Paideia
may-aug. 2014, Vol. 24, No. 58, 223-232. doi: 10.1590/1982-43272458201410

Article

The Role of Social Skills in Social Anxiety of University Students[1]

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Abstract: Social anxiety is one of the most frequent mental health problems and there is no consensus regarding the relation between social skills and anxiety. This study aimed to compare the behavioral indicators of social skills presented by university students with social anxiety in relation to a non-clinical group, and to verify the predictive value of the social skills for social anxiety. Participants were 288 university students, 144 with Anxiety Disorder and 144 non-clinical. Social skills were assessed using the QHC-University (Social Skills, Behaviors and Context Assessment Questionnaire for University Students) and the IHS-Del-Prette instruments. Mental health indicators were assessed through screening and diagnostic instruments. Through univariate and multivariate analysis an association was found between social skills and anxiety, highlighting public speaking, potential, difficulties, and the total social skills score as predictors of social anxiety, which contributes to demonstrating the role the resources and difficulties play in this.

Keywords: social skills, university students, mental health, anxiety, prevention

O Papel das Habilidades Sociais na Ansiedade Social em Estudantes Universitários

Resumo: A ansiedade social é um dos problemas mais frequentes de saúde mental, não havendo consenso quanto à relação entre habilidades sociais e ansiedade. Objetivou-se comparar os indicadores comportamentais de habilidades sociais apresentados por universitários com ansiedade social em relação a um grupo não clínico e verificar o valor preditivo das habilidades sociais para a ansiedade social. Participaram do estudo 288 estudantes universitários, 144 com Transtorno de Ansiedade e 144 não clínicos. Procedeu-se à avaliação das habilidades sociais pelos instrumentos Questionário de Avaliação de Habilidades Sociais, Comportamentos e Contextos para Universitários-QHC e IHS-Del-Prette. Os indicadores de saúde mental foram avaliados por instrumentos de rastreamento e diagnóstico. Por meio de análises multivariadas constatou-se associação entre habilidades sociais e ansiedade, destacando-se o falar em público, potencialidades, dificuldades e escore total de habilidades sociais como preditores de ansiedade social, o que contribuiu para evidenciar os recursos e as dificuldades que contribuem para tal.

Palavras-chaves: habilidades sociais, estudantes universitários, saúde mental, ansiedade, prevenção

El Papel de las Habilidades Sociales en la Ansiedad Social en Estudiantes Universitarios

Resumen: Ansiedad social es uno de los problemas más frecuentes de salud mental, sin consenso respecto a la relación entre habilidades sociales y ansiedad. La finalidad fue comparar los indicadores de comportamiento de habilidades sociales presentados por académicos con ansiedad social con relación a un grupo no clínico y verificar el valor predictivo de las habilidades sociales para la ansiedad social. Los participantes fueron 288 estudiantes universitarios, 144 con trastorno de ansiedad y 144 no clínicos. Fueron evaluados las habilidades sociales mediante los instrumentos Cuestionario de Evaluación de Habilidades Sociales, Comportamientos y Contextos para Académicos-QHS y el IHS-Del-Prette. Los indicadores de salud mental se evaluaron mediante encuestas de tamizaje y diagnóstico. A través de análisis multivariados, se encontró una asociación entre las habilidades sociales y la ansiedad, detectándose el hablar en público, potencialidades, dificultades y la puntuación total de las habilidades sociales como predictores de ansiedad social, lo que contribuyó para poner de relieve las características y dificultades que contribuyen a esto.

Palabras clave: habilidades sociales, estudiantes universitarios, salud mental, ansiedad, prevención

The transition to higher education, although involving acquisitions relevant to the professional and personal roles of the young adult, implies changing the social support network for most young students, given the possible distance from the family and previous circle of interpersonal relationships (Osse & Costa, 2011). Young people in this context face many academic and personal challenges, and the presence of emotional distress may aggravate the adaptive process, which justifies the preventive assessment of such characteristics. Valverde, Vitalle, Sampaio, and Schoen (2012), studying a sample of 320 adolescents, reported that the main problems identified were anxiety and depression, with social problems being associated with the onset of adolescence. Furthermore, life events such as the entrance examination may increase anxiety, as was reported by Soares and Martins (2010) when studying a sample of 124 students. Such studies demonstrate

[1] Support: São Paulo Research Foundation (FAPESP - Process n. 2011/11776-4) and the National Council for Scientific and Technological Development (CNPq).

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that anxiety and problems in social interactions can arise even before entering the university, however, it seems that this can aggravate these manifestations, considering the new developmental tasks of the young adult and the challenges present in university life.

