

## **ASSESSING SOCIAL SKILLS: THE FACTORIAL STRUCTURE AND OTHER PSYCHOMETRIC PROPERTIES OF FOUR SELF-REPORT MEASURES**

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### **Abstract**

The self-reporting of social skills continues to be assessed through the assertiveness inventories developed in the 1970s, such as the Rathus Assertiveness Schedule (RAS), the Assertion Inventory (AI), and the College Self-Expression Scale (CSES). The study reported here involved 421 university students (76.5% women) and obtained the factor structures of the aforementioned instruments, plus the new Social Skills Questionnaire (SSQ-I) (*Cuestionario de habilidades sociales, CHASO-I*). The factorial solutions obtained were 6, 8, 11 and 12 factors, respectively. The reliability (Guttman split-half and Cronbach's alpha) of all the questionnaires was high, and the correlations between the CHASO-I and all the other questionnaires were moderate. The sex differences found involved the total scores of the RAS and the factors "Speaking or performing in public/Interacting with figures in authority", "Interacting with persons I am attracted to", and "Interacting with strangers", with men being more skilled than women, and the factor "Apologizing/Recognizing their own mistakes", with women being more skilled than men. The study concluded by recognizing certain common problems affecting the self-report measures of social skills, as well as certain advantages of the new CHASO-I.

KEY WORDS: *social skills, factor structure, questionnaires, assertiveness, sex differences.*

### **Resumen**

La evaluación de las habilidades sociales por medio de medidas de autoinforme sigue realizándose con instrumentos desarrollados en los años 70, como el "Inventario de asertividad de Rathus" (RAS), el "Inventario de aserción" (AI) o la "Escala de autoexpresión universitaria" (CSES). Este estudio llevado a cabo con 421 estudiantes universitarios (76,5% mujeres) halló las estructuras factoriales de dichos instrumentos así como del nuevo "Cuestionario de

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habilidades sociales" (CHASO-I). Las soluciones factoriales obtenidas fueron de 6, 8, 11 y 12 factores respectivamente. La fiabilidad (dos mitades de Guttman y alfa de Cronbach) de todos los cuestionarios fue alta y las correlaciones entre el CHASO-I y el resto de los cuestionarios fueron moderadas. Se encontraron diferencias de sexo en la puntuación total del RAS y en los factores de "Hablar o actuar en público/Interaccionar con superiores", "Interaccionar con personas que me atraen" e "Interaccionar con desconocidos", con los hombres más habilidosos que las mujeres, y en el factor "Pedir disculpas/Reconocer errores propios", con las mujeres más habilidosas que los hombres. El estudio concluye señalando algunos problemas comunes a las medidas de autoinforme de las habilidades sociales así como algunas virtudes del nuevo CHASO-I.

PALABRAS CLAVE: *habilidades sociales, estructura factorial, asertividad, cuestionarios, diferencias de sexo.*

## Introduction

Interest in the assessment of social skills peaked in the 1970s and 1980s (usually under the name of "assertiveness" or "assertion" assessment), and today we still profit from the major research conducted in those years. Furthermore, the assessment of social skills is, still today as it was then (see Caballo, 1986, 1997), a controversial issue pending general consensus among experts in the field. Like then, too, we may refer to the problem with a meaningful title reflecting its difficulty: "Pandora's Box reopened? The assessment of social skills" (Curran, 1979).

If we focus on self-report measures assessing social skills, we find that most of the questionnaires used today were developed in those years. In spite of the time lapse, it is unusual to find relevant research describing the psychometric properties of those measures, leaving behind a statistical "limbo". In fact, as opposed to other areas, we do not have a self-report assessment measure that acts as a gold standard for comparing or validating other measures. This may be due, at least partially, to the fact that many of the questionnaires were developed with a clinical application in mind (e.g., assessing the effectiveness of assertiveness or social skills training), or as an *ad hoc* tool for specific research, but without considering a subsequent and wider application.

The fact is that we are currently facing several important issues in regard to the psychometric nature of the social skills self-report measures. One such issue involves factorial validity. There seems to be some consensus that when speaking about social skills we are taking a series of response classes or behavioral dimensions for granted (Caballo, 1997; Galassi & Galassi, 1977; Lazarus, 1973). Social skills assessment questionnaires should include such dimensions. The problem is that there is no consensus over their number and nature. As many as 14 possible different dimensions or response classes have been proposed (see Caballo, 1997, for a review), but they are not included in any self-report assessment measures, especially not as non-overlapping independent entities. An analysis of the factorial structure of social skills questionnaires has found that the number of identified factors varies according to the specific measure and the

particular study (somewhat akin to what happens in the field of social anxiety, as reported by Caballo, Salazar, Iruiria, Arias, & Nobre [2013], although it is much more evident in the social skills field).

There are no stable factorial structures using the same questionnaire. For instance, in the case of the Rathus Assertiveness Schedule (RAS; Rathus, 1973), there are very different factorial solutions, varying from four (Heimberg & Harrison, 1980), through seven (Carrasco, Clemente, & Llavona, 1983), eight and nine (Nevid & Rathus, 1979), up to 12 factors (Hull & Hull, 1978), even though Rathus published the scale as a general measure of assertiveness. Something similar happens with the Adult Self-Expression Scale (ASES; Gay, Hollandsworth, Jr., & Galassi, 1975), where the authors reported a structure of 14 factors, although LaFromboise (1983) subsequently found several factorial solutions (14, 13, and, finally, three) in an attempt to reduce the number of items. The same may be said regarding the Personal Relations Inventory (PRI; Lorr & More, 1980), in which the authors proposed a 4-factor solution, although different solutions were found in further studies that included samples from other countries, such as the nine factors in Australia (Heaven, 1984) or the five factors in Chile (Carmona & Lorr, 1992).

The Assertion Inventory (AI; Gambrill & Richey, 1975) also varies significantly regarding the number of factors depending on the studies: 11 factors in the former original study, 13 factors according to Carrasco, Clemente, and Llavona (1989), and eight in the study by Castaños, Reyes, Rivera, and Díaz (2011). The same thing happens with the College Self-Expression Scale (CSES; Galassi, DeLo, Galassi, & Bastien, 1974), in which four (Kipper & Jaffe, 1978), six (Galassi & Galassi, 1979), 11 (Caballo & Buela, 1988), and even 14 (Henderson & Furnham, 1983) factors have been found.

The inconsistency of the factorial structures of the self-report measures of social skills may be due to a variety of reasons. One could be that too many factors are often extracted and retained, in spite of having very few items (one or two), as was the case, for example, with the AI. Another reason is that there are no consistent standards for retaining specific items for each factor, that is, no attempt is made to retain only those items with loadings above a particular score on a factor (e.g., .35 or more) or, less frequently, to discard those items with high loadings on two or more factors. Thus, in the specific case of the Wolpe-Lazarus Assertiveness Scale (WLAS; Wolpe & Lazarus, 1966), while Henderson and Furnham (1983) used .40 as the loading criterion to include an item in a factor, Hersen et al. (1979) used .25, and Kogan et al. (1996) used .30. In the case of the CSES, Kipper and Jaffe (1978) used .25, while Galassi and Galassi (1979) used .35 as the loading criterion.

