SOCIAL SKILLS INVENTORY FOR THE ELDERLY: AN INSTRUMENT FOR USE IN BRAZIL

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ABSTRACT
We carried out an evaluation of the evidence of internal structure and scores reliability of the Social Skills Inventory for the Elderly (SSI-E) in a sample of 616 Brazilian elderly, between the ages of 60 and 94, from diverse Social-economic stratum. We used EFA, CFA, and reliability measures (Composite Reliability). SSI-E is a 20-item instrument ($\chi 2/gl = 1.406$, CFI = 0.912, RMSEA = 0.037, SRMR = 0.0563) with four factors: Emotional expressiveness; Assertiveness; Conversation and social resourcefulness; Affective-sexual approach. The composite reliability of the factors ranged between 0.70 and 0.80, suggesting good precision. The SSI-E allows a very parsimonious application. We discuss the implications of these findings for research, assessment, and intervention on mental health among the elderly.
Keywords: Aging; Social skills; Psychological assessment; Brazil.

INVENTÁRIO DE HABILIDADES SOCIAIS PARA IDOSOS: INSTRUMENTO PARA UTILIZAÇÃO NO BRASIL

RESUMO
Considerando a ausência de um instrumento de habilidades sociais específico para idosos, os objetivos deste estudo foram obter e validar uma estrutura própria de itens e fatores para o Inventário de Habilidades Sociais para idosos (IHSI-Del-Prette). Os participantes foram 616 pessoas entre 60 e 94 anos, de diversos níveis socioeconômicos. Foram realizadas Análise Fatorial Exploratória, Análise Fatorial Confirmatória e avaliação da confiabilidade composta. O IHSI-Del-Prette é composto por 20 itens ($\chi 2/gl = 1.406$, CFI = 0.912, RMSEA = 0.037, SRMR = 0.0563) organizados em quatro fatores: Assertividade; Conversação e desenvoltura social; Abordagem afetivo-sexual, com confiabilidade composta entre 0.70 e 0.80. O IHSI-Del-Prette possibilita uma avaliação precisa, com contribuições para pesquisa, avaliação e intervenção relacionadas à saúde mental em idosos.
Palavras-chave: Envelhecimento; Habilidades sociais; Avaliação psicológica; Brasil.

INVENTARIO DE HABILIDADES SOCIALES PARA ANCIANOS: INSTRUMENTO PARA USO EN BRASIL

RESUMEN

Considerando la ausencia de un instrumento específico de habilidades sociales para los ancianos, los objetivos de este estudio fueron obtener y validar una estructura específica de ítems y factores para el Inventario de Habilidades Sociales para los ancianos (IHSI-Del-Prette). Los participantes fueron 616 personas entre 60 y 94 años, de diferentes niveles socioeconómicos. Se realizaron análisis factoriales exploratorios, análisis factoriales confirmatorios y evaluación de confiabilidad compuesta. El IHSI-Del-Prette consta de 20 ítems ($\chi 2$ / gl = 1,406, CFI = 0.912, RMSEA = 0.037, SRMR = 0.0563) distribuidos en cuatro factores: Asertividad; Conversación e ingenio social; Aproximación afectivo-sexual, con fiabilidad entre 0,70 y 0,80. El IHSI-Del-Prette permite una evaluación precisa, con contribuciones a la investigación, evaluación e intervención relacionadas con la salud mental en los ancianos.

Palabras clave: Envejecimiento; Habilidades sociales; Evaluación psicológica; Brasil.

Social skills is a descriptive construct for social behaviors (a) acknowledged in a certain culture, (b) very likely to enhance positive outcomes for individual, his/her group and community, and (c) that can favor a socially competent performance in interpersonal tasks (Del Prette & Del Prette, 2017). In Brazil, most researches have focused in earlier stages of the human development: childhood, adolescence and yearly adulthood, providing important empirical evidences both for assessment and intervention for these populations (Del Prette & Del Prette, 2019), but still very incipient for the elderly, despite the rapid population aging in Brazil.