Recent studies have indicated that coping with the challenges of this period, by the university students, contrasts with the presence of high rates of mental health problem indicators in this population (Bolsoni-Silva, 2011; Monteiro, Tavares, & Pereira, 2008; Ribeiro & Bolsoni-Silva, 2011), especially of depression and anxiety compared to the general population (Osada, Rojas, Rosales, & Vega-Dienstmaier, 2010). It is necessary to take into account that the first symptoms of various mental disorders, such as social anxiety disorder, are manifested in this period of life (American Psychiatric Association [APA], 2000).

Social Anxiety Disorder (SAD), or social phobia, is considered a serious mental health problem due to its high prevalence and the resulting impairments in performance and social interactions (Angélico, Crippa, & Loureiro, 2006). Based on a large sample of Brazilian university students, of both genders, aged 18 to 35 years, Baptista et al. (2011) identified a social anxiety prevalence of 11.6%.

According to the Diagnostic and Statistical Manual of Mental Disorders - DSM-IV (APA, 2000), social anxiety disorder is characterized by a marked, persistent and irrational fear of situations in which the individual fears that he or she will act in a way that will be embarrassing and humiliating. The interaction situations feared and generally avoided by individuals with SAD include talking on the phone, talking to strangers, attending parties and social gatherings, interacting in a loving relationship, dealing with authority figures, maintaining eye contact with unfamiliar people, and returning defective merchandise to a shop. The performance situations feared are eating, drinking, writing and playing an instrument in front of others, public speaking, using public toilets, and entering a room where there are already people sitting. Public speaking is considered the most prevalent social fear (Furmark, 2000).

In the clinical manifestations of social anxiety the relevance of social skills is increasingly evidenced, with the measures of this repertoire forming an important element in the clinical assessment of this disorder. It is considered that social skills deficits impair social functioning and the adaptive capacity of the individual, with implications and impairments in performance and social interactions (Angélico et al., 2006). Social skills can be defined as different classes of social behaviors existing in the repertoire of an individual to adequately cope with the demands of interpersonal situations (A. Del Prette & Del Prette, 2001).

Anxiety and depression are the most prevalent disorders in the population and, in general, cause many impairments for people and public health (Dozois & Westra, 2004). According to the authors cited, anxiety disorders occur prior to depressive disorders and, if not treated, can be maintained through the different stages of development, in a chronic way, with over 80% of cases having frequent relapses.

Angélico et al. (2006), from a literature review, identified a relationship between social skills deficits and a diagnosis of social phobia. However, they warned that further studies needed to be conducted with clinical and non-clinical samples using precise diagnostic criteria, in order to support the association between social skills and social phobia. Conversely, Levitan, Rangé, and Nardi (2008), also based on a literature review, reported that only some of the studies reviewed found that social skills deficits were related to social anxiety and indicated gaps in the knowledge related to social skills.

Specifically regarding university undergraduate students of the Federal University of Rio Grande do Norte, of three major areas of knowledge (biomedical, humanistic and technological), Ferreira, Chatzisarantis, Gaspar, and Campos (2007) assessed trait anxiety and state anxiety, using the State-Trait Anxiety Inventory (STAI). They verified that the means of trait anxiety and state anxiety of these students were within those expected for this population and evidenced that the biomedical area was the one perceived as most anxiogenic.

The relationship between social anxiety, social skills and academic performance of university students was studied by Strahan (2003), and the university students clinical for social anxiety presented deficits in verbal ability to express themselves socially, in the adequate interpretation of verbal communication of others, and in the ability to present themselves and perform roles. Conversely, other studies found that faced with social interactions the skills of self-control, self-regulation and monitoring of one's own behavior, were indicative of academic competence (Veenman, Wilhelm, & Beishuizen, 2004) and mental health (Ciarrochi, Deane, & Anderson, 2002).

In the case of the university students, the importance of the repertoire of coping with risk situations, such as violence, alcohol/drug use, and unprotected sexual behavior, has been reported (Minayo & Schenker, 2005), as well as the ability to deal with pressure from groups and to refuse harmful invitations (Silva & Murta, 2009). There is also evidence that women are more skilled than men (Baker, Pierre, Del Prette, & Del Prette, 2004; Z. A. P. Del Prette et al., 2004), especially regarding interactions involving more intimacy, such as those involving partners and family members (Bolsoni-Silva, Loureiro, Rosa, & Oliveira, 2010).

