RESULTS AT LONG-TERM AMONG THREE PSYCHOLOGICAL TREATMENTS FOR ADOLESCENTS WITH GENERALIZED SOCIAL PHOBIA (II): CLINICAL SIGNIFICANCE AND EFFECT SIZE

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Abstract

The purpose of this study is to examine the clinical significance and effect size of three multi-component treatments for social phobia in adolescent population. Fifty-nine adolescents who met the DSM-IV (APA, 1994) criteria for generalized social phobia were assigned to three experimental treatments (N=44) or a control condition (N=15). Assessments were conducted at pretest, posttest and after a 12-month follow-up. Assessment measures included a broad range of scales to evaluate maladaptation, social skills, public speech, and self-esteem as well as cognitive and avoidance symptoms of social anxiety. Short-term and long-term results do support the effectiveness of the treatments in contrast with the control

condition according to high and very high effect sizes obtained. Furthermore, the outcomes based on clinical significance also show significant changes in contrast to control condition.

KEY WORDS: *Adolescence, effect size, clinical significance, social phobia, therapy.*

Resumen

El propósito de este estudio es examinar la significación clínica y los tamaños del efecto de tres tratamientos multicomponentes para la fobia social en una población adolescente. Cincuenta y nueve adolescentes que satisfacían los criterios del DSM-IV (APA, 1994) para la fobia social generalizada se asignaron a tres tratamientos experimentales (N=44) o a una condición control (N=15). Se realizaron evaluaciones antes y después del tratamiento y en un seguimiento de 12 meses. Las medidas de evaluación incluyeron un amplio rango de escalas para evaluar la falta de adaptación, las habilidades sociales, hablar en público, la autoestima así como síntomas conductuales y cognitivos de la ansiedad social. Los resultados a corto y largo plazo apoyan la eficacia de los tratamientos en contraste con la condición control según tamaños del efecto obtenidos altos y muy altos. Además, los resultados relativos a la significación clínica mostraban también cambios significativos en contraste con la condición control.

PALABRAS CLAVE: *Adolescencia, tamaño del efecto, fobia social, habilidades sociales, terapia.*

Introduction

Social phobia is a disabling and chronic anxiety disorder beginning in adolescence, and affecting about 10% of the population (Beidel & Turner, 1998). In addition to significant emotional distress, social phobics have impaired academic functioning and frequent associated comorbid disorders (Albano, DiBartolo, Heimberg & Barlow, 1995; Olivares & García-López, 2001). Surprisingly, there are very few studies of the outcome of treatments in adolescents with social phobia (Albano, Marten, Holt, Heimerg & Barlow, 1995) and even fewer report long-term findings (Hayward *et al.,* 2000; Olivares *et al.,* 2002). Among these, in an American population, Hayward *et al.* (2000) have provided evidence for a short-term effect of the *Cognitive-Behavioral Group Therapy for Adolescents* (CBGT-A; Albano, Marten & Holt, 1991). On the other side, in a recent study with an adolescent Spanish-speaking population, Olivares *et al.* (2002) have established the statistical effectiveness of the CBGT-A, the *Social Effectiveness Therapy for Adolescents-Spanish version* (SET-A$_{SV}$; Olivares, García-López, Beidel, & Turner, 1998) and the *Therapy for Adolescents with Generalized Social Phobia (Intervención en Adolescentes con Fobia Social Generalizada*-IAFSG-; Olivares & García-López, 1998) in contrast with a control group. However, none of them have provided effect sizes. Therefore there is a lack of results of psychological treatments for adolescent population with social phobia in relation to clinical significance and effect sizes. The study reported here is the first to date to report the results of a controlled trial to examine and compare behavioral and cognitive-behavioral treatments for adolescents with generalized social phobia.

The purpose of this study was: (a) to study the relation of effectiveness among various treatment programs, by means of the effect size and (b) to assess the clinical significance of the changes brought about by the treatments applied to the experimental subjects.

With regard to our first aim, we have tested three hypotheses, related to the following statement: «If we take into account the effect size, it is expected that effect sizes would be higher in the treatment programs that: (1) include cognitive restructuring (CBGT-A and IAFSG) in comparison with SET-A$_{SV}$; (2) dedicate a greater amount of time to social skills training (SET-A$_{SV}$ and IAFSG) in comparison with CBGT-A and (3) include public speaking skills training (SET-A$_{SV}$ and IAFSG) in comparison with CBGT-A.