In other countries, research on elderly social skills started earlier (Fernandéz-Ballesteros, Izal, Diaz, Gonzalez, & Souto, 1988; Furnham & Pendleton, 1983; Segrin, 1994; Twining, 1983). Twinning (1983) suggested the importance of social skills for analyzing difficulties and for asking help or suggesting changes, as "a physical aid (…) or a behavioral change, such as increased assertiveness by the caregiver" (p.10). Furnham and Pendleton (1983) assessed social skills deficits in an elderly sample and found greater difficulty in a variety of social situations, as for example: "problems in admitting weakness or fault and difficulties in making good friends" (p. 35), and frequently express differing opinions and yet infrequently admit their own weaknesses. Still according to Furnham and Pendleton (1983), elderly may be far less assertive than their younger counterparts despite frequently reporting less discomfort in situations requiring assertiveness, and, on the other hand, they may report greater comfort in initiating conversations and complimenting friends. Fernandéz-Ballesteros et al. (1988), assessed the effect of a training program in social skills for elderly and found, in the post-test, that their participants showed (a) increased conversational skills, as "giving" and "receiving information" and in "taking turns in speaking" as well as (b) decrease in their mean score on Zung's Self-rating Depression Scale compared to control groups. Both studies (Furnham & Pendleton, 1983; Fernandéz-Ballesteros et al., 1988), highlighted the importance of social skills inventories specifically designed and validated for the elderly.

In Brazil, the first exploratory on elderly social skills study (Lima, 2000) and the first article (Carneiro & Falcone, 2004) were in the 2000's. Among other reasons, this 20-year gap may be due to the lack of an available instrument for the social skills assessment of elderly. A first attempt to address this issue was the adaptation of an existing instrument, the Social Skills Inventory - SSI-Del-Prette (Del Prette & Del Prette, 2001). It was originally developed in a sample of college students from 18 to 25 years (Del Prette & Del Prette, 2001), with 38 items and five factors: Coping and self-affirmation with risk, Self-assertion in the expression of positive affect, Conversation and social confidence, Self-exposure to unknown people and new situations, and Self-control of aggressiveness. Carneiro, Falcone, Clark, Del Prette and Del Prette (2007) adapted SSI-Del-Prette by adjusting some wording and content of 15 items, replacing younger adult-specific contexts (for example, scholar settings) to others more common to elderly. This 38-item adapted instrument was named Social Skills Inventory for the Elderly (SSI-E).

Most of Brazilian studies on elderly social adopted the SSI-E (Braz, 2010; Braz, Del Prette, & Del Prette, 2011; Carneiro et al, 2007; Machado, Campos, & Rabelo, 2013), but there were also researchers that adopted the original structure of SSI-Del-Prette (Carneiro & Falcone, 2016; Lara, Miranda, & Silva, 2016; Ongaratto, Grazziotin, & Scortegagna, 2016) for elderly samples. Although there is substantial evidence of psychometric properties for adult samples, the SSI-Del-Prette factorial structure was not developed nor validated for elderly. Other studies (Braz, Del Prette, & Del Prette, 2011; Carneiro, 2007; Domenico-Grazziotin & Scortegagna, 2016;) assessed elderly with SSI-E but adopted the SSI-Del-Prette factorial structure, which was originally developed for a younger sample, because there was not a proper factorial structure for the SSI-E. One may find reasonable adopting an existing instrument as its factorial structure, but, on the other hand, this lack also meant a need of a specific factorial structure developed and validated for elderly sample.

The adaptation and validation of SSI-Del-Prette for a different age group was also the concern of Queluz, Barham, Del Prette, Fontaine and Oláz (2017) and Queluz, Barham, Del Prette and Santos (2018), who developed and validated a social skills inventory for elderly caregivers (IHS-CI) between 18 to 87 years of age. Contrary to their hypothesis of replicating the original factorial structure, they found a 3-factor structure comprising: Emotional expressiveness, Assertive communication and Information seeking. Although it was an unexpected result, it is consistent with findings reported in other instrument adaptations for elderly sample. For example, Furnham and Pendleton (1983) adapted the Gambrill Assertion Inventory (originally developed for college students) and found substantial differences for an elderly sample, as many of items from the original structure were excluded for the structure developed for the older sample. Additionally, Furnham and Pendleton (1983) hypothesized that the excluded items were either occasionally inappropriate or else neglected important areas of daily life for the elderly.

