

Anger, Interpersonal Relationships, and Health-Related Quality of Life in Bullying Boys Who Are Treated With Outpatient Family Therapy: A Randomized, Prospective, Controlled Trial With 1 Year of Follow-up

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ABSTRACT. *Objective.* Ten to 30% of students engage in bullying behavior. Bullies stand out on account of increased anger, poor interpersonal relationships, and poor quality of life. Our aim was to determine the effectiveness of outpatient family psychotherapy as a monotherapy for anger reduction and improvement of behavior and interpersonal relationships and of health-related quality of life in male youths with bullying behavior.

Methods. Twenty-two boys with bullying behavior took part in a family therapy program for 6 months. The control group was also composed of 22 youths and took part in a placebo intervention program. Every 2 weeks, results were checked with the Adolescents Risky-Behavior Scale (ARBS), the State-Trait Anger Expression Inventory (STAXI), the Inventory of Interpersonal Problems (IIP-D), and the SF-36 Health Survey (SF-36). Follow-up testing took place 12 months after treatment.

Results. In comparison with the control group (according to the intention-to-treat principle), bullying behavior was reduced (family therapy group: from $n = 22$ to $n = 6$; control group: from $n = 22$ to $n = 20$). Significant changes on all ARBS scales and on the STAXI scales State-Anger, Trait-Anger, Anger-Out, and Anger-Control were observed after 6 months. In the IIP-D, significant differences were found on the scales for overly autocratic, overly competitive, overly introverted, overly expressive, and exploitable/compliant. In the SF-36, significant differences were observed in general health perceptions, vitality, social functioning, role-emotional, and mental health. The reduction in expression of anger correlated with a reduction in several scales of the ARBS, IIP-D, and SF-36. Follow-up after 1 year showed relatively stable, lasting treatment effects.

Conclusion. The results of this study show that outpatient family therapy seems to be an effective method of reducing anger and improving interpersonal relationships and health-related quality of life in male youths with bullying behavior. *Pediatrics* 2005;116:e247–e254. URL: www.pediatrics.org/cgi/doi/10.1542/peds.2004-2534; *bullying, family interventions.*

ABBREVIATIONS. STAXI, State-Trait Anger Expression Inventory; IIP-D, Inventory of Interpersonal Problems; SF-36, SF-36 Health Survey; FamTh-G, family therapy-treated group; CG, control group; ARBS, Adolescents' Risky-Behavior Scale; PHFU, physical functioning; ROPH, role limitations as a result of physical health; BOPA, bodily pain; GEPE, general health perceptions; VITA, vitality; SOFU, social functioning; ROEM, role limitations as a result of emotional problems; PSYC, mental health.

Approximately 10% to 30% of all students engage in bullying behavior.^{1–3} It has been recognized recently as a health problem for school children because of its association with a range of adjustment problems, including poor mental health and violent behavior.⁴ Studies that have relied solely on self-reports indicated that bullies have common psychological and social problems.^{2,4} Conversely, Juvonen et al⁵ found that boys with bullying behavior show minimal psychological stress and good mental health.

Espelage et al⁶ and Stockdale et al⁷ found that the level of bullying correlates positively with the level of anger. Furthermore, among male school students, perpetration (not victimization) is strongly associated with a poor health-related quality of life and lower scores for all domains of life satisfaction.^{8,9}

Anger and maladaptive aggression is 1 of the most common and troublesome grounds for physician referrals in the adolescent population.¹⁰ The degrees of family conflict, domestic violence, and family support all have a critical impact on the extent of the problem.¹¹ Treatment for aggression is based on the underlying causes and should generally combine pharmacologic^{12–14} and environmental or psychotherapeutic (as well as family therapeutic)^{15–19} measures.

Family therapy is the treatment component of the philosophy that expands the concept of illness to include a person's involvement in his or her family network.^{19,20} It is a form of psychotherapy: the treatment of illness by psychological means. The therapist may actively intervene in the therapy room (the "opening theater") when family members display and repeat destructive sequences of behavior.²⁰ Many family members feel invalidated by their teenager's emotional tumultuousness and aggressive behavior.²¹ By working with families, the therapist gains better insight into the transactional nature of

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these behaviors and thus can address directly the interactions among family members.²¹ It is imperative to recognize and highlight the transactional relationship between adolescents and their families.²⁰ Family sessions are also critical because the circumstances at home might play an important role in the adolescent's symptomatic behavior.²¹ The therapist encourages parents to coach the adolescent in developing new skills and to alter the way they respond to their adolescent's behaviors.²² In this manner, the therapist handles the family as a partner in treatment, rather than a target.²¹

As a rule, we include children and adolescents in our work. We use integrative family therapy, which may be defined as a coherent clinical synthesis of the more individually oriented behavior therapy and psychodynamic therapy with a broader family-systems orientation that maintains the integrity of all 3 theoretical approaches while addressing the treatment needs of youths and their families (cf ^{21,23,24}). The aim of this study was to find out whether the use of ambulant family therapy is effective as a monotherapy in reducing anger and improving behavior,

interpersonal relationships, and health-related quality of life in young male youths who stand out on account of their bullying behavior.

