Running head: DOES NEUROLINGUISTIC-PSYCHOTHERAPY HAVE EFFECTS?

Does Neurolinguistic-Psychotherapy have effects?

New results in the extramural section

Martina Genser-Medlitsch and Peter Schütz

Austrian Training Centre for NLP, Vienna, Austria

This paper was published in Nowiny Psychologiczne, 1, 23-48 (2004).

Abstract

Background. Although NLP became a widely used method in psychotherapy, no general evidence of its impact in everyday practice has been published so far. Therefore, the purpose of this study was to examine comprehensively the efficacy of individual NLPT.

Method. Based on a prospective design with ratings at 3 time points, 55 therapy clients and 60 persons of a no treatment waiting list participated. Assessments were made with the help of standardised psychological questionnaires concerning individual complaints, clinical symptoms, coping strategies and locus of control tendencies. Ratings of clients and therapists concerning the success of treatment were also included.

Results. As statistical methods the linear rating scale model (LRSM) and the linear partial credit model (LPCM) were used. Comparisons on post-treatment/ wait scores indicated that the NLPT group showed significantly greater improvements than the control group. Most of the therapy effects also remained stable 6 months after the end of therapy. The effectiveness of NLPT was found to be significantly influenced by the treatments' duration, and the clients' age and gender.

Conclusions. In principle, NLPT is an effective method according to therapeutic objectives.

NLPT sees itself as a solution- and resource-oriented form of treatment by which fundamental changes may be achieved even in short-term settings (Bandler & Grinder, 1981).

NLPT uses the results of research dealing with experience, cognition and perception and its therapeutic interventions are mainly based on externally perceivable correlates of psycho-physiological phenomena in the client. The various intervention techniques use both the individual history of the persons concerned as a resource potential for necessary or desired changes, and also basic ability structures of "extraordinary talents" as models for widening the range of options. (Bachmann, 1992).

Schauer (1995) examined the question whether NLP could fulfil the requirements of a scientific psychotherapy method. For more information on NLP and NLPT see Dilts et al. (1980), Bandler & Grinder (1981), Bachmann (1982), Weerth (1992).

While there are many empirical studies available dealing with basic assumptions and concepts of NLP, especially eye movement patterns (Dooley & Farmer, 1988, Wertheim & Habib, 1986, Bliemeister, 1988) or representational systems (Mattar, 1981, Schiermann & Ringelband, 1985), and additional studies by Duncan & Konefal (1990), Weerth (1993), Reckert (1994) - see also Einspruch & Forman (1985), Sharpley (1987) -

until now only sporadic publications dealing with the effectiveness of NLPT in real-life counselling contexts are to be found. However, in the course of the bibliographical research conducted for this study we found several case studies: Hossack and Standidge (1993) documented the successful treatment of a clinically depressive male patient. Field (1990) described the effective use of anchoring, dissociation and hypnotherapeutic methods when treating a patient who had strong outbursts of rage.

Besides, there are a number of dissertations and theses dealing with specific concepts and their applications and effects within the therapeutic context, as well as a few publications dealing with the effectiveness of NLP for clearly defined symptoms. Allen (1982) used a three sample design (waiting list control group, neurolinguistic treatment group, one single session of systematic desensitisation) for examining a total of 36 students with diagnoses of snake phobia and ensuing changes resulting from treatment, measured by the Behaviour Avoidance Test and Fear Thermometer as pre-tests and post-tests for all groups. The results did not show significant differences between the three samples either regarding the number of successful snake contacts or reduction of fear of snakes in the final test.

In a controlled study Liberman (1984) tested the effectiveness of the “visual-kinesthetic dissociation” in persons with "simple" anxiety

symptoms, compared to a group visualising positive situations. In a pre-test, a post-test and a follow-up three weeks later the test persons were evaluated by means of the Fear Thermometer, the SCL 90-R and self-report questionnaires, and were confronted with the phobic stimuli in vivo. The author concluded that NLP methods were more effective for reducing phobic behaviour and subjective distress compared to the control condition.

In a study on the treatment of phobias Einspruch & Forman (1988) could establish that the therapy was helpful, which was shown by means of a phobia questionnaire and Beck's depressions inventory. Here the clients, in the context of a multi-functional therapeutic approach, were also confronted with NLP methods, among other forms of treatment.