A further problem with social skills questionnaires is that identical names are often given to two separate factors in spite of their different composition. For instance, Hersen et al. (1979) analyzed the factorial structure of the WLAS separating males from females, and although the solution in both samples revealed 10 factors, the first factor (which explained the highest variance percentage in both samples), called "General Expressivity", contained different items. The items in the male sample were 12, 14, 16, 17, 28, and 29; and 5, 11, 16 and 28 in the female sample. This first factor shared only two items in these

samples, but was given the same name in both cases. Additionally, three out of the six items that formed the factor in the males sample loaded also on another factor. The situation seems to deteriorate when analyzing a combined male and female sample with the same questionnaire (WLAS), as in the work by Henderson and Furnham (1983), where that "same" factor has a very different composition to the one found in the work by Hersen et al. (1979), including items 12, 15, 21 and 22. In sum, although both studies found the same factorial solution, the items included in each factor do not match, and the variance explained by the main factors differs significantly. This can also be seen with the AI in the research by Gambrill and Richey (1975), and Henderson and Furnham (1983), in which the solution was 11 factors in each one, but only three factors have a major concordance, some concordance in four, and none at all in five of the factors.

Recently developed questionnaires share the same problems. For instance, in the case of the Social Skills Inventory (*Inventário de Habilidades Sociais*, IHS; Del Prette, Del Prete, & Barreto, 1998) the same factorial solution was proposed (five factors) in two studies (Del Prette et al., 1998; Olaz, Medrano, Greco, & Del Prette, 2009), but there was no coincidence of the items in each factor. Only in one factor did most items coincide, with partial coincidence in three of the factors (fewer than half of the items), while the fifth factor is completely different in both studies.

Considering the problems mentioned in this review, we decided to analyze the factorial structure of three assertiveness self-report measures that are widely used around the world today, namely, the RAS, the AI, and the CSES, as well as the Social Skills Questionnaire (SSQ-I) (*Cuestionario de habilidades sociales-I*, CHASO-I), a new measure recently developed by our team to evaluate social skills.

## Method

### *Participants*

The sample consisted of 421 participants with a mean age of 22.54 years ( $SD= 6.75$ ), being made up of 322 females ( $M= 22.25$  years,  $SD= 6.01$ ) and 99 males ( $M= 23.49$ ,  $SD= 8.70$ ). They were mostly university students (93.82%). Of these, 246 were Psychology students, and 149 were students in other subjects. As regards the rest of the sample (6.18%), one was a psychologist, seven were workers with other university degrees, four were workers without university studies, two were pre-university students, and eight were undefined (e.g., jobless, retired, etc.) There were no data on four of the participants.

However, not all the subjects completed all the questionnaires. The entire sample answered the Social Skills Questionnaire (SSQ-I) (*Cuestionario de habilidades sociales*, CHASO-I) and the Rathus Assertiveness Schedule (RAS), but the participants only partially completed the Assertion Inventory (AI) and the College Self-Expression Scale (CSES). In fact, the AI was answered by 228 subjects with a mean age of 21.62 years ( $SD= 7.00$ ), of whom 170 were females ( $M= 21.26$  years,  $SD= 5.91$ ) and 50 were males ( $M= 22.67$  years,  $SD= 9.48$ ), while the CSES was completed by 117 subjects, with a mean age of 21.53 years ( $SD= 6.82$ ),

and consisted of 88 females ( $M= 21.08$  years,  $SD= 5.27$ ) and 29 males ( $M= 22.93$  years,  $SD= 10.19$ ).

### *Instruments*

The following self-report instruments were used to assess assertiveness in this study:

- *Social Skills Questionnaire (SSQ-I)* (“Cuestionario de habilidades sociales”, CHASO-I; Caballo, Salazar, & Iruña, 2014). This first version of the questionnaire includes 116 items (plus two control items) that assess different social skills dimensions selected both from the literature in the field (see Caballo, 1997) and from the factors composing the Multidimensional Social Expression Scale – Motor Part (*Escala multidimensional de la expresión social - parte motora*, EMES-M; Caballo, 1993), and the Social Anxiety Questionnaire for Adults (SAQ-A30; Caballo et al., 2010; Caballo, Salazar, et al., 2012). The dimensions to be assessed are as follows: 1) Interaction with people I am attracted to [11 items], 2) Standing up for my legitimate rights [12 items], 3) Speaking in public/Interaction with authority figures [9 items], 4) Public performance [6 items], 5) Acknowledging ignorance or a mistake and apologizing [14 items], 6) Interacting with strangers [17 items], 7) Giving compliments/Expressing positive feelings [13 items], 8) Accepting compliments and positive feelings [6 items], 9) Asking for favors/Making requests [11 items], 10) Rejecting requests [8 items], and 11) Expressing personal opinions [9 items]. Each item is answered on a 5-point Likert scale from 1 (“Very uncharacteristic of me”) to 5 (“Very characteristic of me”). No item was negatively formulated, so the total score and the dimensions score are the sum of all or part of the items, and the higher the score, the greater the social skill.
- *Rathus Assertiveness Schedule (RAS)*; Rathus, 1973). This 30-item instrument was designed to measure assertiveness. Each item is answered from +3 “Very characteristic of me, extremely descriptive” to -3 “Very uncharacteristic of me, extremely non-descriptive”, without including 0. There are 17 items that require inverting the sign, and then the items’ scores are added up. A high positive score means high social skills, while a high negative score means the opposite. The test-retest reliability found was between .76 and .83, split-half reliability was .77, and internal consistency (Cronbach’s alpha) ranged between .73 and .86 (Beck & Heimberg, 1983; Heimberg & Harrison, 1980; Rathus, 1973; Vaal, 1975). The RAS has been criticized by Galassi and Galassi (1975) for not distinguishing between assertiveness and aggressiveness.
- *Assertion Inventory (AI)*; Gambrill & Richey, 1975). The AI was developed to gather three kinds of information regarding assertive behavior: a) degree of discomfort or anxiety when handling a variety of social situations, b) response probability of engaging in assertive behavior in these same social situations, and c) identification of situations in which the respondent would like to be more assertive. This study considered only the second type of information regarding assertive behavior (b). The inventory consists of 40 items, and each item on the Response Probability subscale is answered on a 5-point Likert scale

from 1 ("Always do it") to 5 ("Never do it"); the higher the score, the lower the assertiveness. The authors of the questionnaire found a test-retest reliability of .81 for the Response Probability subscale (Gambrell & Richey, 1975). Reports on this subscale in Spanish samples have found reasonable test-retest reliability ( $r = .84$ ) and internal consistency (Cronbach's alpha = .88) (Carrasco et al., 1989; Casas-Anguera et al., 2014).

- *College Self-Expression Scale* (CSES; Galassi, Delo, Galassi, & Bastien, 1974). This scale contains 50 items using a 5-point Likert scale from 0 ("Almost always or always") to 4 ("Never or rarely"). Twenty-nine items are worded so that they require reverse scoring. Scores on the 50 items are summed to yield a total score, with higher total scores indicating more assertion. Its psychometric properties have been considered as appropriate. The test-retest reliability found varies between .89 and .90 (Galassi et al., 1974). The test-retest reliability found with a Spanish university sample was .87, and the internal consistency (Cronbach's alpha) was .89 (Caballo & Buela, 1988).

### *Procedure*

The questionnaires were collectively administered in classrooms at the universities of Granada, Murcia and Valladolid, and in groups for non-students. The questionnaires were answered anonymously to respect personal privacy. For technical reasons, the number of questionnaires administered varied throughout the study, so the time required to fill out the questionnaires also varied accordingly.