In relation to our second aim, we have adopted two criteria to assess clinical significance: (a) non-fulfillment of the DSM-IV criteria for social phobia (total remission) and (b) a 75% decrease in the number of phobic social situations in the pretest, measured by the number of feared social situations described in the ADIS-IV-social phobia section (partial remission). To assess the attainment of this goal we have experimentally tested the following hypotheses: Whether we use the criteria of «non-fulfilling the DSM-IV criteria for a diagnosis of social phobia» (total remission) or «reaching a 75% decrease in the number of anxiety producing social situations that the subject reported in the pretest (social phobia section of the ADIS-IV)», there should be statistically significant differences among the effects of the treatment in contrast with the control group in the posttest and/or the follow-up.

Method

Subjects

The sample consisted of 59 adolescents who met DSM-IV criteria for generalized social phobia (APA, 1994), with a greater number of girls (46; 77.97%) than boys (13; 22.03%) and a mean age of 15.92 years (SD=0.79, range 15-17 years). Ninety three percent of the adolescents lived in families with both parents. A more detailed description can be obtained in a previous article (Olivares *et al.*, 2002).

Design

A quasi-experimental design was used, to compare the three experimental groups and the control group, with independent measures in the treatment factor as well as multiple and repeated measures in the evaluation factor. The experimental conditions were: (a) the treatment program «Social Effectiveness Therapy for Adolescents-Spanish version» (SET-A$_{SV}$; Olivares *et al.*, 1998); (b) the treatment pack termed «*Cognitive-Behavioral Group Therapy for Adolescents*» (CBGT-A; Albano *et*

al., 1991) and (c) the treatment program labeled «*Therapy for Adolescents with Generalized Social Phobia*» *(Intervención en Adolescentes con Fobia Social Generalizada*-IAFSG-; Olivares & García-López, 1998).

A more detailed description can be obtained in a previous article (Olivares *et al.,* 2002).

Assessment measures

Subjects were assessed with a battery of self-report inventories at pre- and posttest and at 12-month follow-up. These included the *Social Phobia and Anxiety Inventory* (SPAI; Turner, Beidel, Dancu & Stanley, 1989), which is comprised of two scales: the 32 item Social Phobia (SP) subscale and the 13-item Agoraphobia subscale and a Difference score; the *Social Anxiety Scale for Adolescents* (SAS-A; La Greca & López, 1998), which includes a subscale reflecting fears or worries of negative evaluations from peers (FNE) and two subscales reflecting social avoidance and distress: one that is specific to new social situations or unfamiliar peers (SAD-New) and one that reflects generalized social inhibition (SAD-General) and finally, a Total score can be obtained by summing all the subscale items; the *Public Report of Confiance as Speaker (PRCS; Paul, 1966)*, consists of 30 true-false items to measure subjective public speaking anxiety; the *Inadaptation Scale* (Echeburúa & Corral, 1987), ranging from 6 to 36 (the higher the score, the poorer the adaptation); the *Rosenberg Self-Esteem Scale* (Rosenberg, 1965) ranging from 10 to 40 (the higher the score, the greater the self-esteem); *Social Skills Scale for Adolescents (Escala de Habilidades Sociales para Adolescentes* —EHSPA—; Méndez, Martínez, Sánchez & Hidalgo, 1995) consists of 160 items divided into four social areas where adolescents spend much of their time: high-school, friends, family and street and the *Anxiety Disorders Interview Schedule for DSM-IV, Social phobia section (ADIS-IV-SP)* (DiNardo, Brown & Barlow, 1994) consists of 13 dimensional ratings evaluating fear and avoidance using a clinical severity rating (a 9-point scale ranging from 0, *none*, to 8, *very severely disturbing/disabling*). A section on Avoidance Personality Disorder and elective mutism according to DSM-IV criteria was added to the ADIS-IV. More details are described elsewhere (Olivares *et al.,* 2002).

Procedure

A brief description of treatments is mentioned. More details can be obtained in a previous article (Olivares, *et al.,* 2002).

