Social skills training in the promotion of effective coping: A pilot trial

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Abstract

This research aimed to evaluate the efficacy of a Social Skills Training (SST) in increasing social skills, reducing stress levels, and developing effective coping of eight female undergraduate Psychology students. The participants were recruited through a form sent on social media and telephone contact and were voluntarily submitted to the intervention at the university in which they studied. The intervention, analogous to a quasi-experiment, had pre- and posttest evaluations without a control group, using the instruments Social Skills Inventory 2 (IHS2-Del-Prette), Perceived Stress Scale (PSS-14), Folkman and Lazarus' Coping Strategies Inventory, interviews, and a field diary. The results indicated stress reduction, acquisition of social skills, and enhancement of problem-solving strategies. Further studies regarding the evaluation of the SST's efficacy in a larger and more heterogeneous sample of university students would be worthwhile.

Keywords: university, stress, Social Skills Training, coping, clinical trial

TREINAMENTO DE HABILIDADES SOCIAIS NA PROMOÇÃO DO *COPING* EFICAZ: UM ESTUDO PILOTO

Resumo

Esta pesquisa teve como objetivo avaliar a eficácia de um Treinamento de Habilidades Sociais (THS) na ampliação das habilidades sociais, na redução do estresse e no desenvolvimento do *coping* eficaz de oito estudantes de Psicologia. As participantes foram recrutadas via *link* de um formulário enviado nas redes sociais e por contato telefônico, sendo voluntariamente submetidas à intervenção na universidade onde estudavam. A intervenção, análoga a um quase experimento, teve avaliações pré e pós-teste sem grupo controle, utilizando-se os instrumentos Inventário de Habilidades Sociais 2 (IHS2-Del-Prette), Escala de Estresse Percebido (PSS-14), Inventário de Estratégias de Coping de Folkman e Lazarus, entrevistas e diário de campo. Os resultados indicaram redução do estresse, aquisição de habilidades sociais e potencialização de estratégias de resolução de problemas. Sugere-se, para estudos futuros, a avaliação da eficácia do THS em amostras maiores e mais heterogêneas de estudantes universitários.

Palavras-chave: universidade, estresse, Treinamento de Habilidades Sociais, *coping*, ensaio clínico

ENTRENAMIENTO DE HABILIDADES SOCIALES PARA LA PROMOCIÓN DE UN *COPING* EFICAZ: UN ESTUDIO PILOTO

Resumen

El objetivo de la investigación fue evaluar la eficacia de un Entrenamiento de Habilidades Sociales (EHS) en la expansión de las habilidades sociales, reducción del estrés y desarrollo de un *coping* eficaz de ocho estudiantes de Psicología. Las participantes fueron reclutadas por medio de un *link* para un formulario enviado en redes sociales y contacto telefónico, siendo voluntariamente sometidos a la intervención en la universidad donde estudiaban. La intervención análoga a un casi-experimento tuvo evaluaciones previas y posteriores a la experiencia, sin un grupo de control, utilizando los instrumentos Inventario de Habilidades Sociales 2 (IHS2-Del-Prette), Escala de Estrés Percibido (PSS-14), Inventario de Estrategias

de Coping de Folkman y Lazarus, entrevistas y diario de campo. Los resultados indicaron reducción del estrés, adquisición de habilidades sociales y potencialización de estrategias para resolución de problemas. Se sugiere, para futuros estudios, la evaluación de la eficacia del EHS en muestras mayores y más heterogéneas de estudiantes universitarios.

Palabras clave: universidad, estrés, Entrenamiento de Habilidades Sociales, *coping*, prueba experimental

According to the transactional theory proposed by Lazarus and Folkman (1984), in addition to biological responses, stress involves cognition. When facing a potentially stressful situation, individuals perform a first assessment, identifying the demand and assigning a meaning to it. If such a demand is perceived as a threat or a challenge, individuals perform a second evaluation, verifying potential coping strategies (Lazarus & Folkman, 1984).

The authors divide coping strategies into two categories: problem-focused coping (directly targeting the stressful situation) and emotion-focused coping (intended to regulate the emotional state associated with the stressful situation). Coping is effective when individuals appropriately manage their symptoms and face the source of the problem, improving social adaptation restricted to a specific context (Lazarus & Folkman, 1984). Straub (2014) also specifies the efficient coping, stating that not all coping strategies are efficient. Some can actually be harmful in the long term, causing even more stress. Efficiently managing stress means directly confronting its cause and eliminating it, or at least minimizing it.

Considering the adaptive function of social skills (Del Prette & Del Prette, 2018), we can assume that Social Skills Training (SST) would improve efficient coping in a university context, decreasing perceived stress. According to Del Prette and Del Prette (2017), social skills include culturally accepted social behavior that promotes favorable interpersonal interactions among individuals, groups, and communities. Therefore, SST is a set of resources that structure learning processes to promote and improve social skills (Del Prette & Del Prette, 2017).