### *Statistical analysis*

An exploratory factor analysis (EFA) with a hierarchical analysis of oblique factors was performed by means of Statistica v. 12.0 (StatSoft, 2013) for each one of the questionnaires administered. The hypothesis behind this type of factor analysis assumes a general factor (secondary) of social skill that probably affects all the social skills dimensions assessed by each questionnaire. Furthermore, the factorial solutions obtained with this kind of analysis are neater and clearer, favoring the items loading on only one factor. An item was considered to load significantly on a factor if its value was at least  $\pm .40$  on that factor for interpretation purposes (Stevens, 1986).

## **Results**

### *Social Skills Questionnaire (SSQ-I) ("Cuestionario de habilidades sociales", CHASO-I)*

The EFA identified 12 factors with eigenvalues higher than 1.00 as the best factor solution for the SSQ-I, explaining 48.05% of the cumulative variance. Table 1 shows these 12 factors, each including two of the most representative items of the corresponding factor fulfilling the following criteria: 1) a high loading on the

factor (and always higher than .40), and 2) helping to operationally define the factor. Furthermore, the eigenvalues and explained variance of each factor are included.

**Table 1**

Exploratory factor analysis of the Social Skills Questionnaire (SSQ-I) and loadings of two representative items for each factor (N= 421)

Loadings of two representative items for each factor of the SSQ-I	SSQ-I Factors												$r_{i-t}$
	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	
<i>Factor 1. Speaking or performing in public/Interacting with people in authority</i> (eigenvalue: 23.29; explained variance: 20.08%)													
35. Performing or acting out a scene in front of a group of strangers	<b>.69</b>	.04	.04	.13	-.24	.13	-.01	.01	-.07	-.04	.17	-.00	.42
69. Participating in a meeting with people in authority	<b>.63</b>	.05	.14	.19	.19	-.04	-.04	.10	.11	.00	.10	-.04	.47
<i>Factor 2. Expressing positive feelings</i> (eigenvalue: 7.19; explained variance: 6.20%)													
56. Expressing affection (kiss, hug, caress) to a loved one	.03	<b>.67</b>	.05	.19	-.12	-.01	-.06	.03	-.01	.21	-.05	-.01	.39
92. Expressing support (hug, caress) to a close person when she/he needs it	-.02	<b>.64</b>	.05	.05	-.16	.10	-.01	.10	.13	.18	.09	.08	.43
<i>Factor 3. Refusing requests</i> (eigenvalue: 5.12; explained variance: 4.41%)													
106. Refusing to do something I do not want to do	.03	.12	<b>.76</b>	.05	-.09	-.05	.00	.10	.00	.03	.10	-.00	.35
111. Refusing what I consider to be an unreasonable request	.09	.10	<b>.71</b>	.04	.05	-.02	.04	.07	.15	.18	.16	-.04	.46
<i>Factor 4. Interacting with persons I am attracted to</i> (eigenvalue: 3.33; explained variance: 2.87%)													
13. Asking someone I find attractive for a date	.10	.01	.00	<b>.86</b>	.02	.04	-.01	.08	.02	.01	.06	-.05	.43
30. Asking someone I like for a date	.12	.05	.04	<b>.85</b>	.01	.07	-.00	.01	.06	.05	.04	.04	.48
<i>Factor 5. Dancing or singing in public</i> (eigenvalue: 2.70; explained variance: 2.33%)													
19. Dancing in front of other people	-.16	-.19	-.06	-.10	<b>.51</b>	-.12	-.11	-.06	.05	-.06	-.33	-.06	.37
71. Singing in public	-.30	.07	.16	-.15	<b>.41</b>	-.17	.14	-.10	.06	-.12	-.06	.12	.21
<i>Factor 6. Disclosing information about myself to close persons</i> (eigenvalue: 2.55; explained variance: 2.19%)													
45. Talking about personal matters with a friend	.00	.22	-.01	.13	-.09	<b>.62</b>	.16	.04	.18	.10	.16	.06	.48

54. Disclosing personal information to a friend	.00	.20	.00	.15	-.14	<b>.62</b>	.07	.03	.21	.11	.12	.10	.49
<i>Factor 7. Asking an attendant or a stranger for something (eigenvalue: 2.12; explained variance: 1.83%)</i>													
43. Asking an attendant for service	.13	.14	.13	.01	-.05	.23	<b>.50</b>	.30	.01	.16	.20	-.11	.51
46. Asking someone on the street for the time, an address or a shop	.12	.11	.02	.03	.08	.25	<b>.40</b>	.20	-.09	.32	.25	.06	.49
<i>Factor 8. Expressing annoyance, disgust, or displeasure (eigenvalue: 2.08; explained variance: 1.80%)</i>													
24. Telling someone to stop being annoying or making noise	.13	.00	.21	.09	-.06	-.01	.16	<b>.67</b>	.05	-.02	.08	.07	.42
12. Telling someone not to jump the queue	.09	-.03	.15	.11	.02	-.05	.09	<b>.61</b>	.15	.08	.09	-.00	.40
<i>Factor 9. Expressing different opinions/Clarifying opinions (eigenvalue: 2.00; explained variance: 1.72%)</i>													
87. Disagreeing with others when I think I am right	.07	.06	.27	.07	-.07	.21	-.03	.20	<b>.53</b>	.04	.11	.01	.40
104. Clarifying my opinion in a group when I have not been understood	.25	.15	.25	-.02	-.07	.03	-.01	.16	<b>.42</b>	.22	.28	.02	.53
<i>Factor 10. Apologizing/Recognizing my own mistakes (eigenvalue: 1.96; explained variance: 1.69%)</i>													
2. Apologizing if my behavior has upset someone	.09	.18	-.01	.05	.01	-.01	-.04	-.03	-.02	<b>.75</b>	.03	-.04	.33
20. Apologizing when I am wrong	.12	.12	.07	.01	-.08	.02	.04	.00	.06	<b>.74</b>	.10	-.07	.45
<i>Factor 11. Interacting with strangers (eigenvalue: 1.75; explained variance: 1.51%)</i>													
84. Talking to people I do not know at parties and gatherings	.26	.04	.09	.21	-.01	.09	.07	.08	.15	.15	<b>.67</b>	-.01	.63
110. Behaving in a extroverted way in new social situations	.24	.09	.09	.20	-.05	.21	-.05	.14	.02	.06	<b>.60</b>	.04	.57
<i>Factor 12. Thanking for congratulations/Arguing with salespeople (eigenvalue: 1.65; explained variance: 1.42%)</i>													
38. Thanking for well-wishes received on my birthday	.07	.32	.07	-.01	.05	.07	.02	.08	-.05	.33	.00	<b>.54</b>	.31
82. Arguing about the price with salespeople or attendants	-.24	-.08	-.04	-.18	-.21	-.11	-.01	-.27	.14	.04	-.05	<b>.43</b>	.32

Note: SSQ-I= Social Skills Questionnaire-I;  $r_{i-}$ = item-total correlations.