The study of social anxiety and of the possible predictor variables of this condition has an important potential contribution due to the high comorbidity of anxiety with other disorders (Dozois & Westra, 2004), the presence of impairments in emotional, social and school functioning (Isolan, Pheula, & Manfro, 2007), and its associations with stress (Fernandes & Terra, 2008). Additionally, as stated by Iancu and Goldstein (2009) in relation to social anxiety, there is a vicious circle, because social isolation in general reduces social interactions, which in turn, increases deficits

in the appropriate social skills, increasing social anxiety and feelings of inferiority.

From this perspective, it is considered that to map social skills in university students and their relationship with anxiety disorders is relevant for preventive (World Health Organization [WHO], 2004) and evidence-based Psychology (APA, 2006), as well as contributes to responding to gaps in the knowledge regarding the association of these two variables (Angélico et al., 2006; Levitan et al., 2008). Thus, the aim of this study was to compare the behavioral indicators of social skills presented by university students with social anxiety in relation to a non-clinical group, and to verify the predictive value of social skills for social anxiety

Method

Participants

The study participants were 288 undergraduate university students from different courses in the fields of exact, human and biological sciences, of a public university, distributed throughout all the course years. Of these, 144 participants (64 men and 80 women) were considered clinical for Anxiety Disorder and were matched by gender to 144 students considered non-clinical, based on a systematic assessment using a screening instrument (Mini SPIN) and the Structured Clinical Interview for DSM Disorders (SCID). From a sample of 1437 university students, the Anxiety Disorders clinical group was selected using the presence of anxiety symptoms according to the screening instrument, and/or the clinical interview for diagnostic confirmation, as the inclusion criterion. The non-clinical group was constituted from a total of 413 students who met the inclusion criteria for the absence of anxiety indicators according to the screening instrument and indicators of any psychiatric disorder in the diagnostic interview. From this group 144 participants were selected, matched to the characteristics of the clinical group with regards to the type of course and gender.

Instruments

The *Behaviors and Contexts Assessment Questionnaire for University Students*-QHC-University (Bolsoni-Silva, 2011), was used to assess social skills. This is a questionnaire that consists of questions that refer to the frequency and the way the participants behave with respect to their parents, friends, and partner, among others, as well as the contexts in which the behaviors occur, how the interlocutors react to their behaviors and the feelings of the students on these occasions. The instrument consists of the following topics: (a) Communication, (b) Expressiveness (positive feelings, and negative opinions), (c) Criticism (giving and receiving criticism), (d) Public speaking (speaking to known and unknown people, frequency and difficulty in presenting seminars), and (e) Additional information (if the person wished to add something that was not covered in the questionnaire). The instrument was constructed using Behavior Analysis as the theoretical framework, seeking to describe associated situations, actions, consequences and feelings. All the items that comprise it are discriminatory for mental health, originating from screening and diagnostic instruments (BDI, Mini-Spin and SCID). The instrument is divided into two parts. The first part corresponds to the frequency at which the assessed behaviors appear, which is organized into three factors: Factor 1 - Communication and affection (Conversation, Positive Feelings, Opinions), Factor 2 - Coping (Negative Feelings, Giving and Receiving Criticism), and Factor 3 - Public Speaking (Public Speaking and Presenting Seminars). The second part assesses characteristics of these behaviors, in which the items have two factors, named Potential and Difficulties. The study of the psychometric properties indicated good construct, concurrent, and discriminant validity, and good reliability (Bolsoni-Silva, 2011) and provides clinical and non-clinical ratings (regarding anxiety) for the three factors of Part 1 and the two factors of Part 2. The test was approved by the Federal Council of Psychology in 2013.

The *Social Skills Inventory* - IHS-Del-Prette (Z. A. P. Del Prette & Del Prette, 2001), was used to assess social skills. This is a self-reported instrument consisting of 38 items, which aims to assess situational and behavioral dimensions of the social skills. These items are grouped into five broad factors: Factor 1 - Coping and self-confidence with risk, Factor 2 - Self-confidence in the expression of positive feelings, Factor 3 - Conversation and social resourcefulness, Factor 4 - Self-exposure to strangers and new situations, and Factor 5 - Self-control of aggressivity. The IHS-Del-Prette presented adequate psychometric qualities of concurrent validity and of its reliability or temporal stability.

The *Reduced version of the Social Phobia Inventory - Mini SPIN* (Connor, Kobak, Churchill, Katzelnick, & Davidson, 2000), was used to screen for social anxiety, included as a measure of mental health. This instrument consists of three of the 17 items of the original *Social Phobia Inventory* (SPIN) instrument, with a Likert type five-point response scale, ranging from *not at all* to *extremely*. It includes items 6, 9 and 15 (6 - 'I avoid doing things or speaking to people for fear of embarrassment', 9 - 'I avoid activities in which I am the center of attention, and 15 - being embarrassed or looking stupid are among my worst fears'), as, in the empirical study, these were shown to be the most discriminative for people with social anxiety disorder. The original study, using a cutoff point of 6, presented excellent indicators of sensitivity (88.7%) and specificity (90%). In Brazil, the instrument was translated and adapted by Osório (2008), maintaining satisfactory psychometric qualities: reliability by Cronbach's alpha of. 73 and discriminant validity indicators in the comparison with the SCID, with the area under the curve of .81 ($p <$ .01), with a confidence interval of 95%.