The advantages of this type of intervention, which is generally performed in groups, can be better understood by following the list proposed by Del Prette and Del Prette (2012), who point out some advantages of the group modality as it is applied in this study: maximizing opportunities for learning and applying techniques when they require the participation of more people; participants' greater motivational involvement; more sources of feedback and reinforcement, and opportunity for participants to decide between different alternatives to deal with the situations, without exclusively depending on those proposed by the mediator. Therefore, SST may also have the characteristics highlighted by Moreno and Carvalho (2014) regarding brief psychotherapy, i.e., a low-cost treatment provided in a short time, however, not diminishing its high social impact and positive results.

According to Soares et al. (2019), problem-focused coping strategies predict improved conditions to deal with challenging situations in a college context, as students who adopt these strategies are more likely to experience low-stress levels. Likewise, social skills also appear to be associated with lower levels of perceived stress (Feitosa, 2014). Oliveira et al. (2020) note that stress in an academic context represents a risk for students' physical and mental health, with the potential to interfere with personal and professional development, drawing the attention of researchers to this public, considering that decreased stress protects mental health. While relationships established with people can be stressful, satisfactory interpersonal relationships students established in the college context imply improved

performance and satisfaction (Reyes Júnior et al., 2018), justifying the implementation of preventive and educational interventions using SST at university.

Ferreira et al. (2014) implemented SST among 34 college students, and most of whom benefited from it. Social skills scores improved and anxiety levels decreased, and the follow-up revealed these changes were maintained in the long term. In the study by Van Melis (2016), SST implemented among college students was positively assessed, as it expanded the students' repertoire of social skills and promoted socially skillful behaviors. It was considered a strategy to prepare students for professional practice and improve relationships in social contexts other than the academic one. Lopes et al. (2017) addressed 35 college students. They observed the acquisition and maintenance of social skills, confirming the efficacy and effectiveness of the intervention in promoting professional and interpersonal development among college students transitioning to the labor market.

Hence, the literature shows that even though few Brazilian studies address SST in the academic context, the publication of studies has been regular in recent years, and these confirm the intervention's effectiveness. However, the question that motivated this study is whether an SST program would enable eight college students, besides expanding their repertoire of social skills and decreasing stress levels, to develop efficient coping strategies. In this sense, we also discuss the feasibility of using SST as a tool of the stress transactional model to be replicated in other universities to promote the students' mental health and control stress in the academic environment. Therefore, this study's objective is to assess the efficacy of SST to expand repertoires of social skills, decrease stress levels and develop efficacious coping strategies among eight female students from a Psychology undergraduate program.

Method

A pretest/posttest quasi-experimental design without a control group, with follow-up, was adopted for this pilot study (Salkind, 2010).

Participants

Eight students attending an undergraduate Psychology program participated in this study. All the participants were women, aged between 19 and 29 (22.6 years old on average, $SD = 3.3$), attending the fourth ($n = 1$), sixth ($n = 2$), and eighth ($n = 5$) terms. The number of participants was established between five and ten before the intervention was initiated. Since there is no consensus in the literature regarding the number of participants in an SST program, the number was determined based on the researcher's availability to implement all the stages. Therefore, after eight students confirmed their participation, we stopped publicizing the study and proceeded with the initial assessments.

Inclusion criteria were being over 18 years old, currently performing most academic activities on the university's campus, providing a consent, and attending one of the university's

health programs (i.e., Psychology, Medicine, Nursing, or Physical Education). Hence, convenience sampling was adopted given the easy access to the students from these programs. Exclusion criteria were refusing to sign the free and informed consent form and missing more than two SST sessions.

Instruments

- *Social Skills Inventory 2 – SSI2-Del-Prette* (Del Prette & Del Prette, 2018): a self-report instrument validated in Brazil, with excellent internal consistency (Cronbach's alpha = 0.944), designed to characterize social performance and assess individuals' social skills repertoire when facing situations that require social coping. It comprises 38 items that describe social interaction situations and potential responses. Hence, individuals are asked to estimate (using a five-point Likert scale) how often they react in the way indicated in each item. The items are characterized by five factors based on behaviors. Therefore, we obtain the general score of social skills and the scores for each of the following factors: F1 – assertive conversation; F2 – affective-sexual approach; F3 – expression of positive feeling; F4 – self-control/coping; F5 – social resourcefulness.