SET-A$_{sv}$ (*Social Effectiveness Therapy for Adolescents-Spanish version*; Olivares *et al.,* 1998) was developed starting from programs created for adult population (SET) and child population (SET-C). SET-A$_{sv}$ consists of 29 treatment sessions over a period of 17 weeks. The components of this program are Educational, Social Skills training, Exposure and Programmed Practice. The sessions are held twice a week except those concerning the educative phase and programmed practice which are once a week. The Educational, Social Skills training and Exposure components are

conducted during the first thirteen weeks. The Educational component occurs during the first group session; afterwards the other two components are applied simultaneously once a week over 12 weeks. Concurrently, exposure sessions are conducted with an individual format, approximately 30-minutes. The last treatment component, Programmed practice, is developed along four individual 60-minute sessions, once the Social Skills training and in vivo Exposure are finished.

The CBGT-A (*Cognitive-Behavioral Group Therapy for Adolescents*; Albano *et al.*, 1991) includes 16 group treatment sessions, which are developed during a period of 14 weeks. All the sessions were 90 minutes long with a group format. The first four sessions are conducted twice a week; the remaining twelve were hold on a weekly. The CBGT-A is divided in two phases of eight sessions each: (a) Educative and Skills building and (b) Exposures. During the first phase, the therapist gives information about the treatment program and makes a presentation of the explanatory model of social phobia. Afterwards, in the Skills building unit, social skills, problem solving training and cognitive restructuring (Therapy of Beck) are worked on. Regarding the second phase, the Exposure, behavior rehearsals and in vivo exposures were carried out in vivo in order to cope with the social situations that the adolescents fear.

The *Therapy for Adolescents with Generalized Social Phobia* (*Intervención en Adolescentes con Fobia Social Generalizada-IAFSG-*; Olivares & García-López, 1998) consists of 12 group sessions with a 90 minute length and a weekly frequency. In these, the subjects are trained in social skills and cognitive restructuring techniques (therapy of Beck). In addition, in the group sessions the expositions were recorded by a video camera.

Along with the group sessions, the subjects had a weekly individual counseling schedule available. The schedule was two hours a week, distributed along a flexible program that was drawn according to the number of subjects that requested counseling for that week. These individual sessions were optional, unlike SET-A$_{SV}$.

Statistical Analysis

Effect sizes (ES) were computed to represent the advantage of experimental treatments over the control condition for the postest and follow-up. ES between group comparisons has been computed at each of the assessments times (pretest, posttest and follow-up). We have adopted the criteria proposed by Cohen (1988), in which 0.2 means a low effect size, 0.5 means average and 0.8 means high. A high effect size allows statistical significance with no hazard for the sensitivity of the research.

To examine the clinical effectiveness, two criteria were defined, one stricter than the other: in the first one, the subjects must not fulfill the DSM-IV criteria for social phobia; while the second criterion implies a decrease of 75% of the number of feared social situations that the subjects reported in the pretest (measured by the social phobia section of the ADIS-IV). These effectiveness indicators are assessed at posttest and follow-up. In order to do this, four contingency tables were

constructed, one for each combination of effectiveness criteria with the chronological measure (posttest or follow-up). Each contingency table included the four experimental categories (SET-A$_{SV}$, CBGTA, IAFSG and control group) and the two possible clinical results according to the criterion used. The following analyses were applied to each contingency table: (1) First, Pearson's Chi-square test was applied to verify if there were differences among the four conditions. A significance level of α = 0.05 was applied; (2) Second, if the Chi-square test turned out significant, *a posteriori* comparisons were carried out in pairs by means of the Scheffé procedure. This way, comparative results were obtained between each treatment and the control group. A significance level of α = 0.05 was also applied, but the Bonferroni correction was employed to control the increase of the Type I error rate. In this way, given that in each contingency table three simple comparisons were analysed, the level of real significance used to assure a 5% error in each one of them was: 0.05/3 = 0.017; (3) Finally, due to the small sample size (15 subjects per group), the results were complemented with the estimate of rates of the effect size that would show the magnitude of the difference of the rate of success among the conditions. To sum up, the index used was the standardized mean difference, which is the difference in the success ratio of both groups of therapy divided by an estimate of the joint standard deviation (Johnson, 1991). This index may be considered as a standard score (which usually adopts values between (-3 and +3) and, following the recommendation of Cohen (1988), values around 0.20, 0.50, and 0.80 may be inferred as illustrating a low, average and high clinical significance, respectively.

Results

As for the results on our first aim, Table 1 shows the effect size in each treatment condition.