Structured Clinical Interview for the DSM-IV (SCID-I - clinical version), proposed by First, Spitzer, Gibon, and Williams (1997), and translated and adapted to Portuguese by Del-Ben et al. (2001). This instrument was included in the study because it is considered a mental health measure that allows the diagnostic classification by disorder, as well as the classification of the absence of a psychiatric disorder, being a diagnostic instrument that is considered the gold standard in clinical studies for the formulation of psychiatric clinical diagnoses based on the DSM-IV. It consists of a total of ten modules, which can be applied independently or in combination, consistent with the aims of the assessment. According to Del-Bem et al., the Portuguese version of the SCID had satisfactory psychometric qualities.

Procedure

Data collection. The data collection was collective and occurred after authorization from the Course Coordinators and the respective professors. They were contacted previously in the classrooms, where they were offered clarification regarding the study aims, and the date for the application of the instruments was scheduled. Those who agreed to participate in the study signed the Terms of Free Prior Informed Consent and received a letter explaining the aims of the project, and a notebook containing instructions regarding the application of the previously described instruments, with the exception of the SCID, which was conducted later by telephone. A research assistant remained in the classroom during application, to provide clarification of any doubts that arose.

Data analysis. The clinical (anxious) and non-clinical groups (not anxious) were compared statistically (Student's *t*-test) with regard to the numeric variables provided by the two social skills instruments (QHC-University and IHS-Del-Prette). The variables of the two social skills instruments of that allowed, through their scores, the subjects to be categorized into clinical and non-clinical, were compared using the chi-square test. For each group, the associations between the behavioral difficulties, social skills, consequences and associated feelings variables were verified through Pearson's correlations analyzes.

In order to verify the relevance of the social skills measures in the social anxiety construct (clinical group x non-clinical group), Multivariate Binary Logistic regression analysis was conducted, including, in the initial model, only the factors of the QHC-University and IHS-Del-Prette that discriminated the clinical group from the non-clinical group after the univariate analyzes of the chi-square test. The analyses were conducted with Factor 3, Potential and Difficulties, of the QHC-University, and with the Total Score of the IHS-Del-Prette, all categorical variables, due to discriminating the groups and also because they are variables that encompass the other variables in which the groups were differentiated, by means of Student's *t* test, thereby preventing multicollinearity.

Ethical Considerations

The study is part of a broader project that provides assessment and intervention for university students, entitled *Analysis of the social skills of university student groups*, which was approved by the Research Ethics Committee of the Universidade Estadual Paulista "Júlio de Mesquita Filho" (Protocol No. 1315/46/01/07).

Results

The results section presents the comparisons between the clinical and non-clinical for anxiety groups regarding the broad categories of the QHC-University and IHS-Del-Prette (Table 1) and the subcategories of the QHC-University (Table 2). Table 3 presents the correlations between behaviors, consequences and feelings. Table 4 presents the results of the chi-square test for the categorical social skills categories. Table 5 presents the results of the logistic regression for the factors of the QCC-University and IHS-Del-Prette considering being clinical or not for Anxiety Disorder as the dependent variable.

From Table 1 it was verified that, of the frequency categories of the QHC-University-Part 1, only *presenting seminars* and the corresponding factor 3 *public speaking* presented higher means for the non-clinical group when compared to the clinical group. Regarding the QHC-University-Part 2, which investigates characteristics of the behaviors, it was verified that the groups were differentiated in six of the nine defined categories. As expected, the clinical group had higher means in: *Unskilled behavior, Negative consequences, Negative feelings,* and *Difficulties*. Conversely, the non-clinical group had higher means in: *Positive feeling* and *Potential*. It should be noted that *Skilled behavior* and *Positive consequence* did not differentiate the groups. Additionally, all the factors of IHS-Del-Prette also differentiated the groups, with the highest means for the non-clinical group.

As described in the Method section, the QHC-University - Part 2 investigates, for each of the social skills behaviors, the situations in which they occur, the actions of the participant (skilled and unskilled behaviors), the actions of the interlocutors (positive consequences, negative consequences), and feelings of the university student (positive feelings and negative feelings). Table 2 presents the results of the comparisons between the clinical and non-clinical groups that were significant.