METHODS

Selection and Description of Participants

A total of 320 families within a radius of 20 km from the clinic were selected for this study with random numbers from an Excel table. Between 1998 and 2003, trained staff contacted 302 of these families by telephone. The male adolescents from these families, if indeed there were any, were asked about any possible, subjectively felt aggressiveness as a result of intrafamilial conflicts. They were specifically questioned about their situation at home, their relationships to their parents and siblings, and their conflict behavior. In addition, the first aggression screening by means of the State-Trait Anger Expression Inventory (STAXI; see below) was conducted by telephone. Nonresponders were those who could not be contacted, although up to 5 attempts were made to do so at different times of day, or who refused an interview.

The study's inclusion criteria were age between 14 and 16 years and bullying behavior of at least 6 months' duration. Exclusion criteria were psychotic illnesses, liability to prosecution, use of psychotropic medication and/or psychotherapy, or current use of narcotics. Sixty-nine male youths, who were assessed after the telephone interview as potentially meeting the inclusion criteria (Fig 1), were invited with their families to participate in a face-to-

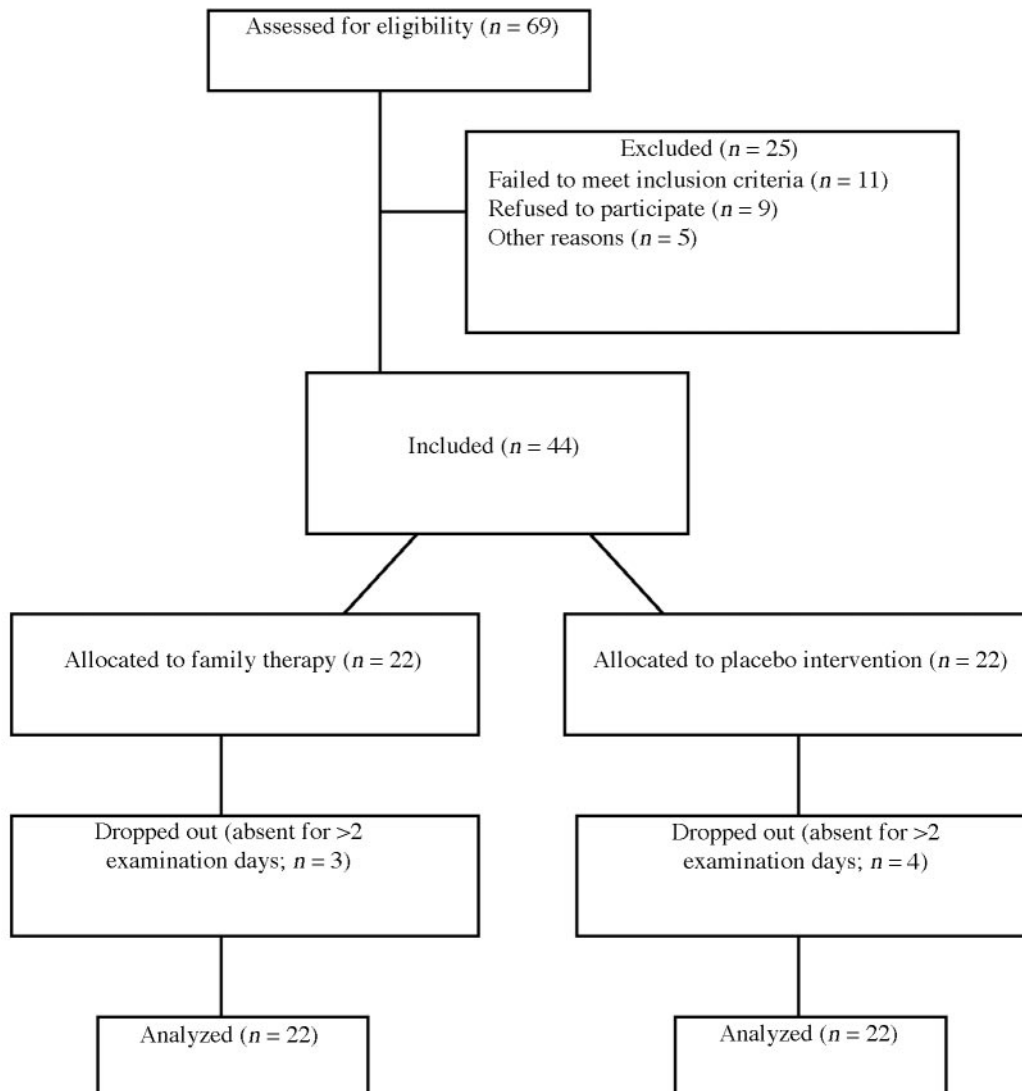


Fig 1. Flow chart of patients' progress through the phases of the trial.

face interview and were tested with STAXI, the Inventory of Interpersonal Problems (IIP-D), and the SF-36 Health Survey (SF-36; see below).