The 12 factors and the items loading on each one of them were the following: Factor 1: *Speaking or performing in public/Interacting with people in*

authority (items 3, 26, 31, 35, 37, 49, 62, 67, 69, 78, 94, 102); Factor 2: Expressing positive feelings (items 9, 18, 56, 64, 81, 83, 89, 92, 96, 99, 101, 105, 113); Factor 3: Refusing requests (items 8, 21, 65, 100, 106, 111); Factor 4: Interacting with persons I am attracted to (items 5, 13, 22, 30, 36, 50, 79); Factor 5: Dancing or singing in public (items 19, 71); Factor 6: Disclosing information about myself to close persons (items 45, 54, 107, 116); Factor 7: Asking an attendant or a stranger for something (items 43, 46, 80); Factor 8: Expressing annoyance, disgust, or displeasure (items 4, 12, 14, 23, 24, 32, 40, 86, 90); Factor 9: Expressing different opinions/Clarifying opinions (items 7, 75, 87, 91, 104); Factor 10: Apologizing/Recognizing my own mistakes (items 2, 15, 17, 20, 48, 93, 115, 118); Factor 11: Interacting with strangers (items 16, 34, 47, 57, 84, 103, 110, 114); Factor 12: Thanking for congratulations/Arguing with salespeople (items 38, 82). The remaining items did not load above .40 on any factor (except for three items loading on two factors and remaining outside the factorial solution).

The questionnaire's internal consistency (Cronbach's alpha) was .97 and the split-half reliability (Guttman) was .96.

#### *Rathus Assertiveness Schedule (RAS)*

The EFA identified six factors with eigenvalues higher than 1.00 as the best factor solution for the RAS, explaining 44.79% of the cumulative variance. Table 2 shows these six factors, each including two of the most representative items of the corresponding factor fulfilling the same criteria as with the SSQ-I. Furthermore, the eigenvalues and explained variance of each factor are included.

**Table 2**

Exploratory factor analysis of the Rathus Assertiveness Schedule (RAS; Rathus, 1973) and loadings of two representative items for each factor (N= 421)

Loadings of two representative items for each factor of the RAS	RAS Factors						$r_{i-t}$
	F1	F2	F3	F4	F5	F6	
<i>Factor 1. Interacting with commercial firms</i> (eigenvalue: 5.24; explained variance: 17.47%)							
12. I will hesitate to make phone calls to business establishments and institutions	<b>.60</b>	.17	.11	.12	.07	-.04	.40
14. I find it embarrassing to return merchandise	<b>.59</b>	.28	.06	-.01	.01	.09	.40
<i>Factor 2. Expressing annoyance or displeasure</i> (eigenvalue: 2.26; explained variance: 7.53%)							
3. When the food served at a restaurant is not done to my satisfaction, I complain about it to the waiter or waitress	.08	<b>.80</b>	-.07	.01	.04	.05	.35
25. I complain about poor service in a restaurant and elsewhere	-.03	<b>.79</b>	.02	.03	-.03	.00	.30
<i>Factor 3. Defending my own position</i> (eigenvalue: 1.83; explained variance: 6.10%)							
6. When I am asked to do something, I insist upon knowing why	.11	-.00	<b>.71</b>	-.03	-.04	.02	.14

8. I strive to get ahead as well as most people in my position	.24	-.02	<b>.60</b>	.06	.07	.00	.22
<i>Factor 4. Interacting with others in an extroverted way</i> (eigenvalue: 1.49; explained variance: 4.97%)							
2. I have hesitated to make or accept dates because of "shyness"	.17	.08	.01	<b>.69</b>	.03	.12	.44
10. I enjoy starting conversations with new acquaintances and strangers	.03	-.02	.09	<b>.53</b>	.27	-.10	.27
<i>Factor 5. Expressing feelings openly</i> (eigenvalue: 1.38; explained variance: 4.59%)							
21. I am open and frank about my feelings	.14	.03	-.05	.14	<b>.75</b>	-.11	.23
20. When I have done something important or worthwhile, I manage to let others know about it	-.19	-.02	.15	-.21	<b>.60</b>	.01	-.06
<i>Factor 6. Refusing requests</i> (eigenvalue: 1.23; % explained variance: 4.11)							
4. I am careful to avoid hurting other people's feelings, even when I feel that I have been injured	-.14	.11	.16	.14	-.26	<b>.70</b>	.28
23. I often have a hard time saying "No"	.39	.14	.04	.07	.19	<b>.53</b>	.50

Note: RAS= Rathus Assertiveness Schedule;  $r_{i-t}$ = item-total correlations

The six factors and the items loading on each one of them were the following: Factor 1: *Interacting with commercial firms* (items 12, 13, 14, 16, 17); Factor 2: *Expressing annoyance or displeasure* (items 3, 25, 27, 28). Factor 3: *Defending my own position* (items 6, 7, 8, 22); Factor 4: *Interacting with others in an extroverted way* (items 1, 2, 10, 11, 18, 30); Factor 5: *Expressing feelings openly* (items 20, 21, 24, 26); Factor 6: *Refusing requests* (items 4, 5, 15, 23). Items 9, 19 and 20 did not load above .40 on any factor, or did so on two or more factors.

The internal consistency of the questionnaire (Cronbach's alpha) was .82 and the split-half reliability (Guttman) was .80.

### *Assertion Inventory (AI)*

The EFA identified eight factors with eigenvalues higher than 1.00 as the best factor solution for the AI (subscale of Response Probability), explaining 52.34% of the cumulative variance. Table 3 shows these eight factors, each including two of the most representative items of the corresponding factor fulfilling the same criteria as with the SSQ-I. Furthermore, the eigenvalues and explained variance of each factor are included.

The eight factors and the items loading on each one of them were the following: Factor 1: *Expressing annoyance, disgust or displeasure* (items 13, 28, 35, 39, 40); Factor 2: *Making requests to potential employers* (items 9, 17, 18, 33); Factor 3: *Giving and receiving compliments, requests and asking personal questions* (items 2, 3, 12, 16, 21, 29, 30, 37); Factor 4: *Resisting undesirable propositions* (items 10, 25, 27, 31, 32, 34); Factor 5: *Resisting consumer propositions* (items 4, 6, 23); Factor 6: *Refusing requests involving my own*

property and asking for it to be returned (items 11, 36); Factor 7: Apologizing/Recognizing my own mistakes (items 5, 7, 8, 14, 15); Factor 8: Expressing different opinions/Clarifying opinions (items 19, 26, 38). Items 1, 20, 22 and 24 did not load above .40 on any factor, or did so on two or more factors.

The internal consistency of the assertiveness subscale (Cronbach's alpha) was .90 and the split-half reliability (Guttman) was .93.

**Table 3**

Exploratory factor analysis of the subscale "Response probability" of the Assertion Inventory (AI; Gambrill & Richey, 1975) and loadings of two representative items for each factor ( $n=228$ )

Loadings of two representative items for each factor of the AI-RP	AI-RP Factors								$r_{i-t}$
	F1	F2	F3	F4	F5	F6	F7	F8	
<i>Factor 1. Expressing annoyance, disgust or displeasure</i> (eigenvalue: 8.63; explained variance: 21.59%)									
39. Tell a friend or co-worker when he or she says or does something that bothers you	<b>.83</b>	.13	.07	.09	.06	.00	-.01	.09	.48
40. Ask a person who is annoying you in a public situation to stop	<b>.77</b>	-.04	.11	.04	.01	.04	-.05	-.03	.36
<i>Factor 2. Making requests to potential employers</i> (eigenvalue: 2.59; explained variance: 6.46%)									
18. Your initial request for a meeting is turned down and you ask the person again at a later time	.00	<b>.78</b>	.07	-.00	-.04	.02	.02	.02	.30
17. Request a meeting or a date with a person	-.03	<b>.66</b>	.39	-.01	-.07	.11	.06	.22	.49
<i>Factor 3. Giving and receiving compliments, requests and asking personal questions</i> (eigenvalue: 2.31; explained variance: 5.77%)									
16. Compliment a person you are romantically involved with or interested in	.04	-.01	<b>.70</b>	.20	-.04	-.05	.21	.02	.39
2. Compliment a friend	.08	.03	<b>.69</b>	.21	-.00	.03	.20	.06	.47
<i>Factor 4. Resisting undesirable propositions</i> (eigenvalue: 1.98; explained variance: 4.96%)									
34. Resist pressure to use drugs	.01	.04	.09	<b>.68</b>	.03	-.00	.12	.12	.27
27. Resist sexual overtures when you are not interested	.20	-.10	.07	<b>.65</b>	.01	.36	.06	.03	.35
<i>Factor 5. Resisting consumer propositions</i> (eigenvalue: 1.45; explained variance: 3.64%)									
4. Resist sales pressure	-.02	-.07	-.01	.15	<b>.71</b>	.03	.10	.12	.16
6. Turn down a request for a meeting or a date	.13	.41	-.07	.18	<b>.52</b>	.14	.02	-.29	.29

