-3514.89.5.657>
- Dijksterhuis A., & Bargh J. A.** (2001). The perception-behavior Expressway: Automatic effects of social perception on social behavior. *Advances in Experimental Social Psychology*, 33, 1–40. [http://dx.doi.org/10.1016/S0065-2601\(01\)80003-4](http://dx.doi.org/10.1016/S0065-2601(01)80003-4)
- Evers A., Muñoz J., Hagemester C., Hstmaelingen A., Lindley P., Sjöberg A., & Bartram D.** (2013). Assessing the quality of tests: Revision of the EFPA review model. *Psicothema*, 25, 283–291. <http://dx.doi.org/10.7334/psicothema2013.97>
- Falces C., Briñol P., Sierra B., Becerra A., & Alíer E.** (2001). Validación de la Escala de Necesidad de Cognición y aplicación al estudio del cambio de actitudes [Validation of the Need for Cognition Scale and its application to the study of attitude change]. *Psicothema*, 13, 647–653.
- Ferguson E., & Cox T.** (1993). Exploratory factor analysis: A users' guide. *International Journal of Selection and Assessment*, 1, 84–94. <http://dx.doi.org/10.1111/j.1468-2389.1993.tb00092.x>
- Ferrando P. J., & Chico E.** (2000). Adaptación y análisis psicométrico de la Escala de Deseabilidad Social de Marlowe y Crowne [Adaptation and psychometric analysis of the Marlowe and Crowne's Social Desirability Scale]. *Psicothema*, 12, 383–389.
- Flora D. B., & Curran P. J.** (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychological Methods*, 9, 466–491. <http://dx.doi.org/10.1037/1082-989X.9.4.466>
- Floyd F. J., & Widaman K. F.** (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, 7, 286–299.
- Flynn E. J., Reagans R. E., Amanatullah E. T., & Ames D. R.** (2006). Helping one's way to the top: Self-monitors achieve status by helping others and knowing who helps whom. *Journal of Personality and Social Psychology*, 91, 1123–1137. <http://dx.doi.org/10.1037/0022-3514.91.6.1123>
- Fuglestad P. T., & Snyder M.** (2009). Self-monitoring: Appraisal and reappraisal. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 574–591). New York, NY: Guilford Press.
- Gangestad S., & Snyder M.** (1985). "To carve nature at its joints": On the existence of discrete classes in personality. *Psychological Review*, 92, 317–349. <http://dx.doi.org/10.1037//0033-295X.92.3.317>
- Gangestad S. W., & Snyder M.** (2000). Self-monitoring: Appraisal and reappraisal. *Psychological Bulletin*, 126, 530–555. <http://dx.doi.org/10.1037//0033-2909.126.4.530>
- Horcajo J., Briñol P., & Becerra** (2009). Los efectos de la activación de estereotipos sobre la evaluación de candidatos en un contexto experimental de selección de personal. [Effects of stereotypes activation on the job candidates assessment in an experimental context of personnel selection]. *Revista Latinoamericana de Psicología*, 41, 349–359.