The necessary sample size was calculated for a type I error of 5% ($z_1 = 1.96$) and a power analysis of 80% ($z_2 = 0.842$), based on the mean value ($m_1 = 19.5$ and $m_2 = 14.5$) and SD ($s_1 = 6.4$ and $s_2 = 5.3$) for the Anger-Out scale of STAXI, which were obtained from a small pilot study. The formula is n (per group) = $[(z_1 + z_2)^2 \times (s_1^2 + s_2^2)] / (m_1 - m_2)$.²⁵ This resulted in a group size of $n = 44$. Twenty-two boys were randomly selected for a family therapy program (FamTh-G), and 22 were selected for the control group (CG), using Excel tables with random numbers (Fig 1). Both randomizations were performed confidentially by the clinic administration.

All families appeared for the first therapy date (the FamTh-G [38 parents, 22 adolescent subjects, and 11 younger siblings]; the CG [39 parents, 22 adolescent subjects, and 12 younger siblings]). When the parents were separated and the distances involved were reasonable, we tried to invite both parents. The subjects were reminded about the appointment 3 to 5 times by telephone.

The boys in both groups were Germans from a small-town, rural population, were in good physical health, and had a comparable mean age (FamTh-G: 15.2 ± 0.5 years; CG: 14.9 ± 0.5 years), and comparably many of them lived together with both parents (FamTh-G: $n = 15$ [68.2%]; CG: $n = 16$ [72.7%]). The principal wage earners in the families were white-collar workers or civil servants (FamTh-G: $n = 14$ [63.6%]; CG: $n = 16$ [72.7%]) and blue-collar workers (FamTh-G: $n = 8$ [36.4%]; CG: $n = 6$ [27.3%]); a number of them were unemployed at the time of the pretherapeutic survey (FamTh-G: $n = 5$ [22.3%]; CG: $n = 6$ [27.3%]; at this point in time, the unemployment rate in Bavaria was calculated at ~3.5%). Conduct disorder (FamTh-G: $n = 11$ [50.0%]; CG: $n = 10$ [45.4%]), oppositional defiant disorder (FamTh-G: $n = 9$ [40.9%]; CG: $n = 9$ [40.9%]), borderline personality disorder (FamTh-G: $n = 4$ [18.2%]; CG: $n = 5$ [22.7%]), bulimia (FamTh-G: $n = 2$ [9.1%]; CG: $n = 2$ [9.1%]), and attention-deficit/hyperactivity disorder (FamTh-G: $n = 2$ [9.1%]; CG: $n = 1$ [4.5%]) were diagnosed according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*. Most boys (65.9%) met the criteria for >1 disorder.

Assessment

At each examination, the Adolescents' Risky-Behavior Scale (ARBS), the STAXI, the IIP-D, and the SF-36 were used to assess anger, interpersonal relationships, and health-related quality of life. Siblings under the age of 14 were not tested but nevertheless took part in the family therapy or placebo intervention program (see below).

The ARBS is a procedure for assessing risky behavior in adolescents and consists of 7 scales: Drug Use (DU), Smoking (S), Binge Drinking (BD), Excessive Media Use (EMU), Sex Without a Condom (SW/OC), Sex While Using Drugs and Alcohol (SWDA), Sexual Disinhibition (SDI), and Index (I). Each scale is scored from 0 to 4, where 4 represents the strongest expression of the respective risky behavior. Thus, subjects can score between 0 and 28 points on the index. The validation of the ARBS (a test that we developed) has not been concluded definitively. For this reason, we are unable to provide any values or data from the literature.

The STAXI is a procedure for assessing anger and expression of anger (for male test subjects: Cronbach $\alpha = .76$ – $.89$; retest correlation 8 weeks later = $.55$ – $.75$) and consisting of 44 items that form 5 scales:

- State-Anger (S-A): subjective state of anger at the time of measurement
- Trait-Anger (T-A): readiness to react with anger (norm value: 18.1; SD: 5.34)
- Anger-In (AI): tendency to suppress anger (norm value: 16.0; SD: 4.04)
- Anger-Out (AO): tendency to direct anger outward (norm value: 13.0; SD: 4.02)
- Anger-Control (AC): tendency to keep anger under control (norm value: 22.4; SD: 5.29)

The values for S-A and T-A range from 10 to 40, and the others range from 8 to 32.²⁶

The IIP-D is primarily a questionnaire for individual status and change in clinical and personality psychology. The scales of the

questionnaire are derived from theory and describe 8 subdimensions of the interpersonal circumplex: overly autocratic/dominant (PA), overly quarrelsome/competitive (BC), overly distant/cold (DE), overly introverted/socially avoiding (FG), overly subassertive/submissive (HI), overly exploitable/compliant (JK), overly nurturing/friendly (LM), and overly expressive/importunate (NO). With the IIP-D, one can obtain a complex picture of a person's interpersonal problems with relatively little effort. The consistency coefficients (Cronbach α) are ~.60. The IIP-D is designed as a self-rating scale. The answers are coded into a rating scale on the questionnaire corresponding to 0 to 4. The raw values for the individual items then are added for each scale, and the sums yield the scales' raw values.²⁷