With respect to the results of clinical significance, initially we present data obtained when the clinical effectiveness criteria is the lack of a social phobia diagnosis. Table 2 shows the posttest contingency table, which no statistically significant differences [$\chi^2(3)$ = 5.382, *p* = .146], although the association coefficient presents a far from negligible magnitude (*V* of Cramer = 0.302). However, fairly different proportions of clinical success were found among the four groups, the lowest in the control group, with 13.33%, followed by SET-A$_{SV}$ (35.71%) and IAFSG (33.33%) and the best in the CBGTA group, with a 53,33% success. Neither Chi-square test was significant nor the *a posteriori* comparisons (see Table 3). However, high ES seems to indicate that there is some effectiveness in the CBGTA treatment higher than the control group (*d* = 0.94), as well as in the other two groups of treatment in contrast to the control group (SET-A$_{SV}$: *d* = 0.54; IAFSG: *d* = 0.49). The finding of effect sizes that are not null in comparison with the control group hints that they have some clinical effectiveness that should be tested in later research using a larger sample size in order to confirm it (or refute it).

Table 1
Effect size by treatment condition

		POSTEST (covariate: pretest)			FOLLOW-UP (covariate: postest)			FOLLOW-UP (covariate: pretest)		
		$SET-A_{sv}$	CBGT-A	IAFSG	$SET-A_{sv}$	CBGT-A	IAFSG	$SET-A_{sv}$	CBGT-A	IAFSG
SPAI										
	SP	1.30	1.19	1.25				1.09		1.18
	DIF	1.24	1.37	1.32				0.95		1.06
SAS-A										
	FNE	1.35	2.09	1.68			2.47	1.25	1.66	1.93
	SAD-N	1.62		1.44						1.45
	SAD-G			1.25						1.55
	Total	1.83	1.59	1.67			2.43		1.46	1.93
SEF-ESTEEM			1.34	1.82					1.11	1.37
INADAPTATION		1.87		2.43				1.43		1.76
PRCS		2.16	2.46	2.72				1.25		1.45
EHSPA						1.32	2.05	1.28	1.18	1.83
ADIS-SP		1.16	1.08	1.15	2.51		2.30	2.02	1.39	1.85

$SET-A_{sv}$: Social Effectiveness Therapy for Adolescents-Spanish version, CBGT-A: Cognitive-Behavioral Group Therapy, IAFSG: Intervención en Adolescentes con Fobia Social Gneralizada (Therapy for Adolescents with Generalized Social Phobia).

However, in the follow-up there are statistically significant differences, as shown on Table 2 [$\chi^2(3) = 9.781$, $p = .021$]. This implies that the success rates are different for the four therapy groups, the lowest for the control group, with a 6.67% success, followed by the CBGTA with a 26.67% and with groups $SET-A_{sv}$ and IAFSG showing the highest rates, with 57.14% and 46.67% respectively (see Table 2). A posteriori comparisons are shown on Table 3. As can be seen on this table, there were significant differences in the success rates of $SET-A_{sv}$ with the control group, with no significant results found in comparing the other two treatment groups with the control group. However, the high rates of ES seems to indicate that there are clear signs of clinical effectiveness, not only in treatment $SET-A_{sv}$ ($d = 1.30$), but also in the other two treatments, CBGTA ($d = 0.56$) and IAFSG ($d = 1.01$).

Table 2
Effectiveness results at 100%

		TYPE OF TREATMENT				
	Result	SET-A$_{sv}$	CBGTA	IAFSG	CONTROL	*Totals*
Postest	Negative	9 64.29%	7 46.67%	10 66.67%	13 86.67%	39 66.10%
	Positive	5 35.71%	8 53.33%	5 33.33%	2 13.33%	20 33.90%
	Totals	14	15	15	15	59
	$\chi^2(3) = 5.382$, $p = .146$. Coefficient *V* of Cramer= 0.302					
		TYPE OF TREATMENT				
	Result	SET-A$_{sv}$	CBGTA	IAFSG	CONTROL	*Totals*
Follow-up	Negative	6 42.86%	11 73.33%	8 53.33%	14 93.33%	39 66.10%
	Positive	8 57.14%	4 26.67%	7 46.67%	1 6.67%	20 33.90%
	Totals	14	15	15	15	59
	$\chi^2(3) = 9.781$, $p = .021$. Coefficient *V* of Cramer = 0.407					

Note. The percentages of success or failure reached in each group are shown under each frequency.