- *Perceived Stress Scale* – PSS-14 (Carnegie Mellon University, 2015): a 14-item self-report scale rated on a five-point Likert scale (ranging from 0 = never to 4 = very often) that accesses the frequency in which individuals faced unexpected or uncontrollable situations or felt overloaded, asking the participants to evaluate their perception of control and emotional state when facing these stressful events. The scale results in a total score concerning one's perception of psychological stress. The Brazilian version of the instrument, presented by Feitosa et al. (2015), was adopted in this study. According to the authors, similarly to the original version in English, the Brazilian version of the PSS-14 presented satisfactory precision or reliability indexes, with temporal stability in the test-retest (r = 0.79, p < 0.001) and good internal consistency (Cronbach's alpha = 0.85 in the test and Cronbach's alpha = 0.86 in the retest). According to Coutinho (2016), scores are: between 0 and 18.6 = low stress levels; from 18.7 to 37.2 = moderate stress levels; and higher than 37.3 = high stress levels.

- *Coping Strategies Inventory* (Folkman & Lazarus, 1985): it consists of 66 items that encompass thoughts and actions people adopt to deal with the internal or external demands of a stressful event. All the items are rated on a four-point Likert scale ranging from 0 to 3. Savóia et al. (1996) validated the instrument for the Brazilian context. The coefficient of correlation between the total scores obtained in the test and retest was 0.704 (Savóia et al., 1996).

- *Interviews*: a questionnaire was developed by the author to collect information such as the participants' age and academic term they were attending at the time of data collection; semi-structured interview script used prior to the intervention for: baseline assessment, establishment of rapport, provision of information about the research and intervention, access to students' complaints and demands and their resources to deal with stressful interpersonal situations; follow-up to verify the repertoire acquired and its maintenance; and, finally, provision of feedback from the participants.
- *Field diary*: it was used throughout the intervention to assess the participants and planning continuously. The records included events that took place during sessions, notes taken by the therapist and cotherapist after each meeting, and the participants' reports – collected during assessments and throughout the SST – that could indicate deficits or acquisitions.

Procedures

The study project was submitted to and approved by the Institutional Review Board of the Federal University of Rondônia (UNIR) under Certificate of Presentation for Ethical Appreciation (Certificado de Apresentação para Apreciação Ética [CAAE]) No. 09193119.6.0000.5300. Then, the intervention was publicized on social media and directed to students attending any of the university's health programs (i.e., Psychology, Medicine, Nursing, Physical Education), and a link was provided to register. Those who completed the form were contacted by telephone and received clarification regarding the study. Eight out of the ten individuals (all students from the Psychology program) who completed the form confirmed their participation and did not withdraw from the study. Thus, a group intervention was implemented due to the advantages reported by the literature.

The first meeting was individually held at the university premises. All the participants signed free and informed consent forms and were evaluated according to the instruments previously described. The primary author applied the instruments at four different points in time: during individual interviews held at the baseline in August 2019; the group's first meeting (pretest) on September 12th, 2019 (the first two assessments were held prior to the intervention); the last group meeting (posttest), held on October 24th, 2019 (two individuals missed the last meeting, so another meeting was held on October 29th, 2019); and individual meetings (follow-up) held in December 2019 (these last two assessments were held after the intervention with a six-week interval).

The quantitative data obtained with the application of the instruments were tabulated using the IBM Statistical Package for the Social Sciences for Windows (SPSS, version 24.0). The Wilcoxon test for small samples was used to analyze clinical significance between pre- and post-intervention. The significance level was set at 0.05. Additionally, the participants' reports

collected in the first interview (regarding interpersonal difficulties faced during college) and follow-up (regarding the SST benefits) were recorded in a field diary and later analyzed and grouped into thematic categories. Some of these reports are presented here to illustrate the positive results confirmed by statistical analyses. The participants are identified in the reports as P1, P2, P3, P4, P5, P6, P7, and P8.

The intervention comprised seven SST sessions (including the final assessment), each one lasting one hour and a half. The meetings were held weekly in the room of the Applied Psychology Services of the university. The primary author conducted the group and was assisted by a cotherapist experienced in mediating SST groups. Her participation consisted of recording the sessions in real-time, and occasionally she participated in the meetings, providing her impressions regarding events throughout the training. The plan devised by the author guided the sessions. The objectives of each meeting included focusing on interpersonal relationships within the university context. They were organized according to the participants' complaints in the initial interviews and based on the most deficient social skills identified in the results obtained with the SSI2-Del-Prette.

The thematic content of each session and its objectives and techniques adopted throughout the intervention mainly originated from Del Prette and Del Prette (2012), Soares and Del Prette (2013), and Del Prette and Del Prette (2017), as shown in Table 1.