<i>Factor 6. Refusing requests involving my own property and asking for it to be returned (eigenvalue: 1.38; explained variance: 3.45%)</i>									
11. Turn down a request to borrow money	.08	.27	.05	.06	.06	<b>.70</b>	-.07	-.03	.33
1. Turn down a request to borrow your car	-.04	-.12	.05	.02	.49	<b>.53</b>	-.00	.16	.24
<i>Factor 7. Apologizing/Recognizing my own mistakes (eigenvalue: 1.32; explained variance: 3.29%)</i>									
5. Apologize when you are at fault	-.14	.02	.22	.19	.17	-.12	<b>.65</b>	.16	.32
7. Admit fear and request consideration	.19	.26	.33	.07	.14	.05	<b>.47</b>	-.24	.45
<i>Factor 8. Expressing different opinions/Clarifying opinions (eigenvalue: 1.27; explained variance: 3.17%)</i>									
38. Continue to converse with someone who disagrees with you	.20	.13	.19	.20	.15	-.01	.16	<b>.55</b>	.48
26. Express an opinion that differs from that of the person with whom you are talking	.32	-.01	.25	.27	.10	.06	.15	<b>.51</b>	.53

Note: AI-PR= Assertion Inventory-Response probability;  $r_{i-}$ = item-total correlations.

### *College Self-Expression Scale (CSES)*

The EFA identified 11 factors with eigenvalues higher than 1.00 as the best factor solution for the CSES, explaining 56.86% of the cumulative variance. Table 4 shows these 11 factors, with each one including two of the most representative items of the corresponding factor fulfilling the same criteria as with the SSQ-I. Furthermore, the eigenvalues and explained variance of each factor are included.

The 11 factors and the items loading on each one of them were the following: Factor 1: *Expressing annoyance, disgust, or displeasure* (items 6, 9, 13, 18, 23, 28, 30, 32, 38, 41, 47, 48); Factor 2: *Expressing positive feelings* (items 10, 20, 36, 49); Factor 3: *Speaking in public or in front of the class* (items 21, 33, 43, 50); Factor 4: *Defending personal preferences before my parents* (items 29, 46); Factor 5: *Giving compliments to friends* (items 25, 26, 31); Factor 6: *Interacting with the opposite sex* (items 22, 39, 44); Factor 7: *Defending my own rights before friends/roommates* (items 11, 16, 27, 34, 45); Factor 8: *Being careful not to hurt other people's feelings* (items 5, 7, 12, 24); Factor 9: *Making requests to close people* (items 2, 8, 37, 40); Factor 10: *Defending my consumer rights* (items 1, 15, 35); Factor 11: *Defending my own decisions before my parents* (item 4). Items 3, 14, 17, 19 and 42 did not load above .40 on any factor, or did so on two or more factors.

The questionnaire's internal consistency (Cronbach's alpha) was .88 and the split-half reliability (Guttman) was .90.

**Table 4**

Exploratory factor analysis of the College Self-Expression Scale (CSES; Galassi et al., 1974) and loadings of two representative items for each factor ( $n= 117$ )

Loadings of two representative items for each factor of the CSES	CSES Factors											$r_{i-t}$
	F1	F2	F3	F4	F5	F6	F7	F7	F9	F10	F11	
<i>Factor 1. Expressing annoyance, disgust, or displeasure</i> (eigenvalue: 8.29; explained variance: 16.57%)												
48. If a friend unjustifiably criticizes you, do you express your resentment there and then?	<b>.71</b>	.22	-.05	-.02	.21	.20	.08	.12	-.02	.17	-.08	.59
30. Do you express anger or annoyance toward the opposite sex when it is justified?	<b>.58</b>	.12	.06	.25	.10	.12	.21	-.09	.10	-.22	-.03	.43
<i>Factor 2. Expressing positive feelings</i> (eigenvalue: 3.36; explained variance: 6.71%)												
49. Do you express you feeling to others?	.04	<b>.78</b>	.22	.01	-.03	.15	.11	-.00	.06	.07	-.11	.39
20. Are you able to express love and affection to people for whom you care?	.14	<b>.71</b>	.14	.11	.22	-.02	-.09	-.18	-.01	-.12	.04	.32
<i>Factor 3. Speaking in public or in front of the class</i> (eigenvalue: 2.66; explained variance: 5.32%)												
50. Do you avoid asking questions in class for fear of feeling self-conscious?	.17	.09	<b>.80</b>	.02	-.05	.12	.08	.10	.02	.12	.08	.54
43. Do you freely volunteer information or opinions in class discussions?	.06	.18	<b>.78</b>	-.01	.02	.02	.14	-.11	-.12	.11	.03	.41
<i>Factor 4. Defending personal preferences before my parents</i> (eigenvalue: 2.30; explained variance: 4.59%)												
29. If your parents want you to come home for a weekend but you have made important plans, would you tell them of your preference?	-.14	.04	.01	<b>.66</b>	.25	-.23	.16	-.03	-.05	.01	.09	.07
46. If your parents want you home by a certain time which you feel is much too early and unreasonable, do you attempt to discuss or negotiate this with them?	.27	.07	.11	<b>.64</b>	-.10	.19	.03	.11	.10	.02	.08	.39

<i>Factor 5. Giving compliments to friends (eigenvalue: 2.07; explained variance: 4.15%)</i>												
31. If a friend does and errand for you, do you tell that person how much you appreciate it?	.13	.11	.05	.06	<b>.69</b>	.01	.11	-.09	.01	-.11	-.11	.28
25. If a friend is wearing a new outfit that you like, do you tell that person so?	.25	.30	-.08	.05	<b>.60</b>	.05	-.20	-.26	-.18	.10	.17	.27
<i>Factor 6. Interacting with the opposite sex (eigenvalue: 1.88; explained variance: 3.76%)</i>												
22. If a person of the opposite sex whom you have been wanting to meet smiles or directs attention to you at a party, would you take the initiatives in beginning a conversation?	.05	.14	.20	-.01	.07	<b>.77</b>	.05	.06	.05	-.02	-.10	.33
44. Are you reluctant to speak to an attractive acquaintance of the opposite sex?	.22	-.01	.18	-.06	-.11	<b>.56</b>	-.06	-.19	.10	.07	.24	.27
<i>Factor 7. Defending my own rights before friends/roommates (eigenvalue: 1.73; explained variance: 3.47%)</i>												
45. If you lived in an apartment and the landlord failed to make necessary repairs after promising to do so, would you insist on it?	.23	.02	.20	.05	.13	-.03	<b>.61</b>	.00	-.01	.02	-.03	.38
16. If your roommate without your permission eats food that he or she knows you have been saving, can you express your displeasure to your roommate?	.16	.12	.13	.21	-.09	.06	<b>.52</b>	-.10	.12	.21	-.06	.32
<i>Factor 8. Being careful not to hurt other people's feelings (eigenvalue: 1.70; explained variance: 3.39%)</i>												
12. Are you overly careful to avoid hurting other people's feelings?	.04	-.24	.07	-.04	-.11	-.02	-.04	<b>.62</b>	.24	.25	.09	.13
7. Is it difficult for you to compliment and praise others?	.07	-.43	-.01	.08	-.20	-.09	.00	<b>.54</b>	-.25	-.12	-.27	.10
<i>Factor 9. Making requests to close people (eigenvalue: 1.59; explained variance: 3.17%)</i>												
37. Would you be hesitant about asking a good friend to lend you a few dollars?	.23	.02	-.11	.02	-.11	.28	.13	.19	<b>.63</b>	-.02	-.00	.25