Both results may be due to the differences in contexts between generations, regarding, for example, diverse health conditions and social environments. According to Twining (1983), social skills deficits in elderly may be more related to ill-health and poverty than lack of self-confidence. This author also suggested that "it is frequently a breakdown in social interaction which precipitates admission to residential care and the failure of community care (p.9)". Twining (1983) compared elderly with younger generations and pointed different motivations for dating and contact with relatives.

Also, social skills deficits were associated with different aspects of mental health among elderly as depression (Scheufler et al., 2017), lower self-esteem (Segrin, 1994), a worse quality of life (Braz, Fontaine, & Del Prette, 2015). Hence, our aims were to develop an internal structure and to produce psychometric evidence of psychometric properties of the Social Skills Inventory for the Elderly (SSI-E).

METHOD

PARTICIPANTS

Participants (n = 616) were elderly between 60 and 94 years of age (*M* = 69.21; SD = 6.78) and 79.7% were female. Because women tend do live longer (Alves-Silva, Scorsolini-Comin & Santos, 2013; United Nations, 2019), we decided not to exclude any female participant. Regarding Social-economic level, it ranged from lower (14.3%) to higher (25%) stratum, with most of the sample from intermediate stratum (60.7%). Participants were mainly from Brazilian Southeastern and Southern regions. Inclusion criteria was being aged 60 or older. We used non-probabilistic convenience sampling procedures to recruit participants.

INSTRUMENTS

Social Skills Inventory for the Elderly (SSI-E) is a version of the Social Skills Inventory-SSI-Del Prette (Del Prette & A. Del Prette, 2001) recently with extended norms to 18 to 59 years old (Del Prette & Del Prette, 2018) with wording adaptation for population over 60 years (Carneiro et al., 2007). It consists of 38 self-report items, each one describing a specific situation which requires the use of a certain social skill involving interpersonal relationships. The respondent is asked to estimate the relative frequency with which he/she acts or reacts as suggested for each item, using a five-point Likert scale ranging from zero (*never or rarely*) to five (*always or almost always*).

We evaluated the social-economic level by means of the Economic Classification Criteria (Brazilian Criteria) (Associação Brasileira de Empresas de Pesquisa – ABEP, 2015), which is based on household appliances and educational level. It locates the respondent in one of five Social-economic Stratum: A = for higher income, B1, B2, C1, C2 = for intermediate income, and D and E for lower income.

PROCEDURE

We invited potential participants in: (a) seniors' groups, (b) the researchers' personal networks (to include middle-aged and elderly people), and (c) people suggested by other participants (using the snowball technique). We explained the aims of the research project and ethical protections for study participants (for example, anonymous and voluntary participation) before initiating data collection. Data was collected mainly in groups (75%), but there were cases in which participants were individually assessed. In both cases, the researcher was always present and followed a standardized list of instructions. All participants completed the ISI-BR and the Brazilian Criteria.

The study was approved by the Ethics Committee of the Federal University of Sao Carlos (Process number: 360/2010). Informed consent was obtained from all participants.

DATA ANALYSIS

We conducted an exploratory factor analysis (EFA), a confirmatory factor analysis (CFA), and internal consistency assessment. Prior to starting the analyses, we randomly split the data base into two parts: (a) Group 1 (G1): EFA, n = 312, and (b) Group 2 (G2): CFA, n = 304. There were no significant differences between G1 and G2 with respect to age, gender, educational level, socioeconomic status, and region of origin.

EFA. We used the principal axis factoring (PAF) method with a promax rotation. We used *IBM SPSS Statistics* (version 25) for the EFA.

CFA. Factor validity was determined based on a CFA of the previously established factor structure. The overall fit of the hypothesized model was evaluated based on Kline (2011) and Schweizer (2010), that recommended as reference values for an acceptable fit: ratio $\chi 2/df < 5$ (Arbuckle, 2008); Bentler Comparative Fit Index (CFI) > .90 (Hu & Bentler, 1999), Root Mean Square Error of Approximation (RMSEA) < .08 (Arbuckle, 2008) and Standardized Root Mean Square Residual (SRMR) < .10 (Hu & Bentler, 1999). We evaluated local fit based on standardized factor loadings (> .50) and the individual item reliability coefficients (> .25), which led to the confirmation of the factor validity of the model (Marôco, 2010). We used IBM Amos Graphics (version 25) for the CFA.