Table 1

Themes, objectives, and techniques used in the SST sessions

Session	Theme	Objectives	Techniques
Session 1	Expressing positive feelings	Making introductions and presenting the therapeutic contract; and understanding the importance of expressing positive feelings to maintain friendships and bonds.	Observation; problem-solving strategy; dialogic lecture; homework.
Session 2	Public speaking	Developing skills and strategies that facilitate public speaking, whether the audience is familiar or not.	Resume of homework; problem-solving strategy; dialogic lecture; homework.
Session 3	Dealing with criticism	Criticizing assertively; and receiving (accepting or refusing) criticism assertively.	Resume of homework; behavioral rehearsal; feedback; reinforcement; problem-solving strategy; dialogic lecture; homework; instructional exercise.
Session 4	Refusing requests	Understanding the difference between assertiveness, passiveness, and aggressiveness; and refusing requests assertively.	Resume of homework; dialogic lecture; problem-solving strategy; homework.
Session 5	Making requests	Making requests assertively and effectively.	Resume of homework; problem-solving strategy; dialogic lecture; behavioral rehearsal; feedback; reinforcement; homework.
Session 6	Expressing displeasure and requesting people to change behavior	Understanding the consequences of holding back negative feelings; appropriately expressing displeasure and disagreement; and asking someone to change behavior.	Resume of homework; problem-solving strategy; dialogic lecture; behavioral rehearsal; feedback; reinforcement; homework; instructional exercise.
Session 7	Final assessment and closing	Posttest assessment; Participants' feedback.	Resume of homework; feedback.

Results

The results concerning the participants' average levels of social skills, stress, and coping indicate stress decreased because social skills and problem-solving strategies improved (Table 2). The baseline and pretest means were similar, and no statistically significant differences were found ($p > 0.05$). However, the means obtained for the eight participants in the posttest were statistically different from the means obtained in the baseline and pretest ($p = 0.012$ in both comparisons). Comparison between posttest and follow-up revealed that stress levels remained low with no significant differences ($p > 0.05$).

Table 2

Means of the scores concerning stress, social skills, and problem-focused coping in the assessments addressing SST

Indicator	BL $\overline{X}$ (*SD*)	PRE $\overline{X}$ (*SD*)	POST $\overline{X}$ (*SD*)	FU $\overline{X}$ (*SD*)	Difference	*p*-value
Stress	31.1 (8.2)	34.1 (7.4)	21.7 (7.2)	22.9 (7.0)	POST < BL* POST < PRE*	0.012 0.012
SS – general	64.5 (20.3)	62.2 (16.0)	75.6 (17.1)	76.6 (15.5)	POST > BL* POST > PRE*	0.018 0.012
SS-F1	29.0 (10.0)	27.6 (7.9)	34.4 (8.6)	32.9 (9.0)	POST > PRE*	0.012
SS-F2	4.9 (3.4)	4.4 (3.7)	5.7 (3.6)	6.5 (3.7)	POST > PRE*	0.026
SS-F3	20.0 (4.3)	19.1 (4.7)	21.5 (5.0)	22.6 (4.4)	POST > PRE*	0.034
SS-F4	8.6 (6.9)	9.1 (3.9)	11.2 (4.6)	12.0 (4.3)	POST > PRE*	0.047
SS-F5	11.6 (5.9)	10.1 (5.4)	13.1 (5.6)	13.1 (5.0)	POST > PRE*	0.011
Resolving conflicts	5.4 (3.0)	5.6 (2.9)	7.0 (3.2)	8.4 (2.4)	POST > PRE*	0.020

Note. $\overline{X}$ = mean; SD = standard deviation; BL = baseline; PRE = pretest; POST = posttest; FU = follow-up; SS = social skills; SS-F1 = factor 1: assertive conversation; SS-F2 = factor 2: affective-sexual approach; SS-F3 = factor 3: expression of positive feeling; SS-F4 = factor 4: self-control/coping; SS-F5 = factor 5: social resourcefulness; * Wilcoxon test: $p < 0.05$.

Figure 1 shows the average levels of stress variations verified in the four assessments. The stress levels decreased after the intervention (posttest).