2. When you decide that you no longer wish to date someone, do you have marked difficulty telling that person of your decision?	.10	.27	.24	.18	-.22	-.21	.05	-.00	<b>.50</b>	.19	.18	.33
<i>Factor 10. Defending my consumer rights</i> (eigenvalue: 1.49; explained variance: 2.98%)												
15. If food that is not to your satisfaction is served in a restaurant, would you complain about it to the waiter?	-.02	-.08	.26	.08	-.10	-.00	.05	-.04	.13	<b>.72</b>	-.11	.23
1. Do you ignore it when someone pushes in front of you in line?	.28	.08	.13	-.11	.12	.02	.15	.22	-.03	<b>.61</b>	.07	.46
<i>Factor 11. Defending my own decisions before my parents</i> (eigenvalue: 1.36; explained variance: 2.73%)												
4. If you decide to change your major to a field which your parents will not approve, would you have difficulty telling them?	-.01	.05	.09	.07	-.03	-.00	-.03	.02	.00	-.04	<b>.82</b>	.15

Note: CSES= College Self-Expression Scale;  $r_{i-t}$ = item-total correlations.

#### *Relationships across the various social skills questionnaires*

Pearson's correlations across the different questionnaires used in the present study were calculated, including the new CHASO-I factors. Table 5 shows these correlations with special emphasis on the high correlations between the total score (sum of the 12 factors) of CHASO-I and the overall scores of the RAS ( $r = .66$ ) and, particularly, of the CSES ( $r = .77$ ). The correlation between the CHASO-I and the total score of the assertiveness or response probability subscale of the AI was moderate ( $r = -.49$ ). Regarding the relationships between the 12 CHASO-I factors and the total score of the other three questionnaires, the highest correlations were with the CSES, followed closely by the RAS. However, the correlations with the AI ranged from moderate to low. In general, the AI was the self-report measure of assertiveness with the weakest performance across the entire study.

The relationships among the three traditional questionnaires were also calculated. The AI to RAS relationship was moderate ( $r = -.44$ ) as it was between the AI and the CSES ( $r = -.53$ ). However, the relationship between the RAS and the CSES was particularly strong ( $r = .77$ ).

We also computed the relationships between the CHASO-I factors and those factors named similarly across the other three social skills questionnaires (we discarded CHASO-I factors 5, 7 and 12 because they either appeared in broader factors in the same questionnaire or lacked correspondence with any factor in the other three questionnaires) (see table 6). Accordingly, we found that the factor "Speaking or performing in public/Interacting with people in authority" was included in the CHASO-I (factor 1) as well as in the CSES (factor 3), with a high

correlation of .77, as well as (at least partially) in the RAS ( $r = .54$ ). We did not find this factor in the AI.

**Table 5**

Correlations between the Social Skills Questionnaire-I (SSQ-I) and its factors, and the overall score of the social skills questionnaires used in this study

Factors of the SSQ-I and its total score	SSQ-I total score (12 factors)	RAS total score	AI-RP total score	CSES total score
F1. Speaking or performing in public/ Interacting with people in authority	.78	.62	-.42	.59
F2. Expressing positive feelings	.72	.25	-.40	.44
F3. Refusing requests	.56	.48	-.27**	.52
F4. Interacting with persons I am attracted to	.62	.40	-.22*	.41
F5. Dancing or singing in public	.41	.20	-.21*	.35
F6. Disclosing information about myself to close persons	.58	.26	-.26**	.30**
F7. Asking an attendant or a stranger for something	.64	.38	-.24*	.39
F8. Expressing annoyance, disgust, or displeasure	.65	.62	-.36	.55
F9. Expressing different opinions/Clarifying opinions	.68	.44	-.35	.55
F10. Apologizing/Recognizing my own mistakes	.59	.16**	-.21*	.34
F11. Interacting with strangers	.79	.51	-.29**	.53
F12. Thanking for congratulations/Arguing with salespeople	.46	.27	-.22*	.33
SSQ-I total score (12 factors)	--	.66	-.49	.77

Note: SSQ-I= Social Skills Questionnaire-I; RAS= Rathus Assertiveness Schedule; AI-RP= Assertion Inventory –Response probability; CSES= College Self-Expression Scale. All the correlations with  $p < .001$ , except \*\* $p < .01$ , and \* $p < .05$ .

CHASO-I factor 2, “Expressing positive feelings” was also a factor in the other three questionnaires cited here with a high correlation with the CSES ( $r = .65$ ), and a moderate one with the AI ( $r = -.56$ ) and the RAS ( $r = .42$ ). We should remember that the negative correlation with the AI is due to the fact that the higher the score in the AI, the lower the assertiveness or response probability.

The relationships between the rest of the CHASO-I factors and similar factors in the other three measures are usually moderate, generally between .40 and .60, although some CHASO-I factors do not pair with similar factors in all the other questionnaires. On the other hand, the correlation among similar factors in the three traditional social skills questionnaires also ranged from .39 to .59, except the relationship between the RAS factor 2, “Expressing annoyance or displeasure”, and factor 10 of the CSES, “Defending my consumer rights”, which had a high correlation ( $r = .73$ ).

**Table 6**  
Relationships between the factors of the Social Skills Questionnaire-I and similar factors from the other three social skills questionnaires

SSQ-I Factors	Similar factors in the traditional questionnaires		
	RAS	AI-RP	CSES
F1. Speaking or performing in public/Interacting with people in authority	F1= .54 F4= .57	--	F3= .77
F2. Expressing positive feelings	F5= .42	F3= -.56	F2= .65
F3. Refusing requests	F6= .41	--	F7= .52
F4. Interacting with persons I am attracted to	F4= .48	--	F6= .49
F6. Disclosing information about myself to close persons	--	F3= -.42	--
F8. Expressing annoyance, disgust, or displeasure	F2= .57 F6= .42	F1= -.47	F1= .47 F10= .54
F9. Expressing different opinions/Clarifying opinions	--	F1= -.44 F8= -.35	F1= .53 F3= .49
F10. Apologizing/Recognizing my own mistakes	--	F7= -.43	--
F11. Interacting with strangers	F4= .61	--	F3= .59 F6= .44

Note: SSQ-I= Social Skills Questionnaire-I; RAS= Rathus Assertiveness Schedule; RAS F1= Interacting with commercial firms; RAS F2= Expressing annoyance or displeasure; RAS F4= Interacting with others in an extroverted way; RAS F5= Expressing feelings openly; RAS F6= Refusing requests; AI-PR= Assertion Inventory –Response Probability; AI-RP F1= Expressing annoyance, disgust or displeasure; AI-RP F3= : Giving and receiving compliments, requests and asking personal questions; AI-RP F7= Apologizing/Recognizing my own mistakes; AI-RP F8= Expressing different opinions/Clarifying opinions; CSES= College Self-Expression Scale; CSES F1= Expressing annoyance, disgust, or displeasure; CSES F2= Expressing positive feelings; CSES F3= Speaking in public or in front of the class; CSES F6= Interacting with the opposite sex; CSES F7= Defending my own rights before friends/roommates; CSES F10= Defending my consumer rights. Factors 5, 7, and 12 of the SSQ-I were not included in this table (see text). All the correlations are statistically significant with  $p < .001$ .