Internal consistency analysis. To examine reliability, we estimated composite reliability (CR) for each of the factors. Values above .70 were considered as being indicative of good construct reliability (Marôco, 2010).

RESULTS

EXPLORATORY FACTOR ANALYSIS

The factorability of the data was verified using the Kaiser-Meyer Olkin index (KMO = .752) and Bartlett's test of sphericity ($\chi 2$ (231) = 1155.510, $p < 0.001$). Items were submitted to a Promax rotation. We extracted factors with an eigenvalue value greater than 1, and items with commonalities and saturations greater than .30. The scree plot analysis indicated a four-factor solution. We carried out eight EFA, in each we excluded items that did not load in any factor or equally loaded more than one factor. Excluded items were: 01, 05, 09, 14, 17, 18, 21, 22, 23, 26, 27, 30, 32, 33, 34, 36, 38. The factor structure for the SSI-E that was established at the end of this process is presented in Table 1.

Table 1
Preliminary Factorial Structure for SSI-E (N = 312)

Item	Factor			
	1	2	3	4
28. Praising relatives	0.667			
10. Expressing positive feelings to relatives, friends, or colleagues	0.635			
29. Asking questions to known persons	0.595			
31. Greeting unknown persons	0.539			
03. Acknowledging a compliment	0.544			
06. Praising to someone	0.553			
35. Expressing positive feelings to friends	0.392			
25. Dealing with fair criticism	0.381			
16. Disagreeing with group		0.680		
15. Dealing with unfair criticism		0.542		
11. Disagreeing with an authority		0.519		
04. Interrupting someone else's speech		0.403		
27. Expressing displeasure to friends		0.393		
13. Reacting to a compliment			0.549	
08. Participating in a conversation			0.497	
24. Ending a telephone conversation			0.393	
19. Approaching authority			0.386	
37. Asking for favors to colleagues			0.376	
02. Asking a behavior change			0.371	
12. Approaching someone for sexual relation				0.725
20. Disclosing feeling of love				0.538
07. Self-introducing to someone else				0.443
Number of items	8	5	6	3
Eigenvalues	3.727	2.240	1.898	1.350
Percentage of explained common variance	16.941	10.183	8.627	6.136
Accumulated percentage of explained common variance	16.941	27.124	37.751	41.887

EVIDENCE OF VALIDITY BASED ON INTERNAL STRUCTURE

DISTRIBUTIONAL PROPERTIES OF THE SAMPLE DATA

Summary measures, skewness (sk), and kurtosis (ku) (Table 2) were used to judge the distributional properties of each item. In the context of a factor analysis, when the absolute value of asymmetry is greater than 3, this indicates severe asymmetry, and when the absolute value of kurtosis is greater than 7, this indicates severe kurtosis (Finney & DiStefano, 2013). All possible response values for each item were used by the participants. The items' distributional properties are indicative of an approximately normal distribution, as expected in the population under study.

Table 2
ISI items descriptive statistics (n = 616)

Item	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
02. Asking a behavior change	0	4	2.42	1.311	-0.487	-0.839
03. Acknowledging a compliment	0	4	3.31	1.085	-1.596	1.727
04. Interrupting someone else's speech	0	4	1.58	1.410	0.434	-1.092
06. Praising to someone	0	4	3.07	1.197	-1.193	0.423
07. Self-introducing to someone else	0	4	1.64	1.516	0.380	-1.319
08. Participating in a conversation	0	4	2.72	1.373	-0.734	-0.723
10. Expressing positive feelings to relatives, friends or colleagues	0	4	3.13	1.169	-1.183	0.356
11. Disagreeing with an authority	0	4	1.72	1.450	0.311	-1.233
12. Approaching someone for sexual relation	0	4	0.65	1.160	1.745	1.898
13. Reacting to a compliment	0	4	2.47	1.450	-0.468	-1.141
15. Dealing with unfair criticism	0	4	2.25	1.534	-0.151	-1.512
16. Disagreeing with group	0	4	1.97	1.507	0.127	-1.428
19. Approaching authority	0	4	2.14	1.508	-0.159	-1.422
20. Disclosing feeling of love	0	4	1.79	1.624	0.227	-1.553
24. Ending a telephone conversation	0	4	2.34	1.503	-0.331	-1.321
25. Dealing with fair criticism	0	4	2.74	1.324	-0.716	-0.711
27. Expressing displeasure to friends	0	4	2.12	1.507	-0.088	-1.426
28. Praising relatives	0	4	3.56	0.947	-2.379	5.004
29. Asking questions to known persons	0	4	3.32	1.166	-1.644	1.548
31. Greeting unknown persons	0	4	3.30	1.099	-1.509	1.287
35. Expressing positive feelings to friends	0	4	2.99	1.399	-1.111	-0.203
37. Asking for favors to colleagues	0	4	2.62	1.317	-0.596	-0.788