- Horcajo J., Díaz D., Briñol P., & Gandarillas B.** (2008). La necesidad de evaluación: Propuesta para su medición en castellano. [Need to evaluate: An assessment proposal in Spanish]. *Psicothema*, 20, 557–562.
- Horcajo J., Díaz D., Gandarillas B., & Briñol P.** (2011). Adaptación al castellano del Test de Necesidad de Cierre Cognitivo. [Spanish adaptation of the Need for Closure Scale]. *Psicothema*, 23, 864–870.
- Hu L., & Bentler P. M.** (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55. <http://dx.doi.org/10.1080/10705519909540118>
- Leary M. R., & Hoyle R. H.** (Eds.). (2009). *Handbook of individual differences in social behavior*. New York, NY: Guilford Press.
- Lennox R. D., & Wolfe R. N.** (1984). Revision of the self-monitoring scale. *Journal of Personality and Social Psychology*, 46, 1349–1364. <http://dx.doi.org/10.1037//0022-3514.46.6.1349>
- Muñiz J., & Hambleton R. K.** (2000). Adaptación de los tests de unas culturas a otras [Adaptation of tests across cultures]. *Metodología de las Ciencias del Comportamiento*, 2, 129–149.
- Nowack W., & Kammer D.** (1987). Experimental studies of self-monitoring: Validation of the two-factor model. *European Journal of Personality*, 1, 61–77.
- O'Connor B. P.** (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instruments, & Computers*, 32, 396–402. <http://dx.doi.org/10.3758/BF03200807>
- Penner L. A., & Wymer W. E.** (1983). The moderator variable approach to behavioral predictability: Some of the variables some of the time. *Journal of Research in Personality*, 17, 339–353. [http://dx.doi.org/10.1016/0092-6566\(83\)90025-9](http://dx.doi.org/10.1016/0092-6566(83)90025-9)
- Petty R. E., Briñol P., Loersch C., & McCaslin M. J.** (2009). The need for cognition. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 318–329). New York, NY: Guilford Press.
- Petty R. E., & Wegener D. T.** (1998). Matching versus mismatching attitude functions: Implications for scrutiny of persuasive messages. *Personality and Social Psychology Bulletin*, 24, 227–240. <http://dx.doi.org/10.1177/0146167298243001>
- Sireci S., & Faulkner-Bond M.** (2014). Validity evidence based on test content. *Psicothema*, 26(1), 100–107.
- Snyder M.** (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 30, 526–537. <http://dx.doi.org/10.1037/h0037039>
- Snyder M.** (1979). Self-monitoring processes. *Advances in experimental social psychology*, 12, 85–128. [http://dx.doi.org/10.1016/S0065-2601\(08\)60260-9](http://dx.doi.org/10.1016/S0065-2601(08)60260-9)
- Snyder M.** (1987). *Public appearances, Private realities: The psychology of self-monitoring*. New York, NY: Freeman and Company.
- Snyder M., & Gangestad S.** (1986). On the nature of self-monitoring: Matters of assessment, matters of validity. *Journal of Personality and Social Psychology*, 51, 125–139. <http://dx.doi.org/10.1037//0022-3514.51.1.125>
- Snyder M., Gangestad S., & Simpson J. A.** (1983). Choosing friends as activity partners: The role of self-monitoring. *Journal of Personality and Social Psychology*, 45, 1061–1072. <http://dx.doi.org/10.1037//0022-3514.45.5.1061>
- Snyder M., & Simpson J. A.** (1984). Self-monitoring and dating relationships. *Journal of Personality and Social Psychology*, 47, 1281–1291. <http://dx.doi.org/10.1037//0022-3514.47.6.1281>
- Snyder M., & Swann W. B.** (1976). When actions reflect attitudes: The politics of impression management. *Journal of Personality and Social Psychology*, 34, 1034–1042. <http://dx.doi.org/10.1037/0022-3514.34.5.1034>
- Wheeler S. C., DeMarree K. G., & Petty R. E.** (2007). Understanding the role of the self in prime-to-behavior effects: The active self account. *Personality and Social Psychology Review*, 11, 234–261. <http://dx.doi.org/10.1177/1088868307302223>
- Wirth R. J., & Edwards M. C.** (2007). Item factor analysis: Current approaches and future directions. *Psychological Methods*, 12, 58–79. <http://dx.doi.org/10.1037/1082-989X.12.1.58>
- Zanna M. P., Olson J. M., & Fazio R. H.** (1980). Attitude-behavior consistency: An individual difference perspective. *Journal of Personality and Social Psychology*, 38, 432–440.

Appendix I. Items of the Scale

1. Me resulta difícil imitar el comportamiento de otras personas.
 2. Puedo dar charlas improvisadas incluso sobre temas de los que casi no tengo información.
 3. Supongo que suelo montar "shows" (espectáculos) para impresionar o entretener a los demás.
 4. Probablemente sería un buen actor.
 5. En un grupo de personas raramente soy el centro de la atención.
 6. Me he planteado ser animador/artista.
 7. Nunca se me han dado bien los juegos que requieren actuar improvisando.
 8. Me resulta difícil cambiar mi comportamiento para encajar con diferentes personas y diferentes situaciones.
 9. Puedo mirar a alguien a los ojos y mentir sin variar mi gesto (si es para un buen fin).
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Note: Other-Directedness: 1,8,9. Public Performing: 2,3,4,5,6,7.