The results presented in Table 2, show that the clinical for anxiety group presented more difficulties, as expected. Accordingly, the clinical group presented higher means in *situations* (presenting seminars), *unskilled behavior* (presenting seminars and public speaking), *negative consequence* (expressing positive feelings, expressing negative feelings, and expressing an opinion) and *negative feelings* (conversation, expressing positive feelings, expressing negative feelings, expressing opinions, receiving criticism, presenting seminars, and public speaking).

Table 1
Categories of the QHC-University and IHS-Del-Prette in the Comparison Between Clinical and Non-Clinical for Anxiety Groups

Categories of the QHC-University	Clinical	Non-clinical		
	M (SD)		*t*	*p*
QHC-University - Behavior frequencies - Part 1				
Conversation	7.38 (1.99)	7.28 (1.73)	0.442	.659
Expressing positive feelings	6.39 (2.48)	6.45 (2.27)	-0.223	.824
Expressing negative feelings	2.90 (2.23)	3.14 (2.42)	-0.886	.376
Expressing opinions	6.36 (2.43)	6.43 (2.42)	-0.243	.808
Giving criticism	0.93 (0.85)	0.90 (0.93)	0.265	.791
Receiving criticism	3.19 (1.93)	3.19 (1.99)	0.030	.976
Public Speaking	2.32 (1.11)	2.47 (1.16)	-1.089	.277
Presenting seminars	1.65 (1.11)	2.34 (1.12)	-5.287**	.000
QHC-University - Behavior characteristics - Part 2				
Situations/issues	22.53 (8.02)	22.20 (8.08)	0.344	.731
Skilled behavior	15.24 (5.37)	15.94 (4.81)	-1.168	.244
Unskilled behavior	6.97 (3.78)	5.10 (3.57)	4.296**	.000
Positive consequences	24.52 (6.97)	25.86 (6.72)	-1.661	.098
Negative consequences	3.33 (3.03)	1.97 (2.10)	4.430**	.000
Positive feelings	26.72 (13.69)	34.84 (16.12)	-4.605**	.000
Negative feelings	19.33 (14.89)	11.49 (9.84)	5.266**	.000
IHS-Del-Prette				
Factor 1	19.35 (7.98)	23.56 (6.98)	-4.764**	.000
Factor 2	18.89 (5.08)	21.11 (4.12)	-4.079**	.000
Factor 3	17.64 (4.47)	18.99 (3.85)	-2.738**	.007
Factor 4	8.90 (3.20)	10.38 (3.20)	-3.940**	.000
Factor 5	7.71 (2.23)	8.48 (2.23)	-2.938**	.004

Note. **Correlation significant at .01.

In the opposite direction, the non-clinical group had higher means in *skilled behavior* (presenting seminars), *positive consequences* (expressing negative feelings, presenting seminars, and public speaking) and *positive feelings* (conversation, expressing positive feelings, expressing opinions, receiving criticism, presenting seminars, and public speaking).

The results of the correlation analyses showed the common associations between the clinical and non-clinical groups and some that differentiated the groups. The variables that were positively correlated in both groups were: (a) Factor 1 - Communication and affection with positive consequences and positive feelings; (b) Factor 2 - Coping with positive consequences; (c) Skilled behavior with positive consequences, positive feelings and negative feelings; and (d) unskilled behavior with negative consequences and negative feelings.

The clinical group presented several positive correlations in addition to those previously mentioned: (a) Factor 2 - Coping with negative consequences, positive feelings and negative feelings; (b) Factor 1, Factor 2, and Factor 5 - IHS-Del-Prette with positive consequences and positive feelings; and (c) Factor 3 - IHS-Del-Prette with positive feelings. Only Factor 4 - IHS-Del-Prette was negatively correlated with negative consequences.

In the non-clinical group only three additional correlations were identified: (a) unskilled behavior positively associated with positive consequences, (b) Factor 1 - IHS-Del-Prette negatively correlated with negative feelings, and (c) Factor 3 - IHS-Del-Prette positively correlated with positive consequences. According to the chi-square analysis, described in Table 4, the assessed variables which discriminated the clinical group (anxious) from the non-clinical group (not anxious) were Public Speaking, Potential, Difficulties, and the Total Score of the IHS-Del-Prette.

According to Table 5, all the social skills indicators that entered into the initial model for anxiety are significant for Anxiety Disorders, these being: Public Speaking, Potential, Difficulties, and the Total Score of the IHS-Del-Prette.