Figure 1

Graph indicating the changes in the mean stress scores
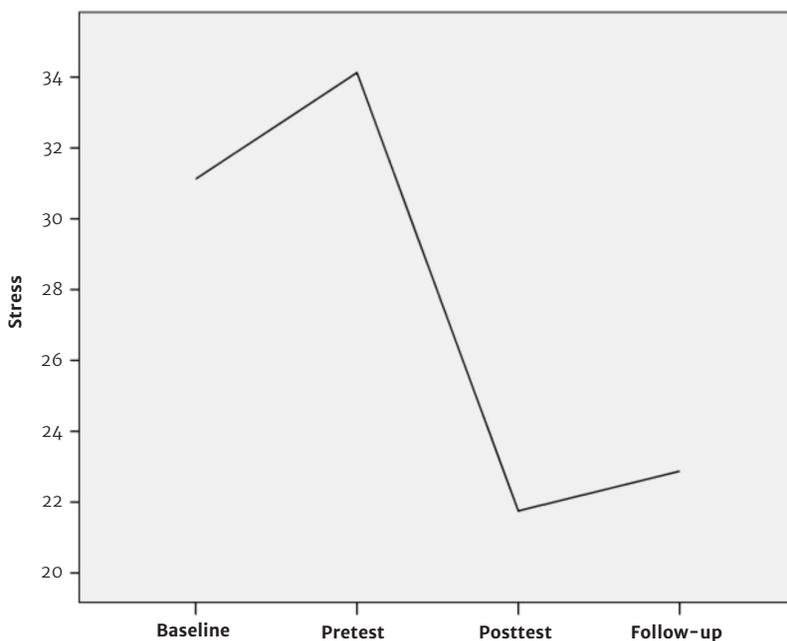
The reports obtained in the follow-up reinforce the positive outcomes that resulted from the SST. In general, the participants reported advancements in how they dealt with specific situations. In addition, the participants attributed the gains to the intervention, stating that it helped them decrease perceived stress. For example, one of the participants (P7) reported that the physical symptoms she experienced when speaking in public decreased after the intervention, and P2 reported that the group helped alleviate her anxiety symptoms.

Additionally, other reports indicated that they learned and used the SST techniques to deal with situations:

I used a technique to assess a course, a practice course, the "sandwich technique". I recalled it at the time and used it. The professor asked me how the practice went, whether I had anything to criticize [...], and it came really easy and was very natural at the time (P8).

The feedback issue, talking about positive things, then something negative and a positive thing again, we needed to use it in a course. We were talking about it, and one of the girls said she used it all structured, and then I thought about it and realized I also structured it, without even realizing it (P1).

As the previous results show, the participants also attributed decreased stress to increased social skills required to cope with potentially stressful interpersonal situations that emerge in the university context.

The general scores obtained for social skills in the baseline and pretest were similar and showed no statistically significant differences. However, the social skills scores improved from the baseline and pretest to post-intervention. Increased scores were obtained among seven out of the eight participants, and the difference was statistically significant (p = 0.018). In addition, a positive and statistically significant (p = 0.012) increase was found in the general scores concerning the social skills repertoire between the pretest and posttest for all eight participants. Finally, a comparison between the pretest and follow-up revealed a slight increase in the mean score, though not statistically significant (p > 0.05). Figure 2 presents the means obtained for the general score of social skills in the four assessments.

Figure 2

Graph indicating the mean changes in the general score of social skills
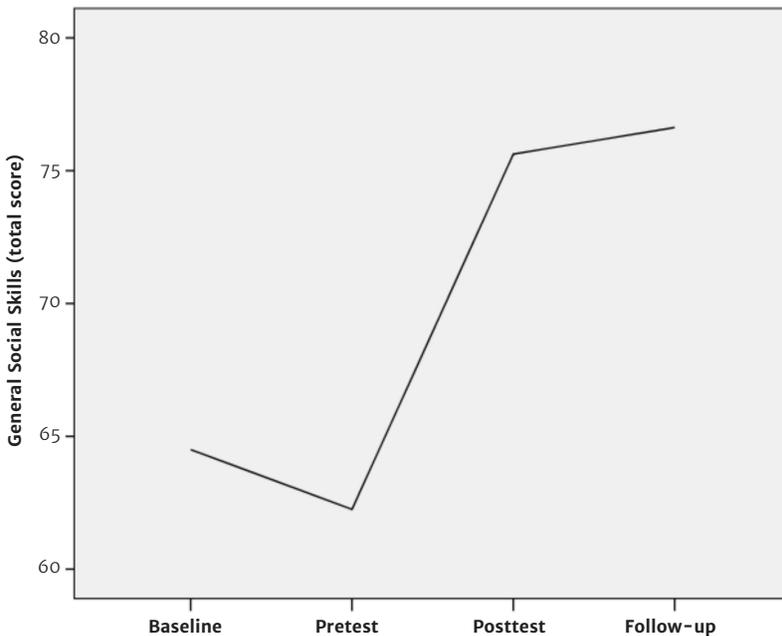
Statistically significant differences were also found between pretest and posttest for all the factors (subsets of social skills) assessed by the SSI2-Del-Prette. The results concerning the assertive conversation (F1) and social resourcefulness (F5) factors stood out. A positive difference was found for all eight participants between the pretest and posttest (p = 0.012 for

F1 and p = 0.011 for F5). In addition, six out of the eight participants obtained high means for the affective-sexual approach (F2), expression of positive feeling (F3), and self-control/ coping (F4) (p = 0.026, p = 0.034, and p = 0.047, respectively) after the intervention. The statistically significant increase in the mean general scores and the scores obtained in all factors suggests that the participants acquired social skills with the intervention.