The SF-36²⁸ was developed to obtain individual reports from patients on their health-related quality of life, irrespective of their current state of health and age. It consists of a questionnaire with 36 items that are categorized according to several subject areas. The items record 8 dimensions of subjective health: physical functioning (PHFU), role limitations as a result of physical health (role-physical; ROPH), bodily pain (BOPA), general health perceptions (GEPE), vitality (VITA), social functioning (SOFU), role limitations as a result of emotional problems (role-emotional; ROEM), and mental health (PSYC). The items and scales of the SF-36 were calculated so that a higher score corresponds to a better state of health. A higher score in functionality, for instance, indicates better functionality in the subject, and a higher score on the pain scale means freedom from pain. The scales' raw values are converted into transformed scale values (T values). Reliability testing indicates an internal consistency ranging approximately from .77 to .93.²⁹

Procedure

The FamTh-G was treated with integrative family therapy for 6 months. Each treatment was conducted between November 1998 and September 2003. During the first 2 months, a 90-minute session took place once a week. Between the third and sixth months, therapy was conducted every 2 weeks.

The family therapy was not set up to address individual people but families exclusively, as communication systems. The focus was on communication, the family rules, and each individual member's behavioral latitude. The aggressive youths were seen as symptom bearers, eg, for the communication problems in the entire family's network of "playing rules." In the course of therapy, another goal was to ascertain any family "games" that contributed to maintenance of the symptoms. The aim was to knock the tried and tested connections off balance, to change them, and to have families adopt new rules. Each therapeutic session was conducted by 2 therapists. Elements from systematic therapy, psychodynamic-oriented therapy, behavioral therapy, gestalt therapy, and psychodrama were included.

The CG was treated during the same period and with the same frequency as the FamTh-G, but with a placebo intervention. This intervention consisted of a structured and detailed survey of the psychological state of health, daily routine, and events. We rigorously checked that none of the above-described family therapeutic interventions took place. The trainer for this group was specially trained.

Testing was conducted by blinded staff every 2 weeks, independent from the therapy meetings. The boys were merely reminded 3 to 4 times about the next testing appointment. Three boys/families in the FamTh-G and 4 in the comparison group dropped out. They were absent >3 times for therapy and/or >3 times for assessment. Follow-up testing took place 12 months after the final family therapy session.

The STAXI, IIP, and SF-36 questionnaires were filled out in face-to-face interviews. Six trained interviewers were randomly assigned to each examination. The data were fed to the computer twice independently and automatically checked for deviations. A total of 2.8% of the entries were accordingly identified as erroneous and adjusted. The study was concluded according to plan.

Source of Funding and Ethical Considerations

The study was planned and performed in accordance with the Declaration of Helsinki and ethical laws pertaining to the medical professions. The design of this trial was approved by the clinic's "Ethikkommission" (the German equivalent of the Committee on Human Subjects). The study was conducted independent of any

institutional influence and was not funded. Parents gave written informed consent.

Data Analysis

We used the statistical program SPSS, Version 11 (SPSS Inc Chicago, IL). Mann-Whitney *U* test and Fisher exact test were performed. We used SDs, differences in change between the 2 groups (DI) with their 95% confidence intervals (range of the mean differences for a certain parameter between both groups), probability (*P*), and rank correlation coefficients according to Spearman (*R*²) for reporting the treatment results according to the intention-to-treat principle.²⁵

RESULTS

Sociodemographic patient data (see above) and initial testing with the STAXI, IIP, and SF-36 (Tables 1–4) at the time of randomization showed no essential differences between the 2 groups at the time of study entry. In the initial ARBS, STAXI (cf²⁶), and IIP (cf²⁷) testing, relatively increased scores were in both study groups. The initial SF-36 testing resulted in relatively low *T* values on the GEPE, VITA, SOFU, ROEM, and PSYC scales (cf²⁹).

Six months later, bullying behavior was reduced (FamTh-G: from *n* = 22 to *n* = 6; CG: from *n* = 22 to *n* = 20; *P* < .05), and statistically significant reductions on all of the ARBS scales (Table 1); on all of the STAXI scales (with the exception of AI; Table 2); and on the PA, BC, DE, FG, JK, and NO scales of the IIP (Table 3) were noted in the FamTh-G in comparison with the CG. Table 4 summarizes the differences of change over the course of the entire study for SF-36. As can be seen, the FamTh-G experienced significantly greater differences of change than the placebo group on the GEPE, VITA, SOFU, ROEM, and PSYC scales.

The reduction on the AO scale (STAXI) correlated significantly with reductions on the BD (*R*² = 0.512; *P* < .05), SW/OC (*R*² = 0.588; *P* < .05), SWDA (*R*² = 0.563; *P* < .05), and SDI scales of ARBS; reductions on the PA (*R*² = 0.561; *P* < .05), BC (*R*² = 0.752; *P* < .01), and NO (*R*² = 0.711; *P* < .01) scales of the IIP-D; and an increase on the GEPE (*R*² = 0.521; *P* < .05), ROEM (*R*² = 0.699; *P* < .01), and PSYC (*R*² = 0.801; *P* < .01) scales of SF-36.