Discussion

Studies with university students have their main justification in the developmental moment of the students, which characterizes the transition to young adult, in which demands are made for which they do not always possess a repertoire to cope (Osse & Costa, 2011). The presence of difficulties in coping with these demands may favor health problems (Bolsoni-Silva, 2011; Monteiro et al., 2008), such as social anxiety (Baptista et al., 2011). It is also known

Table 2
Subcategories of QHC-University - Part 2 in the Comparison Between Clinical and Non-Clinical for Anxiety Groups

QHC-University - Behavior characteristics: Subcategories	Clinical	Non-clinical		
	M (SD)		*t*	*p*
Conversation: positive feelings	7.46 (3.79)	8.74 (3.49)	-2.989	.003
Conversation: negative feelings	3.24 (3.30)	1.92 (2.64)	3.748	.000
Expressing positive feelings negative consequences	0.63 (0.82)	0.31 (0.58)	3.816	.000
Expressing positive feelings: positive feelings	7.73 (4.19)	8.85 (4.14)	-2.292	.023
Expressing positive feelings: negative feelings	1.94 (2.10)	1.27 (1.78)	2.931	.004
Expressing negative feelings: positive consequences	0.47 (0.76)	0.71 (0.81)	-2.632	.009
Expressing negative feelings: negative consequences	0.70 (1.02)	0.38 (0.65)	3.233	.001
Expressing negative feelings: negative feelings	2.45 (2.87)	1.56 (2.31)	2.894	.004
Expressing opinions: negative consequences	0.74 (1.08)	0.40 (0.70)	3.244	.001
Expressing opinions: positive feelings	3.60 (3.56)	5.00 (4.06)	-3.118	.002
Expressing opinions: negative feelings	2.33 (3.00)	1.33 (1.82)	3.421	.001
Receiving criticism: positive feelings	1.58 (2.65)	2.52 (3.17)	-2.743	.006
Receiving criticism: negative feelings	1.56 (2.32)	0.78 (1.38)	3.430	.001
Presenting seminars: situations	0.98 (0.74)	0.76 (0.74)	2.466	.014
Presenting seminars: skilled behavior	0.40 (0.65)	0.62 (0.76)	-2.587	.010
Presenting seminars: unskilled behavior	2.57 (1,62)	1.65 (1.21)	5.443	.000
Presenting seminars: positive consequences	1.13 (0.62)	1.28 (0.61)	-2.103	.036
Presenting seminars: positive feelings	0.49 (0.88)	1.00 (1.10)	-4.392	.000
Presenting seminars: negative feelings	2.60 (1.67)	1.47 (1.31)	6.449	.000
Public Speaking: unskilled behavior	1.83 (1.52)	1.33 (1.23)	3.109	.002
Public Speaking: positive consequences	2.90 (1.36)	3.24 (1.53)	-1.955	.052
Public Speaking: positive feelings	1.51 (1.67)	2.54 (1.83)	-4.978	.000
Public Speaking: negative feelings	2.46 (2.01)	1.50 (1.46)	4.636	.000

Note. The results of the comparisons with statistically significant differences are shown.

that anxiety is usually antecedent to other disorders, such as depression (Dozois & Westra, 2004) and substance abuse (Fernandes & Terra, 2008), which has important implications for the social adjustment of the young person. It is considered that the mental health problems in university students may also favor problems in social functioning, emotional and school problems (Isolan et al., 2007), and increased stress (Fernandes & Land, 2008), which, in a certain way, restricts the possibilities for development in this crucial time for the adult, professional, and personal roles.

It was verified that the literature is inconclusive regarding the relationship between anxiety and social skills, with some authors having reported such a relationship (Angélico et al., 2006) and others not (Levitan et al., 2008), which is the insertion context of this study. The results identified in this study indicate a relationship between these variables, as the clinical group was less skilled than the non-clinical group, considering the two instruments that assess social skills, endorsing the assertions made by Angélico et al. (2006).

In general, the group comparisons showed that: the non-clinical group, compared to the clinical group, presented higher frequencies in the social skills investigated by the QHC-University - *presenting seminars* and *public speaking* - Part 1, *positive feelings* and *Potential* - Part 2 (QHC-University), and also higher means in all the Factors of the IHS-Del-Prette (Factor 1 - Coping and self-confidence with risk, Factor 2 - Self-confidence in the expression of positive feelings, Factor 3 - Conversation and social resourcefulness, Factor 4 – Self-exposure to strangers and new situations, and Factor 5 – Self-control of aggressivity), characterizing the social skill resources. The clinical group presented, in comparison with the non-clinical group, higher frequencies of interpersonal deficits and negative impact on social interactions with higher means in *unskilled behavior*, *negative consequences*, *negative feelings,* and *difficulties*.