FACTOR RELATED VALIDITY EVIDENCE

Multivariate outliers were detected based on the Mahalanobis distance measure (D2) (p1 and p2 < 0.001), as recommended by Marôco (2010). Finally, the existence of multicollinearity was analyzed based on the inter-item correlation tables, as values greater than .90 indicate probable suppressor variable problems (Marôco, 2010). It was specified that each item of the SSI-E belonged to a single factor, without cross saturation (according to the CFA), and that measurement errors were not correlated. Correlations between the five factors were freely estimated.

Because the first CFA did not meet the criteria for both global fit: Bentler Comparative Fit Index (CFI) = .874), we conducted other three CFAs. In each CFA, we exclude one item according to its local fit value. After these CFAs, two items (35, 27) were deleted. The 4-factor model had an acceptable fit with the data (Figure 1): $\chi 2/df$ = 1.406, the Bentler Comparative Fit Index (CFI) = .912; Root Mean Square Error of Approximation (RMSEA) =.037 and Standardized Root Mean Square Residual (SRMR*)* = .0563. We prioritized theoretical fit, therefore no changes were made to the model specification. All estimated parameters remained statistically significant ($p < .001$). With respect to local fit, standardized factor loadings were all above .50, and coefficients for the reliability of the items were all above .25. There were also six items (2, 4, 6, 7, 19, 20, 24) with values lower but closer to 0.50 or 0.25, respectively. Despite this, we decided to keep them because of their theoretical relevance for the model. Also, removing these items would worsen the model fit and the internal consistence. These local fit values are indicators of a good fit and, consequently, support the factor validity of the model (Marôco, 2010). Additionally, the correlations between the factors were moderate, indicating that a significant part of score variance is shared among the factors.