Table 3
A posteriori comparisons and effect sizes with the effectiness criterium of 100%

	Cᴏᴍᴘᴀʀɪsᴏɴ	Dɪғғᴇʀᴇɴᴄᴇ	Dᴇᴄɪsɪᴏɴ	*d*	Mᴀɢɴɪᴛᴜᴅᴇ
Postest	SET-A$_{sv}$ vs. Control	0.2238	NS	0.54	Average
	CBGTA vs. Control	0.4000	NS	0.94	High
	IAFSG vs. Control	0.2000	NS	0.49	Average
	Cᴏᴍᴘᴀʀɪsᴏɴ	Dɪғғᴇʀᴇɴᴄᴇ	Dᴇᴄɪsɪᴏɴ	*d*	Mᴀɢɴɪᴛᴜᴅᴇ
Follow-up	SET-A$_{sv}$ vs. Control	0.5047	*	1.30	High
	CBGTA vs. Control	0.2000	NS	0.56	Average
	IAFSG vs. Control	0.4000	NS	1.01	High

Note. The 'Difference' column presents the difference between the proportion of success of the two groups compared. NS = Non Significant result; * = Result significant at 5%. Index *d* represents the effect size defined as the difference between the success rates divided by the standard deviation.

Second, we used as a clinical effectiveness criterion a 75% decrease in the number of social phobic situations endorsed at the pretest, such as is given in the ADIS-IV social phobia section. At posttest, there were significant differences between the active treatments and the control condition, as shown on Table 4 [$\chi^2(3)$ = 12.358, *p* = .006]. Again the control group presents the lowest success rate, with 13.33%, with the treatment showing clearly superior rates: 71.43%, 53.33% and 66.67% for groups SET-A$_{SV}$, CBGTA and IAFSG, respectively. *A posteriori* comparisons are shown on Table 5, with significant differences for comparisons of SET-A$_{SV}$ and IAFSG in relation to the control group but not the CBGTA. However, the small sample size may conceal differences in effectiveness among treatments. Specifically, the calculation of the effect sizes seems to indicate that there is high effectiveness in the three treatments in relation to the control group (SET-A$_{SV}$: *d* = 1.46; CBGTA: *d* = 0.94; IAFSG: *d* = 1.30).

Table 4
Effectiveness results at 75%

		TYPE OF TREATMENT				
	Result	SET-A$_{SV}$	CBGTA	IAFSG	CONTROL	*Total*
Postest	Negative	4 28.57%	7 46.67%	5 33.33%	13 86.67%	29 49.15%
	Positive	10 71.43%	8 53.33%	10 66.67%	2 13.33%	30 50.85%
	Total	14	15	15	15	59
	$\chi^2(3)$ = 12.358, *p* = .006. Coefficient *V* of Cramer = 0.458					
		TYPE OF TREATMENT				
	Result	SET-A$_{SV}$	CBGTA	IAFSG	CONTROL	*Total*
Follow-up	Negative	3 21.43%	8 53.33%	4 26.67%	14 93.33%	29 49.15%
	Positive	11 78.57%	7 46.67%	11 73.33%	1 6.67%	30 50.85%
	Total	14	15	15	15	59
	$\chi^2(3)$ = 19.160, *p* < .001. V of Cramer = 0.570					

Note. The percentages of success or failure reached in each group of treatment are shown under each frequency.

Table 5
A posteriori comparisons and effect sizes with the effectiveness criterium of 75%

	COMPARISON	DIFFERENCE	DECISION	d	MAGNITUDE
Postest	SET-A$_{SV}$ vs. Control	0.5810	*	1.46	High
	CBGTA vs. Control	0.4000	NS	0.94	High
	IAFSG vs. Control	0.5334	*	1.30	High
	COMPARISON	DIFFERENCE	DECISION	d	MAGNITUDE
Follow-up	SET-A$_{SV}$ vs. Control	0.7190	*	2.13	Very high
	CBGTA vs. Control	0.4000	NS	1.01	High
	IAFSG vs. Control	0.6666	*	1.86	Very high

Note. The 'Difference' column presents the difference between the proportion of success of the two groups compared. NS = Non Significant result; * = Result significant at 5%. Index d represents the effect size defined as the difference between the success rates divided by the standard deviation.