As the QHC-University allowed the quality of the social skills and interpersonal deficits to be investigated, it was possible to identify other behaviors that discriminated the clinical and non-clinical groups, being more frequent for the group: (a) clinical: *situations* (presenting seminars), *unskilled behavior* (presenting seminars and public speaking), *negative consequence* (expressing positive feelings, expressing negative feelings, and expressing an opinion) and *negative feelings* (conversation, expressing positive feelings, expressing negative feelings, expressing opinions, receiving criticism, presenting seminars, and public speaking); (b) non-clinical: *skilled behavior* (presenting seminars), *positive consequences* (expressing negative feelings, presenting seminars, and public speaking),

Table 3
Correlations Between Social Skill Behaviors, Consequences and Associated Feelings, in the Clinical and Non-Clinical Groups

	Positive consequences	Negative consequences	Positive feelings	Negative feelings
	Clinical for Anxiety Group			
Factor 1 - Comunication and affection	.537**	.011	.363**	.107
Factor 2 - Coping	.295**	.331**	.174*	.290**
Factor 3 - Public Speaking	.062	.057	-.016	-.072
Behav. skilled	.713**	.093	.514**	.168*
Behav. unskilled	.112	.551**	.025	.498**
Factor 1 - IHS-Del Prette	.251**	-.074	.297**	-.058
Factor 2 - IHS-Del Prette	.302**	.000	.257**	.135
Factor 3 - IHS-Del Prette	.083	-.061	.206*	-.068
Factor 4 - IHS-Del Prette	.083	-.183*	.129	-.055
Factor 5 - IHS-Del Prette	.176*	-.077	.238**	-.045
	Non-Clinical Group			
Factor 1 - Comunication and affection	.493**	-.087	.396**	.024
Factor 2 - Coping	.187*	.110	.083	.083
Factor 3 - Public Speaking	.127	.101	.091	-.095
Behav. skilled	.680**	.034	.545**	.241**
Behav. unskilled	.241**	.423**	.009	.454**
Factor 1 - IHS-Del Prette	-.065	-.035	-.024	-.175*
Factor 2 - IHS-Del Prette	.116	-.059	.067	-.060
Factor 3 - IHS-Del Prette	.166*	.074	.149	-.076
Factor 4 - IHS-Del Prette	-.063	-.002	-.045	-.135
Factor 5 - IHS-Del Prette	.059	-.131	.114	-.103

Note. *Correlation significant at. 05. **Correlation significant at .01.

Table 4
Factors QHC-University and Total Score of the IHS-Del-Prette in Comparisons of Clinical and Non-Clinical Groups For Anxiety (chi-square test)

Categories	Non-clinical	Clinical	X^2	*p*	Odds ratio	CI 95%	
						Lower	Upper
Factor 1 - Communication and affection - QHC - Part 1							
Non-clinical	72 (50.0%)	74 (51.4%)	0.05	.81	0.95	0.60	1.50
Clinical	72 (50.0%)	70 (48.6%)					
Factor 2 - Coping - QHC - Part 1							
Non-clinical	62 (43.1%)	58 (40.3%)	0.02	.63	1.12	0.70	1.80
Clinical	82 (56.9%)	86 (59.7%)					
Factor 3 - Public Speaking - QHC - Part 1							
Non-clinical	90 (62.5%)	55 (38.2%)	17.02	.00	2.69	1.67	4.34
Clinical	54 (37.5%)	89 (61.8%)					
Potential - QHC - Part 2							
Non-clinical	103 (71.5%)	78 (54.2%)	9.29	.00	2.13	1.30	3.46
Clinical	41 (28.5%)	66 (45.8%)					
Difficulties - QHC - Part 2							
Non-clinical	77 (53.5%)	34 (23.6%)	27.10	.00	3.72	2.24	6.16
Clinical	67 (46.5%)	110 (76.4%)					
Total score of the IHS-Del-Prette							
Non-clinical	118 (81.9%)	82 (56.9%)	21.20	.00	3.43	2.00	5.87
Clinical	26 (18.1%)	62 (43.1%)					

Table 5
Logistic Regression Considering the Social Skills Categories Assessed

	Odds ratio	CI 95%		*p*
		Lower	Upper	
Public Speaking - QHC - Part 1	1.868	1.103	3.166	.02
Potential - QHC - Part 2	2.510	1.422	4.432	.00
Difficulties - QHC - Part 2	4.125	2.345	7.258	.00
Total score of the IHS-Del-Prette	2.633	1.464	4.735	.00

and *positive feelings* (conversation, expressing positive feelings, expressing opinions, receiving criticism, presenting seminars, and public speaking).