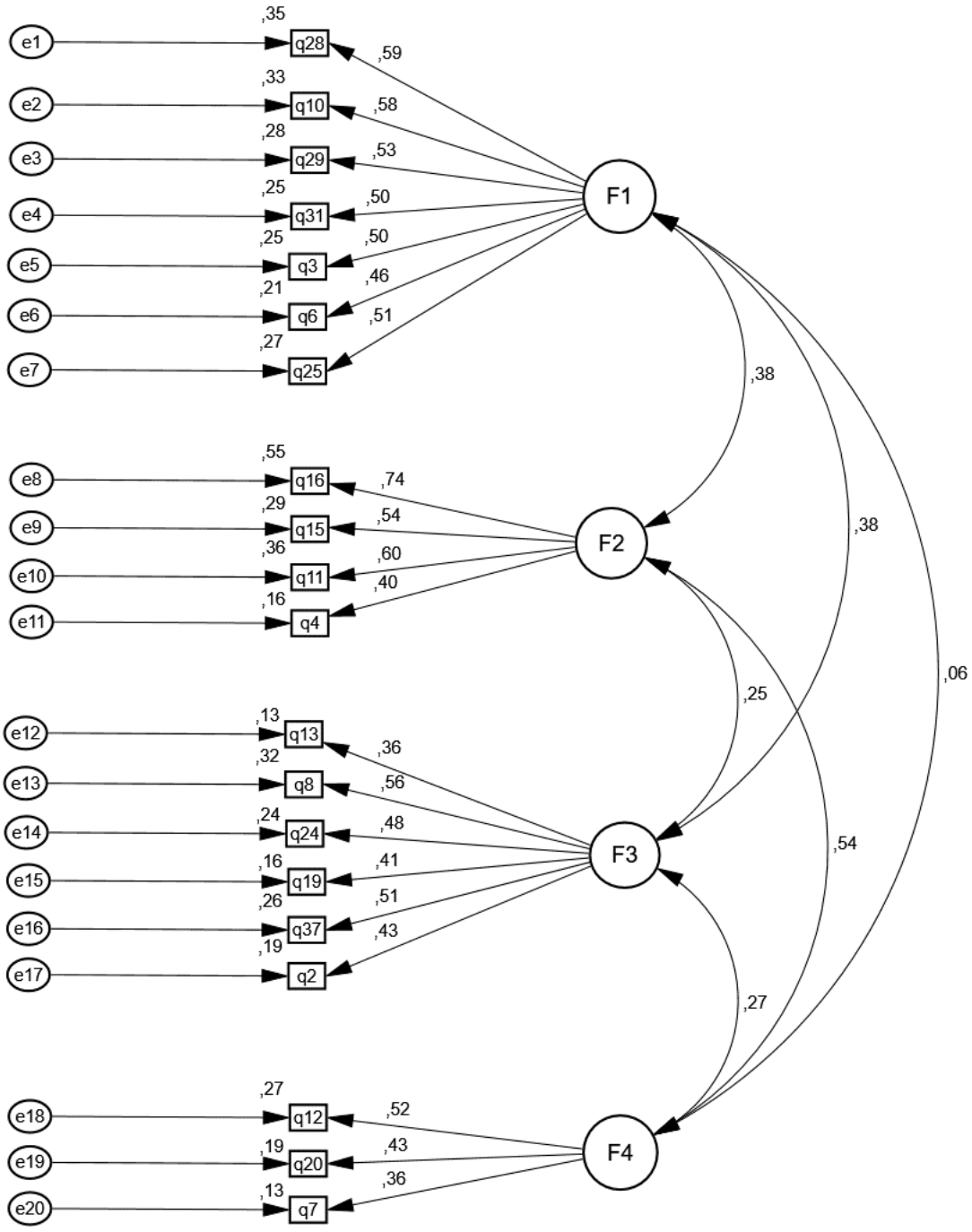

Figure 1
Confirmatory Factor Analysis of the 4-Factor-SSI-E (N = 304). Correlations between latent variables, and factor loadings for each item are shown.

EVIDENCE OF INTERNAL CONSISTENCY

For the factors, composite reliability values ranged between .70 and .80. We considered values close to or higher than 0.70 as an evidence of internal consistency and scores reliability. The correlations between the factors and the composite reliability for the four factors are presented in Table 3.

Table 3
Correlations and Composite Reliability (CR)

Factor	F1	F2	F3	F4	CR
F1 – Emotional expressiveness					0.80
F2 – Assertiveness	0.375				0.77
F3 – Conversation and social resourcefulness	0.377	0.247			0.70
F4 – Affective-sexual approach	0.060	0.539	0. 267		0.70

DISCUSSION

In previous studies, researchers have documented the empirical evidence regarding social skills evaluation in childhood, adolescence, and early adulthood. However, in Brazil, there are no published studies examining evidence of the psychometric properties of instruments for measuring social skills in elderly samples. In this study, we evaluated the psychometrics properties of an instrument specifically designed for the social skills assessment of the Brazilian elderly. We used EFA, CFA and reliability measures to select items and evaluate the construct-validity of this instrument.

We obtained a 20-item structure with four factors. Factor 1, *Emotional Expressiveness ("Expressividade Emocional", in Portuguese)*, includes seven items related to social skill class of expressing both positive and negative feelings to different persons as relatives, friends, colleagues, and unknown persons. It also comprises social skills of praising, asking questions, greeting, and acknowledging a received compliment.

The second factor is *Assertiveness ("Assertividade")* with four items related to coping and self-affirmation behaviors with a potential risk of negative reaction by the interlocutor: disagreeing in a group situation, disagreeing with authority, interrupting someone else's speech and dealing with unfair criticism. Comparing to the original SSI-Del-Prette structure, in SSI-E one item (dealing with unfair criticism) that formerly loaded in the self-control factor and in the SSI-E structure loaded in the Assertive Factor. Both possibilities are theoretically possible because self-control is often a social skill associated with assertive social skills.