In addition to the quantitative results suggesting the participants acquired social skills, their reports of the follow-up, recorded in the field diary, also illustrate their advancements. Various needs were identified in the baseline assessment when the participants were asked about their difficulties concerning social skills in the university context. For example, one of the participants reported that she had a passive behavior and usually found it difficult to make requests and accept favors. However, the following excerpt shows that this aspect improved after the intervention:

> Making requests, I guess it became easier. After that meeting, when we talked about it, I started thinking, "I cannot keep losing opportunities for fear of asking", and I guess I started applying the technique more frequently, telling people what I want (P5).

One of the participants reported that before the intervention her most significant difficulty was making presentations. Whenever she had to present a work, she would experience physical symptoms of stress, such as nausea and vomiting. After the intervention, she reported: "I believe that my most relevant improvement is speaking in public because, lately, I haven't felt as afraid or nervous as I used to before making a presentation" (P7).

Finally, a third participant expressed throughout the training her difficulty in being assertive in times of conflict, but, after the intervention, she stated:

> It helped me a lot with my conflicts at home. Not that I don't lose my mind once in a while, but it was much worse before, and now I can verbalize and talk in a non-aggressive manner, differently from what I used to (P6).

The previous statement shows that this participant generalized the skills learned to deal with conflicts at the university to other contexts. Other participants also reported generalizing skills to deal with diverse aspects. For example, in addition to social skills, enabled by techniques and discussions addressing more effective ways to deal with potentially stressful situations, some participants reported that the group itself was beneficial because they could share difficulties experienced in the university. Some of these excerpts are presented below:

> It was a very open group. I didn't feel that my complaints were overstated, I didn't feel like I was overreacting [...] and seeing that other people had similar problems, that it wasn't

something only I had a problem with; that it was a problem of the university [...] and not something personal, you know? It sort of alleviated my sense of guilt (P5).

I guess that what helped me the most was realizing that other people were also struggling with the same difficulties [...] I identified myself with others, [...] because when I saw myself in others, I realized that it wasn't such a big problem. Other people also face it and they were able to overcome the problems, so was I. It wasn't like rocket science. It was a time when I felt good, felt like going to the sessions, enjoyed the experience, [...] so I guess not only the content, but the group itself worked as a time for relaxation, and it sort of decreased my stress (P7).

It was really cool being part of a group within the university because it was not a place just to talk or complain, [...] it showed ways to deal with problems, so I felt more self-assured when I left [...]. Despite the tiredness and stress, I'd go there and be at ease, I was able to share my feelings and listen to others as well. It was really cool that we could share our pain (P4).

I guess that what I liked the most about the group was exchanging information about what we could use, something that other people use, and I had no idea, and now I can put it into practice when facing stressful situations (P3).

Another aspect that deserves attention regarding the group was that we gathered a group without imposing clinical criteria regarding the level of social skills, enabling the participation of individuals with different social skills repertoires, which enriched the discussions. For instance, the following excerpt from a participant with a rich repertoire of social skills illustrates this fact:

From my perspective, I didn't have much difficulty doing things (things we discussed throughout the SST) [...], and it was really cool to see that the other girls were also improving, and we helped each other. Even though I didn't face much difficulty, I'd give a tip or say something helpful, so it was really cool that I could provide some support (P4).

Finally, regarding the coping strategies, only the score obtained for the resolving conflicts factor varied. Table 2 shows that the mean scores obtained in the baseline and pretest (5.4 and 5.6, respectively) were similar and did not present statistically significant differences. The mean scores increased from the baseline to the posttest (5.4 and 7.0, respectively), but the difference was not statistically significant. However, a comparison between the mean score obtained in the pretest and posttest (5.6 and 7.0, respectively) revealed a statistically significant increase for six out of the eight participants. This result remained in the follow-up, and no statistical difference was found between the posttest and follow-up.

These results suggest the feasibility of SST as an intervention tool to decrease stress and improve social skills as part of problem-focused coping strategies to deal with interpersonal problems, as discussed below.

Discussion

The SST implemented in this study resulted in positive therapeutic outcomes, decreasing perceived stress among college students. Hence, it can be classified as a brief psychotherapy model, as it adopts strategies in a way the process has an introduction, development, and conclusion in a short time, being a low-cost intervention with high social impact and high likelihood of obtaining positive outcomes (Moreno & Carvalho, 2014). Furthermore, even though the participants' stress levels measured in the baseline and pretest were moderate, according to Coutinho (2016), they were close to levels considered high. The mean score obtained in the posttest was considered moderate, however, at a lower level with statistically significant differences, suggesting SST is effective in decreasing stress levels among college students.