Krugman, Kirsch, Wickless at al. (1985) compared the effects on the reduction of speech anxiety by (a) visual-kinesthetic dissociation applicated in one hour with (b) those of a one-hour treatment by means of self-control desensitisation, and (c) a waiting list control group. In order to assess the anxiety level before a four-minute speech about an assigned subject, the clients were asked to complete questionnaires before and after the treatment or respectively the waiting periods. Feelings of anxiety during the speech were assessed by three trained raters, and after the speech the test persons themselves indicated how much anxiety they had

actually felt. Comparisons did not show significant differences as to reduction of speech anxiety among the three samples. Feelings of anxiety were reduced in all three groups. However, as Krugman et al critically comment themselves, the duration of treatment was too short to show more precise results.

McMorran (1988) compared the effects of a submodality procedure with those of a light trance, regarding the changes of unpleasant affect of disturbing memories. 40 volunteers were randomly assigned to one of two experienced licensed therapists, receiving one of either treatment method. In a short interview before treatment started, present discomforts related to the unpleasant memories were described. Possible changes were defined by means of a complaints questionnaire completed before, immediately after, and two weeks after the counselling session, the counsellors rating of interventions' success, and assessment by the test persons concerning the success of and satisfaction with the treatment two weeks afterward. As to changes of complaints, the two post assessments showed no differences between groups. After the session, the NLP subjects experienced stronger changes caused by the counselling and more satisfaction with it. The therapists regarded the changes caused by the submodality technique to be stronger. In the interpretation of the

author the results indicate a few short-term effects of submodality techniques.

The efficiency of NLPT regarding pain conditions was examined in a group practice, in collaboration with the University of Hamburg in Germany (Burghard-Eckstein & Gerhardt, 1993). In pre and post examinations of 20 clients all suffering from chronic pain but with different diagnoses, the hypothesis of subjective changes resulting from NLPT was statistically proven.

Objective of this study

It was the purpose of this study – one of the first comprehensive therapy studies in German speaking countries completely carried out in free practice - to evaluate the impact of neurolinguistic techniques and intervention models in the context of psychotherapeutic approaches. Conclusions were drawn from postintervention changes of clinical and psychological characteristics reported by clients of adequately trained NLP therapists and compared to the outcomes of a waiting control group .

The study was carried out mainly in Austria, partly in Germany and Switzerland.

Method

Study design

We based the NLPT study on a prospective controlled design (Biefang, 1979) with measurements at three rating times (T1 = pre, T2 = post, T3 = 6 month follow-up). The therapy group (TG) consisted of clients scheduled for individual treatment with an NLP therapist; whereas the persons of the waiting list control group (CG) intended to undergo treatment but for various reasons could start therapy only one month later at the earliest. (Fig.1).

- (Insert Fig.1) -

Research questions

It was the aim of the study to answer the following questions:

(a) Is NLPT immediately effective? (Testing based on changes from rating time 1 to rating time 2, comparing the TG and CG).

(b) Are there significant interactions between group membership (therapy group or control group) and unspecific trends (time factor)?

(c) If immediate NLPT related treatment effects are found, can these changes still be found 6 months after the end of therapy (long-term effects)? (Testing based on the changes from rating time 2 to rating time 3).

(d) Does the variable "duration of treatment" influence possible NLPT effects?

(e) Does the variable "gender of clients" influence possible NLPT effects?

(f) Does the variable "age of clients" influence possible NLPT effects?

Therapy setting

The effectiveness of NLPT was tested in individual counselling sessions. Frequency of sessions and duration of therapy varied according to the individual needs of the clients. In order to avoid additional interference with the therapeutic relationship and to maintain the conditions typical for routine counselling sessions, the therapists participating in the study did not have to follow a standardised therapy manual.

Moreover, NLPT concentrates on the individual problems and symptoms of the client, so no standardised therapy procedure for all the participants makes sense. Of course, the different intervention methods, which are used depending on the clients symptoms, follow a theoretical system and are based on a clear structure and certain standard principles taught in therapy courses.

The outcome model, for example, forms a relevant technique throughout the whole process of therapy and therefore can be understood to be a manual-like instrument.

Clients

Consistent with a "genuine" therapy study, it included only voluntary men and women who wished to undergo psychotherapeutic counselling of their own accord or were referred to a psychotherapist by a physician or both. The sample was heterogeneous as to kind of problem and discomfort (e.g. anxiety, insecurity in social contacts, compulsive behaviour etc.), which is more consistent with the conditions of free therapeutic practice.

For ethical reasons no randomisation of clients participating in therapy group and waiting control group was conducted.

The main variable influencing the group selection was the therapists' time available.