The correlations indicate the similarity between the groups that, in general, identified that the more frequent the communication, affection and the higher the skilled behaviors total score, the greater the probability of obtaining positive consequences and an associated positive feeling. In an inverse way, the unskilled behavior total score was associated with negative consequences and negative feelings. It should be noted that skilled behavior was also associated with negative feelings.

In the clinical group, skilled behaviors, such as communication, coping, and potential (QHC-University), were associated with positive consequences and positive feelings. Additionally, coping behaviors were also associated with negative feelings and negative consequences, suggesting that sometimes this group manages to behave in ways to solve problems and sometimes not. Conversely, behaviors classified as difficulties were associated with negative consequences and negative feelings. Factor 4 of the IHS-Del-Prette (Self-exposure to the unknown and new situations) was negatively correlated with negative consequences, suggesting that when these social skills are more frequent, the negative consequences are less frequent. In the non-clinical group three correlations were identified: unskilled behavior positively associated with positive consequences; Factor 1 - IHS-Del-Prette negatively correlated with negative feelings; Factor 3 - IHS-Del-Prette positively correlated with positive consequences.

Summarizing the results, it was verified that the anxious university students had more interpersonal difficulties and fewer social skills, especially regarding public speaking, communication, expression of positive feelings, negative feelings, and opinions, coping with criticism, and coping with loving and family relationships. Among the various dimensions of social skills studied, the variables of the QHC-University - Public Speaking, Potential, and Difficulties, and the total score of the IHS-Del-Prette were in the final multiple regression model, showing that both the resources and difficulties are predictors for anxiety, with the focus especially on public speaking, considered the most prevalent social fear. With these findings, the importance of assessing both the frequency and the quality of social skills, as well as the difficulties encountered was affirmed, focusing not only the resources of the university students, especially with regard to communication, expressing opinions, public speaking, and expressing positive feelings.

The data from this study converge with other studies in the area, in which specific behaviors have been mapped as predictors of mental health or social anxiety, according to their frequency and quality, these being: communication (Furmark, 2000; Strahan, 2003), public speaking (Furmark, 2000), loving relationships (Furmark, 2000), family relationships (Bolsoni-Silva et al., 2010; Furmark, 2000), presenting and expressing one's self socially (Strahan, 2003) having self-control skills, self-monitoring (Veenman et al., 2004) and coping with difficult situations (Schenker & Minayo, 2005; Silva & Murta, 2009), as well as coping with peer pressure and refusing harmful invitations (Silva & Murta, 2009).

Based on this analysis, it can be stated that the positive feelings associated with a good social skills repertoire and the negative feelings associated with problems function as indicators for the presence or absence of adaptive difficulties, in the different social interactions experienced by university students. It is considered that the present study, by providing systematic data regarding the characterization and comparison of groups differentiated by the mental health condition, falls within the scope of Preventive Psychology (WHO, 2004) and can support the development and testing of intervention procedures, considering measures of efficacy and efficiency (APA, 2006).

Final Considerations

The findings of this study indicate a relationship between social skills and social anxiety, contributing to the assessment of the behavioral frequency and the impact of this repertoire for the social interactions of university students with different interlocutors. Independent variables were controlled, such as gender and course, which strengthened and valorized the differences identified between the clinical and non-clinical groups. Another strength of the study was to have carefully matched the groups, and, regarding the non-clinical group, to have adopted a systematic assessment using mental health instruments that have been validated and recognized as appropriate measures.

The main contribution of the study can be highlighted as the possibility of conducting logistic regression analysis that allowed the explanatory hypothesis that the social skills are related to anxiety to be reconfirmed, evidencing the features and difficulties that contribute to this. Accordingly, the study presents new prospects for further studies that focus on aspects of prevention and intervention, with consequences and applicability in both the clinical and educational contexts.

However, the limitations must also be mentioned, such as the cross-sectional design, the inclusion in the clinical group not necessarily being made through the diagnostic confirmation, and that it was not possible to control for other variables that may be associated with anxiety, such as the learning history and academic performance. It is proposed

that future studies control these variables, use a combination of self-report instruments and observational measures, and work with longitudinal designs, evaluating the predictive value through external criteria, such as academic performance and overall social functioning.

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Received: June 10, 2013
1st Revision: Dec. 23, 2013
Approved: Apr. 23, 2014

How to cite this article:

Bolsoni-Silva, A. T., & Loureiro, S. R. (2014). The role of social skills in social anxiety of university students. *Paidéia (Ribeirão Preto), 24*(58), 223-232. doi: 10.1590/1982-43272458201410