Finally, the results of 75% of effectiveness in the follow-up show that there is a differential effectiveness among the different groups, as shown on Table 4 [$\chi^2(3)$ = 19.160, $p < .001$]. Thus, as expected, the control group shows the poorest results, with a clinical success rate of only 6.67%, while the three active treatments show considerably higher rates: 78.57% for SET-A$_{SV}$, 73.33% for IAFSG somewhat lower for treatment CBGTA with 46.67%. The analysis of *a posteriori* comparisons shown on Table 5, reflect that there are significant differences when comparing the control group with treatments SET-A$_{SV}$ and IAFSG, but not in comparing the control group with treatment CBGTA. These results are complemented with the calculation of the effect sizes, that reach a high magnitude values in comparing the control group with treatments SET-A$_{SV}$ (d = 2.13) and IAFSG (d = 1.86). However, although the comparison of the control group with treatment CBGTA does not reach a significant result, the effect size obtained has a high magnitude (d =1.01), which indicates that there is clear effectiveness of the treatment higher than no therapy.

Discussion

As for our hypotheses in relation to the effect size, the results indicate that the effect size found in most of the measurements analysed is higher in the posttest than in the follow-up (covariate: pretest), which is consistent with what was found in adult population by Akillas and Efran (1995), Bados and Saldaña (1990) or Van Velzen, Emmelkamp and Scholing (1997), but contrasts with what was also found in this population by Heimberg *et al.* (1990), Mattick and Peters (1988), Salaberría

and Echeburúa (1998) or Turner, Beidel and Cooley-Quille (1995), who observed a major decrease in the social anxiety symptoms in the pretest–follow-up comparisons. Unfortunately, the lack of published work on therapy for adolescents with social phobia does not allow us a comparison of our results with other studies in order to establish a comparative analysis, although the ESs are very high for all three active treatments for the posttest and follow-up, since all of them are higher than 0.80, the valued given by Cohen (1988) to assume a high ES, which leaves no doubt about the effectiveness of the active treatments in contrast to the control group.

Regarding the first of the hypothesis, we proposed that the ES would be higher in the treatments that combine cognitive restructuring (CBGTA and IAFSG) than in those that do not include it (SET-A$_{SV}$). This hypothesis is confirmed at postest and follow-up (covariates: pretest and postest), which seems to indicate that the inclusion of this component in the therapy brings about a change that is maintaned in the long term. Likewise, we must mention that among all of the measurements analyzed in the follow-up (covariate: pretest), the highest ES observed in the CBGT-A and IAFSG belongs to the SAS-A/FNE. These statistical results are in the line of those of various authors that stress the relevance of the cognitive component in the genesis and maintenance of social phobia (Rapee & Heimberg, 1997). However, this has not brought along a change in clinical significance since the subjects that composed the CBGT-A and IAFSG do not turn out higher than SET-A$_{SV}$ in relation to the criteria of lack of a DSM-IV diagnosis for social phobia or the 75% decrease in the number of phobic social situations at pretest. All of this leads to a deeper study in what many other researchers have pointed out: in spite of the fact that changes in cognitive responses are verified, they do not necessarily lead to a change in the anxiety responses, in the event that the subject has not been exposed to the feared situations, that is, exposition is still the active principle in the treatment of social phobia. In this way, in our work it is shown that the addition of cognitive restructuring to exposition (as in the case of CBGT-A and IAFSG) does not bring about a clinically higher improvement than a solely behavioral treatment (SET-A$_{SV}$). In this sense, our data seem to point out that the addition of the cognitive component is neither a necessary nor sufficient condition for therapeutic change. These results are in line with those obtained in the meta-analysis of Feske and Chambless (1995), Gould, Buckminster, Pollack, Otto and Yap (1997) or Taylor (1996), in which it is clearly documented that exposition by itself generates changes and that the addition of the cognitive restructuring component to treatment does not contribute significantly in the decrease of social anxiety symptoms.

With respect to the second hypothesis, it was proposed that treatments that dedicate more time to social skills training (SET-A$_{SV}$ and IAFSG) would show a higher ES than those that do not (CBGT-A). However, there were no significant differences in the SET-A$_{SV}$ at posttest although at follow-up it is observed that the SET-A$_{SV}$ show a higher ES than the CBGT-A. Since SET-A$_{SV}$ dedicates eight of its twelve group sessions for social skills training (SST), the lack of significance in the differences obtained in the posttest is surprising. These results could probably be explained