#### *Differences in social skills between men and women*

We also calculated the differences between men and women in the factors and in the total score of the CHASO-I and the other three social skills questionnaires (RAS, AI, and CSES). There are few differences, and they are found only in some of the CHASO-I factors, such as “Speaking or performing in public/Interacting with people in authority”, “Interacting with persons I am attracted to”, “Interacting with strangers” (with men scoring higher than women in all of them) or “Apologizing/Recognizing my own mistakes” (with women scoring higher than men). There were no sex differences in the total score for three of the questionnaires. Only in the RAS total score were there statistically significant differences (although with a low effect size,  $d = 0.43$ ) between men and women (with men scoring higher than women) (see table 7). Due to space limitations, the sign of  $f$  has not been included.

**Table 7**  
Differences between men and women in the four self-report measures of social skills

Factors and total scores for the various measures of social skills	Men M (SD)	Women M (SD)	t	p	d
<i>Social Skills Questionnaire (SSQ-I)</i>					
F1. Speaking or performing in public/Interacting with people in authority	37.70 (8.38)	34.90 (8.64)	2.77	.006	<b>0.33</b>
F2. Expressing positive feelings	49.02 (8.40)	50.53 (8.00)	1.59	.112	0.18
F3. Refusing requests	21.00 (4.28)	20.55 (4.39)	0.88	.380	0.10
F4. Interacting with persons I am attracted to	21.67 (6.86)	17.89 (6.05)	5.19	.000	<b>0.58</b>
F5. Dancing or singing in public	5.31 (1.92)	5.74 (1.89)	1.95	.051	0.22
F6. Disclosing information about myself to close persons	13.99 (3.02)	13.96 (3.03)	0.08	.938	0.01
F7. Asking an attendant or a stranger for something	11.40 (2.58)	11.54 (2.32)	0.52	.606	0.06
F8. Expressing annoyance, disgust, or displeasure	30.55 (5.99)	29.61 (5.98)	1.35	.177	0.16
F9. Expressing different opinions/Clarifying opinions	19.61 (3.46)	19.23 (3.12)	1.03	.304	0.12
F10. Apologizing/Recognizing my own mistakes	31.80 (5.76)	33.13 (4.58)	2.34	.020	<b>0.25</b>
F11. Interacting with strangers	27.07 (6.02)	25.47 (6.34)	2.18	.030	<b>0.26</b>
F12. Thanking for congratulations/Arguing with salespeople	6.50 (1.74)	6.52 (1.61)	0.11	.905	0.01
SSQ-I total score (12 factors)	273.94 (39.90)	270.00 (37.20)	0.83	.405	0.10
<i>Rathus Assertiveness Schedule (RAS)</i>					
F1. Interacting with commercial firms	3.50 (6.10)	1.42 (6.44)	2.82	.005	<b>0.33</b>
F2. Expressing annoyance or displeasure	-0.35 (5.37)	-1.83 (5.49)	2.34	.020	<b>0.27</b>
F4. Interacting with others in an extroverted way	0.89 (6.81)	-1.41 (6.44)	3.02	.003	<b>0.35</b>
F6. Refusing requests	-0.77 (4.85)	-2.04 (4.62)	2.33	.020	<b>0.27</b>
RAS total score	10.08 (18.39)	1.43 (22.01)	3.35	.001	<b>0.43</b>
<i>Assertion Inventory (AI)</i>					
IA-RP total score	99.40 (24.47)	101.78 (17.69)	0.76	.449	0.11
<i>College Self-Expression Scale (CSES)</i>					
F3. Speaking in public or in front of the class	9.48 (3.20)	7.28 (3.42)	3.04	.003	<b>0.66</b>
F6. Interacting with the opposite sex	7.65 (2.27)	6.42 (2.81)	2.13	.035	<b>0.48</b>
CSES total score	131.00 (19.61)	127.63 (21.27)	0.74	.460	0.16

## Discussion

The assessment of social skills by means of self-report instruments has remained almost unchanged for a good number of years. Questionnaires developed in the 1970s are still being widely used and it appears that this situation will hold true in the near future. In this study we have analyzed some of the psychometric features of three of the self-report measures more widely used around the world, namely, the Rathus Assertiveness Schedule (RAS), the Assertion Inventory (AI), and the College Self-Expression Scale (CSES), and we have added a questionnaire recently developed by our research team, the Social Skills Questionnaire (SSQ-I). Considering the factorial structure issues related to this type of measures, as stated here in the introduction, we decided to compare the factorial structure of all four questionnaires and obtain their reliability and convergent validity.

The results show that some social skills dimensions seem to be shared by the four questionnaires, such as "expressing positive feelings", "expressing annoyance, disgust, or displeasure", and "refusing requests". Other dimensions are shared by three of the questionnaires, such as "speaking or performing in public/interacting with people in authority", "interacting with persons I am attracted to/of the opposite sex", "interacting with strangers", "expressing different opinions/clarifying opinions", or by only two, such as "apologizing/recognizing my own mistakes" and "disclosing information about myself to close persons". Finally, some dimensions were present in only one of the questionnaires, such as "dancing or singing in public" (SSQ-I), "defending my own position" (RAS), "resisting undesirable propositions" (AI), "defending personal preferences before my parents" (CSES), among others (see tables 1 to 4, and table 6).

Considering our own results as well as those in the literature regarding the same topic (Furnham & Henderson, 1984; Galassi & Galassi, 1977; Gambrill & Richey, 1975), there seem to be very few dimensions that are always present when assessing social skills (see the dimensions shared by three or four questionnaires). However, there would also seem to be a common discrepancy regarding the number of dimensions or class of responses that the social skills construct should contain; while we have found six dimensions in the RAS, there were eight in the AI, and eleven in the CSES. Furthermore, such dimensions do not remain constant for the same questionnaire, with their number and name changing in different studies. Specifically, 11 and 13 factor solutions have been reported for the AI (e.g., Carrasco et al., 1989; Henderson & Furnham, 1983), whereas in this study we found only eight. The RAS factorial solutions range from four to 12 factors (e.g., Heimberg & Harrison, 1980; Henderson & Furnham, 1983; Hull & Hull, 1978; Nevid & Rathus, 1979), while in this study we have found six factors. Regarding the CSES, the reported solutions have ranged from four to 14 factors (e.g., Galassi & Galassi, 1973, 1979; Henderson & Furnham, 1983; Kipper & Jaffe, 1978), and in this study we have found 11 factors, making it the only factorial solution matching former research (Caballo & Buela, 1988).

Another frequent problem regarding social skills questionnaires is that many of the items load on more than one factor, complicating the clarity and interpretation of the factors. For instance, the study by Carrasco et al. (1989) found that 25 of the 40 AI items loaded on more than one factor, and 15 of those items even loaded on three or more factors. The new SSQ-I has kept only those items loading on one factor and has maintained the dimensions with similar corresponding factors in other traditional questionnaires (although many of the items in the SSQ-I factors are formulated differently to those in the traditional questionnaires).