For example, Figs 2 to 4 illustrate the courses of change on the AO scale of the STAXI, on the BC scale of the IIP-D, and on the GEPE scale of the SF-36. In the FamTh-G, a clear mitigation of the symptoms on all of the scales tested appeared in approximately the second month of therapy.

The results of the follow-up testing can be seen in Tables 1 to 4. Bullying behavior remained reduced after 1 year (FamTh-G: from *n* = 22 to *n* = 7; CG: from *n* = 22 to *n* = 21; *P* < .05; Fig 4).

DISCUSSION

Analysis of the sociodemographic data permitted the 2 groups to be compared. In the families of bullying boys from both groups, an above-average number of principal wage earners were unemployed. The initial STAXI assessments support the supposition that patients with bullying behavior have a clearly increased anger level^{6,7,10} and a pattern of disturbed interpersonal relationships.¹¹ The initial scores for

TABLE 1. Changes in ARBS

	Drug Use*	Smoking*	Binge Drinking*	Excessive Media Use*	Sex Without Condom*	Sex While Using Drugs and Alcohol*	Sexual Disinhibition*	Index*
Initial testing								
FamTh-G (<i>n</i> = 22)	2.5 (1.0)	2.4 (0.8)	2.9 (1.1)	1.6 (1.0)	2.4 (1.5)	1.5 (0.8)	3.2 (1.2)	16.5 (4.5)
CG (<i>n</i> = 22)	2.4 (1.1)	2.6 (1.0)	2.7 (0.9)	1.8 (1.1)	2.3 (1.3)	1.8 (0.9)	3.1 (1.1)	15.1 (4.7)
Final testing and follow-up								
FamTh-G (<i>n</i> = 22)	0.9 (1.1)†	1.0 (0.8)†	1.5 (0.7)†	0.7 (0.6)†	2.0 (0.9)†	1.2 (0.5)†	1.9 (1.3)†	9.2 (3.1)†
CG (<i>n</i> = 22)	2.0 (1.2)‡	2.1 (1.0)‡	1.6 (1.1)‡	0.9 (0.8)‡	2.1 (1.0)‡	1.4 (0.7)‡	2.5 (1.2)‡	12.6 (4.1)‡
Mean difference	2.2 (0.9)†	2.3 (0.9)†	2.5 (0.9)†	1.8 (1.3)†	2.4 (1.2)†	1.6 (0.3)†	3.3 (1.5)†	16.1 (3.9)†
95% CI	2.1 (1.0)†	2.4 (1.0)†	2.4 (1.0)†	1.7 (1.2)†	2.4 (1.4)†	1.5 (0.5)†	3.4 (1.7)†	15.9 (4.5)†
<i>P</i> (<i>U</i> test)	-.14†	-.11†	-.12†	-.09†	-.05†	-.06†	-.11†	-.63†
	-.02‡	0.0‡	-.07‡	-.06‡	-.04‡	-.02‡	-.10‡	-.31‡
	-2.3 to -0.7†	-1.6 to -0.6†	-2.5 to -0.8†	-1.2 to -0.1†	-1.0 to -0.2†	-1.3 to -0.3†	-2.1 to -0.5†	-8.9 to -2.9†
	-0.9 to 0.4‡	-0.4 to 0.4‡	-0.6 to -0.1‡	-0.7 to -0.1‡	-0.8 to -0.1‡	-0.4 to 0.3‡	-0.9 to -0.1‡	-5.4 to -2.0‡
	<.001†	<.001†	<.001†	<.001†	<.001†	<.001†	<.001†	<.001†
	.29‡	.74‡	.04‡	.05‡	<.001†	.07‡	<.001†	<.001†

* Mean value (SD).

† After 6 months of therapy.

‡ Follow-up after 1 year.

TABLE 2. Changes in the STAXI

	S-A*	T-A*	AI*	AO*	AC*
Initial testing					
FamTh-G (<i>n</i> = 22)	21.0 (1.6)	20.0 (1.4)	16.3 (1.2)	18.4 (1.2)	20.6 (1.1)
CG (<i>n</i> = 22)	20.3 (1.4)	20.0 (1.5)	16.1 (1.5)	17.1 (1.6)	19.9 (0.8)
Final and follow-up testing					
FamTh-G (<i>n</i> = 22)	17.5 (1.1)†	17.2 (1.4)†	15.9 (1.3)†	15.5 (1.8)†	21.8 (1.2)†
	18.1 (1.4)‡	17.5 (1.1)‡	16.1 (1.4)‡	15.5 (1.5)‡	22.0 (1.1)‡
CG (<i>n</i> = 22)	19.5 (1.5)†	19.4 (1.5)†	15.9 (1.5)†	16.7 (1.4)†	20.1 (0.7)†
	19.8 (1.4)‡	19.9 (1.6)‡	16.1 (1.3)‡	17.0 (1.7)‡	20.0 (0.7)‡
Mean difference	-2.6†	-2.1†	-0.3†	-2.4†	0.9†
	-2.4‡	-2.4‡	-0.2‡	-2.8‡	1.3‡
95% CI	-3.3 to -1.9†	-2.7 to -1.6†	-0.8 to 0.4†	-3.2 to -1.7†	0.4 to 1.4†
	-3.2 to -1.5‡	-3.1 to -1.7‡	-1.0 to 0.5‡	-3.7 to -1.9‡	[0.7 to 1.9]‡
<i>P</i> (<i>U</i> test)	<.001†‡	<.001†‡	.11†	<.001†‡	<.001†‡
			.27‡		

* Mean value (SD).