Factor 3 - *Conversation and social resourcefulness ("Conversação e desenvoltura social")* includes six items regarding communication social skills, particularly conversation. The items directly address diverse aspects of a conversation (beginning, maintaining and/or ending a conversation) with known or unknown persons. For social resourcefulness, we considered items that refer conversational skills applied to specific situations such as: asking favors, approaching authority, asking a behavior change, and interrupting a telephone conversation. This finding is in accordance with

Furnham and Pendleton (1983), who suggested that social skills as initiating conversations and complimenting friends were reported by the elderly as those with "greater comfort in doing" (p. 35).

Factor 4, *Affective-sexual approach ("Abordagem afetivo-sexual")* includes three items regarding an approach of a (potential) affective partner, with or without sexual interest. Items that loaded in this factor 4 refer to disclosing love and affect, approaching to whom he or she is sexually attracted. Considering other studies on elderly social skills (Furnham & Pendleton, 1983; Twining, 1983), this factor was somewhat unexpected because these social skills were not found in the previous studies.

We compared our structure (SSI-E) with the original structure for younger adults (SSI-Del-Prette). Regarding to items, there are 17 items in common, while 12 items (1, 5, 9, 14, 17, 18, 21, 22, 26, 30, 36, 38) loaded in the SSI-Del-Prette but not in SSI-E and three items (2, 4, 25) only loaded in SSI-E. Also, there are four items (27, 32, 33, 34) from the original 38 set that did not load in SSI-Del-Prette neither in SSI-E.

In two factors of the SSI-E: Factor 2 - *Assertiveness* (items 11, 15, 16) and Factor 4 – *Affective-sexual approach* (items 7, 12, 20) there were items that originally loaded in Factor 1 (*Coping and self-affirmation with risk*) of the SSI-Del-Prette. Also, in the second Factor 2 of the SSI-E there is one item (4) that did not load in the original version. It seems that for the elderly these factors comprise two different interpersonal contexts: one, more related to formal or generic situations (Factor 2) and the other, more related to close relations (Factor 4). Although this result was unexpected, it is theoretically consistent with the Social Skills Model, particularly for the situational nature of social skills (Del Prette & Del Prette, 2017).

Other SSI-E Factors (Factors 1 and 3) were partially similar to factors from the younger sample (SSI-Del-Prette) but they also comprised items from other factors as well as items that did not load in the original structure. Regarding the Factor 1 of SSI-E, Emotional expressiveness, four items (3, 6, 10, 28) remained from Factor 2 of SSI-Del-Prette, Conversation and social confidence, one item (29) originally loaded in Factor 3 of SSI-Del-Prette, Conversation and social confidence, other (item 31) loaded in Factor 5 of SSI-Del-Prette, Self-control of aggressiveness and one (item 25) did not load in SSI-Del-Prette. The same was observed in Factor 3 from SSI-E, Conversation and social resourcefulness, which maintained four items (13, 19, 24, 37) loaded in the original Factor 3 of SSI-Del-Prette, while item 8 was in Factor 2 of SSI-Del-Prette and one (item 2) did not load in SSI-Del-Prette.

This difference between structures was partially expected, based on the evidence recently produced by Queluz et al. (2017) when developing an adaptation of the SSI - Del-Prette for a different sample. According to these authors, most of items were originally selected for assessment of younger samples (often university students), therefore being inappropriate or neglecting important areas of daily life for the elderly.

Given the fact that our sample was somewhat closer to the sample from Queluz et al. (2017), we also compared our structure with the 24-item-structure obtained for their instrument for elderly caregivers (IHS-CI). We obtained a structure similar to the original version of the IHS-CI, with some exceptions that may be attributed to either cultural or generational differences, or both. In the two structures, there are two social skills classes in common: emotional expressiveness and assertive skills, tough with some differences in the items that each factor includes. Both in our adaptation and in Queluz et al. (2017), based on the same instrument (SSI-Del-Prette) these differences in structures provide substantial evidence of the methodological and psychometric risks of

adopting a structure - originally obtained in a specific age sample – to a different age sample. Also, these two findings are in accordance with Furnham and Pendleton, (1983) in the adaptation of the Gambrill Assertiveness Inventory.