Regarding social skills, the results were similar to those reported by other studies (Ferreira et al., 2014; Lopes et al., 2017), indicating that most participants benefited from the SST, expanding and maintaining their repertoire of social skills. Lopes et al. (2017) also present the participants' reports confirming the intervention's positive results. Likewise, the reports presented here confirmed the acquisition of social skills and that the participants generalized the skills and improved the way they dealt with diverse situations. Another similar aspect between this study and the other studies previously mentioned (Ferreira et al., 2014; Lopes et al., 2017) is that we did not include a clinical criterion to select the participants, which enabled heterogeneous people to participate, i.e., people with high or low levels of social skills/perceived stress. Similarly to the other studies, the scores concerning social skills improved among those participants, who obtained more elaborated repertories.

Concerning coping strategies, the results suggest that the SST effectively improved the participants' ability to solve problems, and a statistically significant improvement was found in this strategy after the intervention. According to Lazarus and Folkman (1984), problem-solving skills are characterized as an objective and analytical process to find efficient solutions to specific stressful situations. This process involves defining a problem situation, considering potential solutions and their cost and benefit, and choosing one among the potential solutions and putting it into practice. According to the authors, this strategy is mainly focused on changing the environment.

Given the positive effect of problem-focused coping during academic adaptation, this type of strategy is important within the university context, as it happened in this study. The different reports mentioned in the results indicate that learning interpersonal techniques, such as the "sandwich technique" (Soares & Del Prette, 2013, p. 18), was less stressful than

dealing with specific situations. The sandwich technique is used to criticize assertively, highlighting something positive, then making a critic and closing with something positive about someone else's behavior.

From the transactional perspective, the results indicate that SST strengthened the participants' effective coping and decreased perceived stress as it enabled the participants to expand their social skills repertoire and problem-solving strategies. In practice, it strengthened their ability to implement this strategy, indicating a relationship between social skills and strategies to cope with stress in the academic environment. Soares et al. (2019) reinforce this statement, reporting that interpersonal skills help to solve problems, enabling us to hypothesize that the participants improved their problem-solving capacity precisely as it is related to social skills. Furthermore, social skills enable students to establish bonds, construct a support network, and establish good relationships with peers, professors, and other people, being more competent to deal with challenging situations at the university (Soares et al., 2019) and solve interpersonal problems in a culturally appropriate manner, contributing to their quality of life and better social adaptation.

Considering the initially proposed objectives, the results suggest the SST program was efficient and expanded all the participants' repertoire of social skills, consequently decreasing perceived stress. Additionally, it confirms the hypothesis that social skills are associated with coping. The results indicate that the SST worked similarly to the problem-solving strategy, associated with good academic adaptation and lower stress levels, supporting the transactional theory proposed by Lazarus and Folkman (1984). Therefore, SST can be considered a short-term and low-cost therapeutic intervention with a high social impact and high likelihood of obtaining favorable outcomes.

The techniques adopted in the SST and topics discussed in each session were presented here. Hence, this paper can support other researchers in the field to replicate this study using larger and more diversified samples of college students. Besides, based on consistent results obtained from the intervention implemented among different groups of students, psychologists assisting college students will be able to apply this intervention to improve the students' mental health and control stress related to the academic context.

The results of similar studies also indicate the effectiveness of SST in expanding the repertoire of social skills (Ferreira et al., 2014; Melis, 2016; Lopes et al., 2017). In addition to corroborating these results, this study also verified specific factors that contributed to the intervention's positive outcomes. First, the participants perceived that group sessions provided them an opportunity not only to learn coping techniques and strategies but also to share their experiences in the university context. Additionally, gathering a group without imposing a clinical selection criterion concerning their previous social skills enabled participants with different repertoire levels to interact, enriching the discussions and improving learning opportunities. Finally, the SST was planned based on the participants' complaints – reported

during baseline assessments −, which enabled an intervention specifically designed to meet the deficits presented by the group.

This study's limitations include the sample's characteristics, i.e., the intervention was implemented in a small group of students attending the same program of the same institution. Also, considering that the researcher performed a double role, that is, she moderated the intervention and assessed the results, we suggest that future studies carry out a blind assessment of the participants' performance to make comparisons.

Furthermore, even though no statistically significant differences were found between the baseline and pretest (both conducted before the intervention) in any of the instruments, we cannot state that the differences found after the intervention in the posttest are due to the intervention as we did not adopt a control group, characterizing this study as experimental. Likewise, despite the statistically significant differences found in all the instruments in the posttest and follow-up, we cannot state that the results remained after the intervention, although the positive results suggest that the method is efficient. Finally, we suggest that further research adopt a control group and perform reassessments with longer follow-ups.