† After 6 months of therapy.

‡ Follow-up after 1 year.

GEPE, VITA, SOFU, ROEM, and PSYC were distinctly lower than the norms.²⁹ That confirms previous findings.^{8,9} All in all, our findings at the time of study entry seem to confirm that bullying behavior in perpetrators is associated with psychological deficits.^{2,4,6,8}

Family therapy treatment resulted in a significantly greater reduction in drug use, smoking, binge drinking, excessive media use, having sex without a condom, having sex while using drugs and alcohol, and sexual disinhibition. Family therapy treatment resulted in a significantly greater rate of change on all 5 STAXI scales than in the CG, with the exception of AI. Individuals with high S-A scores experience relatively intense feelings of anger, and those with high T-A scores experience anger relatively frequently. Whether they suppress their anger or direct it inward can be assessed through the AI, AO, and AC scales. Because AI and AO are independent of each other, individuals can have high scores on both scales.²⁶ Individuals with high AC scores expend a lot of energy on directing and controlling their emotions in situations that provoke anger.²⁶ Among our patients, family therapy seemed to influence the intensity of the perceived feeling of anger as well as the threshold for perceiving anger. Furthermore, the manner of intrapsychological processing of aggression was possibly positively influenced, and in the final analysis, even the socially desirable control of anger was positively influenced as well.²⁶

Outpatient family therapy yielded significant improvement, in comparison with the placebo intervention, on 6 scales of the IIP assessment of interpersonal problems: PA, BC, DE, FG, JK, and NO. More precise, family therapy reduced problems in accepting others, wanting to change or influence them too much, controlling others too much, or frequently having problems with others. The subjects initially focused too much on their independence and reported difficulties in submitting (PA); problems in trusting others or being too distrustful of others, difficulties in supporting others and really taking care of others' problems or needs, and difficulties in letting go of feelings of revenge (BC); difficulties in getting close to others or showing affection (DE);

problems in making contacts, reaching out to others, or engaging in activities with others and difficulties expressing their emotions (FG); difficulties differentiating from others (JK); difficulties keeping confidences, being too open, and putting too much value on attention from others and difficulties in being alone and keeping themselves from getting involved in other people's affairs (NO).²⁷ Conversely, no significant differences were found with problems letting others know what they do and do not want (HI) and with difficulties setting boundaries with others (LM).

With regard to health-related quality of life (SF-36), family therapy was significantly superior to the placebo on 5 scales. It improved personal assessment of one's own health (GEPE), increased vitality (VITA), reduced restrictions in social and vocational activities (SOFU and ROEM), and significantly improved the emotional state of health (PSYC).²⁹ The scores on the PHFU, ROPH, and BOPA scales were already relatively high in the initial testing, which would indicate a good physical state associated with the subjects' health-related quality of life, on account of a very good somatic state of health.²⁹

The reduction of expressive-aggressive anger processing (AO scale of STAXI) correlated significantly with the reductions in excessive drinking (scale BD of ARBS); risky sexual behavior (SW/OC, SWDA, and SDI scales of ARBS); and autocratic/dominant (PA scale of IIP-D), overly quarrelsome/competitive (BC scale of IIP-D) and overly expressive/importunate (NO scale of IIP-D) behaviors in the adolescents. Furthermore, the reduction in expressive-aggressive anger processing correlated significantly with an increase in the personal assessment of one's own health (GEPE scale of SF-36), vocational activities (ROEM scale of SF-36), and the emotional state of health (PSYC scale of SF-36). This illustrative correlation can show the close connection between changes in the expressive anger and in alcohol consumption and sexually risky behavior, on the one hand, and changes in and the formation of interpersonal relationships,²¹ in addition to change in the health-related quality of life, on the other hand.^{8,9} The mitigation of symptoms that was observed only