After informed consent, the clients got the papers for the examination from the therapist.

Psychotherapists

We asked only psychotherapists to participate, who had either successfully completed NLPT training and were already working as therapists, or therapists in the final stage of NLPT training who were working with clients under supervision.

Practice orientation of the study

Factors like the inclusion of only "genuine" therapy clients and therapists working in free practice, the heterogeneity of the forms of discomforts, the duration of treatment according to individual needs and individual therapeutic approaches (i. e. no rigid therapy manual) guarantee practice-related conditions and provide test results especially applicable to everyday therapeutic situations. The statistical methods used for the evaluation are suitable for these practice oriented conditions.

Measures

As the study primarily took place in Austria and to a small degree in Germany and Switzerland, the psychological instruments reflect continental usage. Moreover, we concentrated on congruence of general NLPT concepts and goals and corresponding psychological test instruments.

Measures for clients

Individual Discomfort List IDL (“Individuelle Beeinträchtigungsliste”, Tausch & Tausch, 1981).

The clients were asked to indicate between 1 and 10 individual discomforts and complaints, and assign them to one of four categories of a scale according to severity ("none", "mild", "strong", "very strong"). At the second rating time the clients were given a copy of the first list of discomforts, but without assessments filled in, and were asked to indicate the degree of discomfort again. The IDL makes it possible to gather data on a wide range of different subjective complaints, by means of which possible changes resulting from the effects of NLPT may be examined.

IPC questionnaire on 'locus of control' (“IPC-Fragebogen zu Kontrollüberzeugungen”, Krampen, 1981).

3 scales with a total of 24 items measured a person's individual locus of control tendencies: Internality (I-scale), Externality due to a subjective experience of powerlessness (P-scale), and Externality due to fatalism (C-scale).

The IPC was used for testing whether the clients experienced an increase of self-control over their lives and important events as a result of NLPT.

Self-Report Symptom Inventory, Revised - SCL-90-R (Derogatis, 1986, Franke, 1995).

90 items gave information about 9 clinical-psychological factors: Somatization, Compulsive behaviour, Insecurity in social contacts, Depressive symptoms, Anxiety symptoms, Aggression and hostility, Phobic anxiety, Paranoid thinking, and Psychoticism.

The SCL 90-R was used as a self-report technique for the clients regarding stressful or clinical symptoms. Changes in the patterns of clinical symptoms caused by NLPT were tested in this way.

Stress Management Questionnaire (SMQ) ("Streßverarbeitungsbogen", Janke, 1985).

A number of behavioural and cognitive coping strategies used by persons in stress situations were listed in 114 items. The total number of 19 stress management measures and resulting changes could be examined: (a) action-oriented stress management mechanisms like Escape tendency, Avoidance tendency, Diversion from stress situation, Vicarious satisfaction, Aggression, Use of pharmaceuticals, Social isolation, Attempts at controlling the situation, Need for social support, and Attempts at controlling reactions; (b) Intrapsychic stress management mechanisms like Minimisation, Seeking self-confirmation, Downplaying by

comparison with others, Positive self-instruction, Defence against guilt, Continued reflection on the situation, Resignation, Self-pity, and Self-accusation.

In addition to the standardised questionnaires at the first rating time the clients were interviewed about their sociodemographic situations (Sex, Age, Occupation, Education, Socio-economic status, Use of pharmaceuticals) as well as about Previous experience with psychotherapy or self- experience, Motivation for psychotherapy and Desired therapy result. At the end of the therapies the clients were interviewed about important events that occured in the meantime, other psychotherapeutic counselling taken place in the meantime and self-assessment as to improvement or no change or worsening of their personal situation.

Table 1 indicates the use of the questionnaires at the 3 rating times.

- (Insert Table 1) -

Measures for therapists

Questionnaire at therapy start

After the first therapy session, the therapists gave a description of symptoms, a problem definition along the logical levels of the NLP

structural matrix (Dilts & Epstein, 1991), and a definition of therapy objectives. As an instrument for diagnosis, the therapists were recommended to use the ICD 9 classification system.

Questionnaire at the end of treatment.

After the last session the therapists answered questions on duration and frequency of therapy sessions, on their assessment whether the therapy objective was met, on their description of changes in terms of the NLP structural matrix, on their assessment of the proportion of NLP methods, on their indication of NLP and other additional therapeutic techniques used.

Statistical methods for measuring changes

For evaluating the clients' and therapists' assessment of change - evaluated by the categories of specific questions at the end of therapy and 6 months after that (see Method section) - we only used percentages of the different categories marked on by the participants.