starting from the hypothesis that at posttest the subjects had not yet put their social skills into practice, with the necessary frequency and extent, to generate significant changes; on the other hand, at follow-up, after a period of time the subjects could have done it; which would result in the ES. On the contrary, consistent with our hypothesis, in the IAFSG an ES higher than the CBGT-A is observed. From our point of view, a plausible explanation for these results could be found in the fact that the IAFSG, in addition to having SST in the group sessions, also dedicates other sessions so that the subjects expose themselves to situations of interaction with people of the same and different sex (with the help of collaborators). That is, the subjects not only receive training in social skills and are given instructions to put them in practice in their work at home, but also the sessions of exposure, included in the IAFSG, allow that: (a) the subject put in practice their skills, (b) the therapist may have information about the responses of the subject, before, during and after the exposure to the social situation so as to act in consequence, and (c) the subject may be given information and reinforcement about their own performance and how it has been evaluated by the collaborator and the rest of the group. All of this may allow the subject's negative belief to be offset by the feedback of the collaborator as well as of the fellow group members themselves.

Finally, based on the third hypothesis, it was expected that the multicomponent treatment programs that included training in public speaking skills (SET-A$_{SV}$ and IAFSG) would show a ES than those that do not (CBGT-A, in our case). This hypothesis is confirmed at follow-up (covariate: pretest and postest). At posttest (covariate: pretest), the IAFSG shows an ES higher than CBGT-A, but the CBGT-A manifests an ES higher than the SET-A$_{SV}$. For the analysis of these data it is suitable to take into account two elements: (a) SET-A$_{SV}$ as well as IAFSG dedicate the last four sessions to training in public speaking skills, the IAFSG differing in that it includes the *videofeedback* component and (b) during the exposure phase, in the CBGT-A there is no previous limit to the number of sessions dedicated to one component or other, the areas to be worked are determined by the behavior aims that the subjects themselves establish. Consistent with the evidence that shows that fear of speaking in public is one of the most feared social situations, the subjects that consisted the CBGT-A included in their behavior aims those with regard to overcoming this fear, so that a gradual esposure to situations that meant speaking before an audience was carried out, with no specific previous training in public speaking skills. However, contrary to what occurs in SET-A$_{SV}$ and IAFSG, the exposure was not conducted only during the last sessions, so that the subjects had more time and opportunities to expose themselves, which might to contribute to generate a greater change at postest. In this way, the CBGT-A could have shown a higher ES than SET-A$_{SV}$ in the short-term because of the longer period of time available to practice their skills. However, the effects of training in public speaking skills favored SET-A$_{SV}$ which had a higher ES than CBGT-A at follow-up. The IAFSG had a higher ES at postest and follow-up than SET-A$_{SV}$. Since the only differentiating element between the two has been the use of *videofeedback* in the IAFSG, it seems reasonable to attribute the difference in ES to this component to counteracts the beliefs of the subjects about their own performance, by giving them an objective

and complementary *feedback* to the evaluation of their fellow group members (subjective *feedback*). This result is consistent with those of the studies that have also shown the usefulness of this component in the field of social phobia (v.gr., Asendorpf, 1987; Botella, García-Palacios, Villa and Gallardo, 1998; Harvey, Clark, Ehlers and Rapee, 2000; Rapee and Hayman, 1996).

With regard to the hypothesis about clinical significant changes, our results show that, with the strictest criterion (lack of DSM-IV social phobia diagnosis), at posttest there were no statistically significant differences in relation to the control group neither in SET-A$_{SV}$, nor in CBGT-A, nor in IAFSG. However, although the comparison of the treatments with the control group does not turn out statistically significant, the ES obtained in the comparisons indicate the effectiveness of the active treatments as opposed to no therapy. In contrast, at follow-up we found significant improvement between SET-A$_{SV}$ and the control group, consistent with our hypotheses, but no statistically significant differences are found of the IAFSG or the CBGT-A in contrast to the control group. Nevertheless, just the same as in the posttest, the ES that the two latter treatments present indicate their effectiveness as opposed to no treatment. As for the less strict criterium (ADIS-SP: 75% reduction), it is observed, at posttest and follow-up, there were significant improvement between the SET-A$_{SV}$ and IAFSG in contrast to the control condition, but not so on the CBGT-A. In spite of this, the ES obtained by the CBGT-A also seems to indicate the effectiveness of this modality of therapy in comparison with no treatment.

To summarize, in light of the data analyzed in relation to clinical significance and effect size, there seems to be a greater effectiveness of the experimental treatments as opposed to the control condition. In addition, the data show that the clinical significance is greater in the follow-up than in the posttest, which indicates a generalization of the results.

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