TABLE 3. Changes in the IIP-D

	Overly Autocratic/Dominant*	Overly Quarrelsome/Competitive*	Overly Distant/Cold*	Overly Introverted/Socially Avoiding*	Overly Submissive/ Submissive*	Overly Exploitable/ Compliant*	Overly Nurturing/ Friendly*	Overly Expressive/ Important*
Initial testing	10.5 (1.4)	10.9 (1.5)	11.4 (1.7)	13.4 (1.9)	12.9 (1.2)	14.6 (1.3)	13.7 (1.5)	13.2 (1.3)
FamTh-G (<i>n</i> = 22)	10.7 (1.6)	10.7 (1.4)	11.6 (1.7)	12.5 (1.8)	12.4 (1.1)	14.7 (1.5)	13.8 (1.7)	13.5 (1.5)
CG (<i>n</i> = 22)	7.9 (1.1)†	8.3 (1.4)†	8.1 (1.3)†	9.8 (1.4)†	12.1 (1.3)†	13.4 (1.4)†	12.6 (1.7)†	9.2 (2.2)†
Final and follow-up testing	7.8 (1.3)†	8.5 (1.6)†	8.7 (1.3)†	10.5 (1.4)†	12.4 (1.4)†	13.7 (1.8)†	12.9 (1.5)†	9.5 (2.0)†
FamTh-G (<i>n</i> = 22)	10.1 (1.3)†	9.9 (1.2)†	10.8 (1.9)†	11.7 (1.8)†	11.9 (1.4)†	14.1 (1.7)†	13.2 (1.9)†	12.8 (1.3)†
CG (<i>n</i> = 22)	11.1 (1.3)†	10.5 (1.4)†	11.3 (1.9)†	12.0 (1.6)†	11.8 (1.5)†	14.4 (1.6)†	13.6 (1.9)†	13.9 (1.7)†
Mean difference	-2.0†	-1.6†	-2.5†	-2.8†	-0.2†	-0.7†	-0.6†	-3.4†
95% CI	-2.3†	-2.1†	-2.4†	-2.4†	0.0†	-0.6†	-0.6†	-3.3†
	-2.7 to -1.4†	-2.3 to -1.1†	-3.1 to -2.0†	-3.3 to -2.2†	-0.8 to 0.3†	-1.2 to -0.2†	-1.2 to 0.1†	-4.5 to -2.2†
	-4.0 to -2.3†	-2.8 to -1.3†	-3.1 to -1.6†	-3.1 to -1.5†	-0.5 to 0.7†	-1.4 to 0.2†	-1.3 to 0.1†	-5.5 to -2.7†
<i>P</i> (<i>U</i> test)	<.001††	<.001††	<.001††	<.001††	.616†	<.015†	.148†	<.001††
					.59	.11	.15	

* Mean value (SD).

† After 6 months of therapy.

‡ Follow-up after 1 year.

TABLE 4. Changes in the SF-36 (T Values)

	PHFU*	ROPH*	BOPA*	GEPE*	VITA*	SOFU*	ROEM*	PSYC*
Initial testing	94.4 (2.7)	96.5 (2.2)	90.6 (3.1)	79.5 (3.2)	68.0 (4.2)	85.8 (2.4)	85.3 (3.0)	67.8 (4.1)
FamTh-G (<i>n</i> = 22)	93.8 (2.3)	94.9 (2.5)	89.2 (2.4)	80.0 (2.7)	69.1 (3.7)	85.7 (3.4)	84.3 (3.2)	66.8 (4.7)
CG (<i>n</i> = 22)	95.0 (3.4)†	96.9 (1.9)†	91.2 (3.6)†	83.0 (3.2)†	73.3 (4.6)†	90.6 (2.6)†	91.2 (3.4)†	74.9 (3.8)†
Final and follow-up testing	95.1 (3.0)†	97.2 (1.5)†	91.6 (3.2)†	82.7 (3.1)†	73.9 (4.4)†	89.5 (2.8)†	89.7 (3.3)†	73.3 (4.0)†
FamTh-G (<i>n</i> = 22)	95.0 (2.2)†	95.5 (2.5)†	89.8 (2.6)†	80.8 (3.1)†	69.7 (3.8)†	85.6 (3.4)†	84.1 (3.6)†	67.0 (4.8)†
CG (<i>n</i> = 22)	95.1 (2.5)†	95.1 (2.2)†	90.6 (2.4)†	79.4 (3.9)†	68.6 (3.9)†	84.2 (4.0)†	83.5 (4.1)†	66.1 (4.9)†
Mean difference	-0.5†	0.2†	0.0†	2.7†	4.7†	4.9†	6.0†	6.8†
95% CI	0.6†	0.4†	0.4†	3.9†	6.4†	5.2†	5.2†	6.1†
	-1.4 to 0.4†	-0.7 to 0.3†	-0.9 to 0.9†	1.8 to 3.6†	3.6 to 5.9†	3.7 to 6.1†	4.5 to 7.5†	5.9 to 7.9†
	-2.6 to 1.4†	-0.6 to 1.5†	-1.6 to 0.8†	2.5 to 5.2†	4.6 to 8.1†	3.7 to 6.8†	3.3 to 7.2†	4.6 to 7.7†
<i>P</i> (<i>U</i> test)	.34†	.456†	.883†	<.001††	<.001††	<.001††	<.001††	<.001††
	.33†	.32†	.32†					

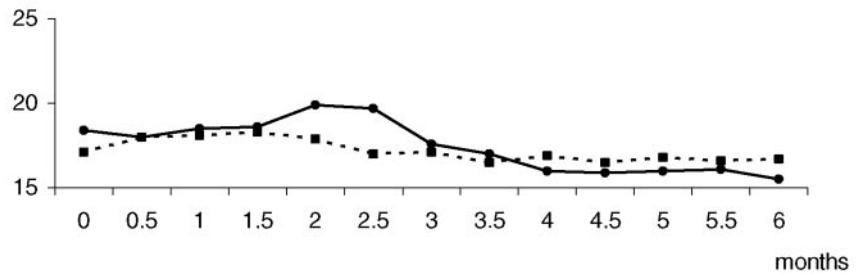
* Mean value (SD).