Differently from what was observed in the original structure, in which items related to the social skills from work or academic contexts were highly frequent, for the elderly other interpersonal contexts as family, marital and friendship were more frequent, as well as contexts in which the social skills of expression of feeling, conversation and social enterprise are highly valued and required. Considering these specific contexts, Hargie, Saunders, and Dickson (1994) argued that there is a tendency to evaluate coping social skills as easier. Still according to these authors, as people age, they may feel more confident in, for example, performing assertive social skills as they have been exposed to a greater variety of interpersonal tasks throughout their lives and thus have accumulated more experience in the practice of assertiveness.

The social skills classes obtained in this factorial structure reflect the social skills classes (empathy, emotional expressiveness, assertiveness) suggested by Braz et al. (2015) as necessary to strengthen intergenerational quality of life among the elderly. Considering the importance of the interpersonal relationships for mental health (Santos & Souza, 2015), and more specifically social skills among the elderly, the present 20-item SSI-E allows a reliable and parsimonious application, requiring the shortest possible time to precisely evaluate the social skills repertoire of elderly in different social contexts, and with diverse interlocutors.

CONCLUSION

We carried out exploratory factor analysis (EFA), a confirmatory factor analysis (CFA), and internal consistency assessment. We encountered sufficient evidence of reliability and validity to support the use of a 4-factor-SSI-E.

Nevertheless, this study has some limitations. First, samples were dependent on voluntary participation, which can elicit some bias. Second, our women corresponded to 79.7% of the sample. Though women outnumbered men, we decided to keep this difference because of the gender gap in longevity, which is largest in Latin America and the Caribbean (United Nations, 2019). Despite this, further studies could broaden the male samples for a more representative samples, thus contributing to a better understanding of the specificities of male aging and health aspects (Santos & Souza, 2015). Considering evidence of gender differences regarding social skills repertoire (Furnham & Pendleton, 1983; Twining, 1983) in elderly samples from other countries, it is possible that this difference may also occur in Brazilian sample. Due to the importance of the discussion of gender in the aging process (Alves-Silva, Scorsolini-Comin, & Santos, 2013), we recommend further studies to explore gender differences.

Moreover, our sample was composed by healthy elderly. According to Lowenstein and Daatland (2006), we need further research on parents with more intense personal care and support needs, for instance those with neurodegenerative conditions, and chronical and/or severe health conditions. Finally, sample was from Brazilian Southeastern and South regions, which are the most developed regions. Further research should consider this diversity and evaluate social skills of elderly samples from different regions.

The Social Skills Inventory for the Elderly fills a gap in psychological and gerontological evaluation, with implications for research, professional practice and, in the future, for aging public policies. For research, this instrument may be a tool for identifying correlates of both problematic and health ageing, evaluating gender differences, conducting longitudinal designs, as well as monitoring (un)successful aging processes. This study also contributes for the psychological assessment of the elderly because we summarized the evidence supporting the adaptation and provided information on validity and reliability.

Because skills are related to psychological problems among the elderly (Segrin, 1994), an available instrument may help evaluating, planning, and conducting interventions that promote mental health. Evidence on social skills repertoire gathered through a reliable assessment tool may also contribute to the training and performance of professionals that assist families, particularly elderly people, to promote quality of life. Still regarding implications for practice, as SSI-E is a brief instrument may be used: (a) to plan interventions, (b) to assess participants (pre and post interventions), (c) to choose experimental designs, (d) to design sessions that meet social skills repertoire and deficits of the participants, (e) to evaluate the effectiveness of the intervention, (f) to promote generalization and social validity of the programs. For already existing intervention programs, this instrument may help professionals to better understand the conditions of care they offer to the elderly and their families.

In a broader sense, this study may also contribute to the formulation of public policies directed to protect mental health among the elderly, population with increased vulnerability and in high risk of serious physical injuries, and long-term psychological consequences (World Health Organization - WHO, 2017).

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