Regarding the convergent validity of the SSQ-I, the correlation data for the SSQ-I and the other questionnaires used to assess social skills were moderate, supporting the notion that these self-report measures partially coincide with the construct they are measuring, particularly in reference to the CSES and RAS. It seems that the CSES has been considered the best questionnaire for assessing social skills in university students (Burkhart, Green, & Harrison, 1979; Caballo, 1993; Jakubowski & Lacks, 1975), and the correlation with SSQ-I ( $r = .77$ ) provides major support for its validity. Regarding the dimensions of the SSQ-I, they also seem to provide sound support for its validity through the correlations both with the overall scores in traditional questionnaires and with the factors with similar names in these selfsame questionnaires (see tables 5 and 6).

The AI and its assertiveness subscale have a weaker performance, with lower correlations than the RAS or the CSES possibly because the AI contains items that suit the adult population much better than university students, and our subjects could be responding to future events, ones not yet faced, for instance "asking for a raise", "applying for a job", or "quitting a job". Furthermore, comparing the SSQ-I to the AI suggest that the former more clearly separates the dimensions of "expressing positive feelings" and "disclosing information about myself to close persons" than the AI, which lumps them both together in a single factor ("giving and receiving compliments, requests and asking personal questions").

Regarding the CSES, it seems to be the best measure to evaluate university students' social skills, as mentioned earlier, but the SSQ-I may have two advantages over the CSES. First, it does a better job of differentiating between two dimensions such as "interacting with persons I am attracted to" and "interacting with strangers", while the CSES does not do so (maybe due to the way the CSES combines the items). Second, the dimension "expressing different opinions/clarifying opinions" seems to be better defined in the SSQ-I than in the CSES, in which the items are mixed with other very different items in two different factors.

On the other hand, some authors have considered that the RAS should include items that measure aggressiveness rather than assertiveness (e.g., Galassi & Galassi, 1975; Gritzmacher & Tucker, 1979; Heimberg & Harrison, 1980), such as the item "There are times when I look for a good, vigorous argument". Furthermore, this questionnaire does not include items reflecting dimensions such as "apologizing/recognizing my own mistakes", "expressing different opinions/clarifying opinions", "disclosing information about myself to close persons", and even "expressing positive feelings" (considering this last dimension

with the comprehensive meaning of expressing affect, support, or giving compliments) - all response classes that seem to belong to the social skills construct. Comparing the SSQ-I with the RAS, we also find the former has two advantages over the latter, whereby the SSQ-I better differentiates four dimensions, on the one hand, "expressing annoyance, disgust, or displeasure" and "refusing requests" and, on the other, "interacting with persons I am attracted to" and "interacting with strangers", which seems more complicated in the RAS, with only one dimension, "Interacting with others in an extroverted way", mixing items from the other former four dimensions.

To sum up, regarding the convergent validity of the SSQ-I and the kind of dimensions all the questionnaires included in this study measure, we may affirm that the moderate relationships between the SSQ-I and all the other self-report instruments support the validity of the new SSQ-I. However, our results also show that the questionnaires do not assess the same dimensions of the social skills construct, coinciding only partially in the assessment of some of its key features.

Regarding sex-related differences in the several social skills measures we barely found any between men and women. The most relevant involve four dimensions or response classes. The first of these dimensions is "Speaking or performing in public/Interacting with people in authority". Men score significantly higher than women, with an effect size ranging low (SSQ-I, RAS) and moderate (CSES). The sex related differences in this dimension are also found when considering the social anxiety construct (Caballo et al., 2008, 2010; Caballo, Salazar, Irurtia, Arias, et al., 2014), in which women scored higher than men in the anxiety related to "Speaking in public/Talking with people in authority", differences that already seem to exist in puberty (Caballo, Arias, et al., 2012). The overall data are consistent regarding this dimension, since a high social skill is often associated with a low level of social anxiety (Caballo, Salazar, Irurtia, Olivares, et al., 2014). In this regard, a possible explanation for the differences in the skilled behavior of speaking in public or with authority figures may be related to the cultural background and contexts surrounding such skills. Such behaviors are nearly always part of formal education and work contexts - two types of situations that demand these kinds of skills and traditionally involve mostly males. It is only lately than females have had the chance to break with existing cultural patterns of submission or inhibition.

The second dimension in which sex related differences were found is "interacting with persons I am attracted to". As in the first dimension, men have a significantly higher score than women, and the effect size of these differences varies from low (RAS, CSES) to moderate (SSQ-I). This dimension also behaves similarly to the first one when we compare these data with those of a similar dimension in the social anxiety construct ("Interaction with the opposite sex"). In this case, females scored higher than males regarding the anxiety related to the "Interaction with the opposite sex" (see Caballo et al., 2008, 2010; Caballo, Salazar, Irurtia, Arias, et al., 2014), differences that also seem to exist in puberty (Caballo, Arias, et al., 2012). In order to explain why males seem to be more assertive when relating to people they are attracted to, we again refer to the possible influence of sociocultural norms that are still transmitted from one

generation to another in our society. We should remember that, culturally speaking, we have assigned a more active role to males and a more passive one to females when it comes to searching for a mate. While it is true that certain subtle pattern changes can be observed today regarding flirting and courtship, our data suggest that there are still sex differences giving males (more often than females) the initiative in this kind of behaviors.

The third dimension in which there were sex differences was "Interacting with strangers." Again, men scored significantly higher than women with a low effect size of the differences (SSQ-I, RAS). As in the two previous dimensions, there is a counterpart dimension in the social anxiety construct called "Interaction with strangers" in which women scored higher than men (Caballo et al., 2008, 2010; Caballo, Salazar, Irurtia, Arias, et al., 2014), although these differences are also much lower than in the first two dimensions.

The fourth dimension of social skills in which sex differences were found was "Apologizing/Recognizing my own mistakes". In contrast with the first three dimensions, women scored significantly higher than men in this fourth one (although with a low effect size), and were therefore more skillful in this dimension. At the risk of sounding like a scratched record, we will again resort to socialization and cultural norms as a possible explanation for these differences, since apologizing and recognizing our own mistakes have often been assumed as weaknesses in Western society, which is incompatible with the (more aggressive) "male image" but not with the (more submissive) "female image".

In regard to the remaining dimensions the data are not so clear, so while there are differences (of low effect size) between males and females in some of the dimensions assessed by a given questionnaire (e.g., "Expressing annoyance or displeasure" in the RAS), this does not happen in terms of this same dimension in other questionnaires. When considering the total scores in the questionnaires, the only significant difference found between males and females was in the RAS score (which may also be assessing aggressiveness, as we said before), but no significant differences were found in the other three questionnaires. In conclusion, it seems that here might be significant differences associated with sex in the four kinds of social skills listed above, but when we consider only the overall score in the questionnaires such differences may be masked and will not appear in the results.

Finally, we would like to note certain limitations of this study. First, the participant sample focused mainly on university students, so the results may not be generalizable to other populations. Secondly, one of the questionnaires is a pilot version, not the final one, so the results might end up differing. However, in spite of these limitations, we believe that this study may help to further clarify the issue of how many and what dimensions or response classes the social skills construct might include. Furthermore, it is also an important step in the development of a new and comprehensive self-report measure of social skills, as is the "Social Skills Questionnaire" (SSQ-I), although there is still a long way to go.

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