References

Carnegie Mellon University (2015, February 19). *Dr. Cohen's Scales*. Laboratory for the Study of Stress, Immunity, and Disease; Department of Psychology. https://www.cmu.edu/dietrich/psychology/stress-immunity-disease-lab/scales/index.html

Coutinho, L. F. B. (2016). *Avaliação e correlação dos níveis de estresse e depressão dos discentes de enfermagem* [Unpublished graduate work]. Universidade Federal Fluminense. https://app.uff.br/riuff/handle/1/3530

Del Prette, A., & Del Prette, Z. A. P. (2017). *Competência social e habilidades sociais: Manual teórico-prático*. Vozes.

Del Prette, Z. A. P., & Del Prette, A. (2012). *Psicologia das habilidades sociais: Terapia, educação e trabalho* (9th ed.). Vozes.

Del Prette, Z. A. P., & Del Prette, A. (2018). *Inventário de Habilidades Sociais 2 (IHS2-Del-Prette): Manual de aplicação, apuração e interpretação*. Pearson.

Feitosa, F. B. (2014). A depressão pela perspectiva biopsicossocial e a função protetora das habilidades sociais. *Psicologia: Ciência e Profissão*, *34*(2), 488–499. https://doi.org/10.1590/1982-3703000992013

Feitosa, F. B., Silva, J. F., & Bezerra, L. A. (2015). *Apresentação de uma versão em português da Escala de Estresse Percebido (PSS-14) com índices de precisão*. [Congress]. 15º Congresso de Stress da ISMA-BR (International Stress Management Association no Brasil), Porto Alegre, RS, Brasil. http://www.ismabrasil.com.br/congressos/congresso-2015/trabalho

Ferreira, V. S., Oliveira, M. A., & Vandenberghe, L. (2014). Efeitos a curto e longo prazo de um grupo de desenvolvimento de habilidades sociais para universitários. *Psicologia: Teoria e Pesquisa*, *30*(1), 73–81. https://doi.org/10.1590/S0102-37722014000100009

Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology*, *48*(1), 150–170. https://doi.org/10.1037//0022-3514.48.1.150

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.

Lopes, D. C., Dascanio, D., Ferreira, B. C., Del Prette, Z. A. P., & Del Prette, A. (2017). Treinamento de habilidades sociais: Avaliação de um programa de desenvolvimento interpessoal profissional para universitários de ciências exatas. *Interação em Psicologia*, *21*(1), 55–65. https://doi.org/10.5380/psi.v21i1.36210

Moreno, A. L., & Carvalho, R. G. N. (2014). Terapia cognitiva-comportamental breve para sintomas de ansiedade e depressão. *Revista Brasileira de Terapias Cognitivas*, *10*(2), 70–75. https://doi.org/10.5935/1808-5687.20140012

Oliveira, E. S. de, Silva, A. F. R. da, Silva, K. C. B. da, Moura, T. V. C., Araújo, A. L. de, & Silva, A. R. V. da. (2020). Stress and health risk behaviors among university students. *Revista Brasileira de Enfermagem*, *73*(1), e20180035. https://doi.org/10.1590/0034-7167-2018-0035

Reyes Júnior, E., Reis, A. L. N., Costa, V. F. de S., & Santos, Y. A. dos (2018). Relações interpessoais e sua influência na satisfação dos acadêmicos. *Revista de Gestão e Secretariado*, *9*(3), 206–228. https://doi.org/10.7769/gesec.v9i3.807

Salkind, N. J. (2010). *Encyclopedia of Research Design* (Vol. 1). Sage. https://doi.org/10.4135/9781412961288

Savóia, M. G., Santana, P. R., & Mejias, N. P. (1996). Adaptação do inventário de estratégias de coping de Folkman e Lazarus para o português. *Psicologia USP*, 7(1–2), 183–201. http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1678-51771996000100009&lng=pt&nrm=iso

Soares, A. B., & Del Prette, Z. A. P. (2013). *Guia teórico-prático para superar dificuldades interpessoais na universidade*. Appris.

Soares, A. B., Monteiro, M. C., Souza, M. S., Maia, F. A., Medeiros, H. C. P., & Barros, R. S. N. (2019). Situações interpessoais difíceis: Relações entre habilidades sociais e *coping* na adaptação acadêmica. *Psicologia: Ciência e Profissão*, *39*, 1–13. https://doi.org/10.1590/1982-3703003183912

Straub, R. O. (2014). *Psicologia da saúde: Uma abordagem biopsicossocial* (R. Costa, Trad.). (3rd ed.). Artmed.

Van Melis, M. T. V. (2016). *Treinamento de habilidades sociais com universitários da área de fonoaudiologia: Análise de conteúdo* [Unpublished Master's dissertation]. Universidade de São Paulo. https://doi.org/10.11606/D.25.2016.tde-28062016-083745