† After 6 months of therapy.

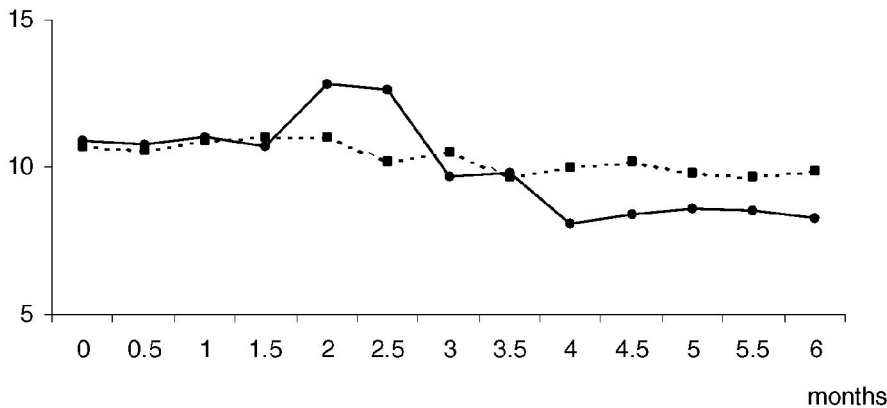
‡ Follow-up after 1 year.

AO (STAXI)

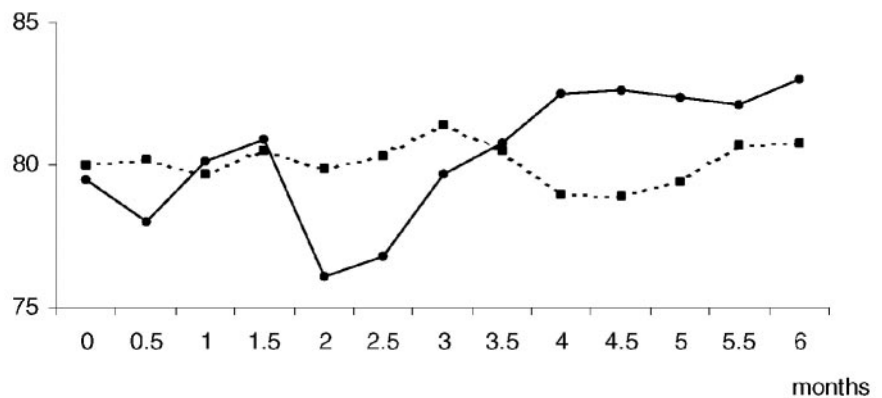
—●— FamTh-G
 - - ■ - - CG

**Fig 2.** Course of change on the AO scale of the STAXI.**BC (IIP)**

—●— FamTh-G
 - - ■ - - CG

**Fig 3.** Course of change on the BC scale of the IIP-D.**GEPE (SF-36)**

—●— FamTh-G
 - - ■ - - CG

**Fig 4.** Course of change on the GEPE scale of the SF-36.

in the FamTh-G and that occurred in approximately the third month of therapy was presumably attributable to the fact that the intrafamilial conflicts were openly addressed. Subsequent to their treatment and resolution, a rapid improvement, visible on all of the scales tested, occurred. The follow-up examination that took place after 1 year showed a relatively good stability of the treatment effects, despite minimal changes in the scales examined.

We presume that involving families with troubled adolescents in all phases of treatment is essential (cf ²¹). It promotes both successful reintegration of

the patient into the community and prevention of relapse.²¹ This study indicates that even bullying boys can cope well with outpatient family therapy. The clear time frame and the relatively minimal time commitment boosted compliance. Subsequent to treatment, subjects experienced not only a significant reduction in their potential for aggression but also improvement in their interpersonal relationships and health-related quality of life. The study also confirms the results of research conducted by other authors who described the effectiveness of outpatient family therapy.^{15-19,21}

Methodologic Limitations and Directions for Additional Research

This study had several methodologic limitations. First, the sample size (despite a valid power analysis) was relatively small. Second, the sample consisted only of male youths; whether these results could also be replicated with aggressive female youths is unknown. Third, the sample was composed of moderately aggressive individuals who had not engaged in criminal conduct and who still had the resources to enter therapy. Fourth, the length of this trial was only 6 months. That probably reduced the dropout rate, particularly in the CG. Sixth, the extent to which the study can be generalized is restricted by its relatively select population, conditioned by the hospital's small-town, rural setting. Seventh, we did not measure the family cohesion. Cohesion was simply estimated on the basis of actual participation in the therapy sessions. Additional studies are planned to shed light on the permanence of positive treatment effects such as these.

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Anger, Interpersonal Relationships, and Health-Related Quality of Life in Bullying Boys Who Are Treated With Outpatient Family Therapy: A Randomized, Prospective, Controlled Trial With 1 Year of Follow-up

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