For examining the statistical hypotheses about the effectiveness of NLPT (see Method section) we used two probabilistic methods: the linear rating scale model (Fischer and Parzer, 1991) and the linear partial credit model (Fischer and Ponocny, 1994). Both statistical instruments base on

the Item Response Theory (IRT) and its exemplification, the Rasch model (see Fischer & Parzer, 1991). The logistic models enable a better assessment of treatment effects based on polytomous ordered test responses or ratings of clinical symptoms (qualitative data).

In addition to the general shortcomings of classical test theory (regression effects like floor or ceiling effects and item homogeneity, etc. for more detail see Fischer, 1974) the following reasons were important for using the above models: in our study the time elapsed between the two rating times varied from client to client because, as in everyday psychotherapy situations, the therapists considered the actual needs of the clients when deciding on how long the treatment should last. This fact counteracts the prerequisite of classical test theory (for example an analysis of variance) that conditions must remain equal. The same problem occurred regarding the number of therapy sessions. In addition, the item responces referred to a multi-category scale (4 to 6 categories), representing gradual severity of different clinical/personality-related latent dimensions. For the purpose of classical test theory the data would have to be reduced to homogeneous scales (Parzer, 1990). Further, the test persons of the therapy and control groups differed in some psychological dimensions at the first rating time, so the precondition of equal structures of classical test models cannot be met. This phenomenon typical of

practice-oriented examinations is no obstacle if probabilistic models are used, as parameter estimates are independent of the distribution of true person parameters in the sample used (sample and population independence) (Fischer, 1974). For more detail see Parzer (1990) and Fischer (1974, 1989), Fischer & Parzer (1991) and Fischer & Ponocny (1994).

All statistical model tests (likelihood ratio tests) for hypothesis testing were conducted on a 5 % significance level.

Results

Characteristics of clients

Altogether 142 clients volunteered to participate. For the first rating time 64 clients of the TG had returned completed questionnaires, for the second we got 55 filled in questionnaires back and 25 persons had sent back the follow-up questionnaires as well. Among the participants in the CG 78 persons returned completed questionnaires at the first rating time, and 60 of them also returnde the second and final questionnaire. One may assume that the missing values were not caused by systematic influences (missing at random).

Clients' mean age was 36.6 years (range = 19-57 years), in the CG 38 years and in the TG 35.2 years. More information on further variables is shown in Table 2.

- (Insert Table 2) -

Expectations in psychotherapy

Expectations in psychotherapy concerned the aspects "getting to know oneself better", "solutions of interpersonal conflicts", "increased self-esteem and self-confidence", "alleviation of physical complaints", "support in finding the meaning of life for oneself", "help with occupational or private decisions", "insight into problematic behaviour".

Clients' indications according to the questionnaires used at the first rating time

Table 3 shows scores before treatment, respectively waiting period. The dimensions with significant differences between CG and TG are marked as well.

- (Insert Table 3) -

Individual Discomfort List (IDL).

The participants indicated a total of 455 discomforts and problems which they wanted to deal with, respectively solve in the course of psychotherapeutic treatment. The 50 members of the therapy group listed 224 complaints (i. e. 4.48 problems per client), and the 60 control group members 231 complaints (i. e. 3.85 problems per client).

The 455 answers were summarised according to main problem fields, forming 13 groups of symptoms (in the following called "items"; see Table 4).

- (Insert Table 4) -

ICD 9 diagnoses

The disorders indicated ranged from neuroses, endogenous depressions, physical dysfunctions of psychological cause, acute reactions to stress, adjustment disorders, sexual deviance, drug addiction to schizo-affective and functional psychoses.

Duration of treatment and intervention techniques used

Average treatment lasted for 12 sessions (minimum: 1 session, maximum: 48 sessions) received over a period of 20 weeks (range 1 to 80 weeks).

Table 5 shows a list of the NLPT-techniques reported by the therapists after the last session.

- (Insert Table 5) -

Clients' assessment of change

Among the clients of the therapy group 59.3 % indicated that they felt considerably better after treatment than before therapy started, and 38.9% of the participants felt better after the last session than at the first rating time. Only 1.9 % of the clients receiving counselling did not feel different than before the beginning of therapy.

Among the waiting control group, 47.5 % of the test persons did not feel any change from the first to the second rating time, while 29.5 % felt better shortly before therapy started (post) than at the first time, and 9.8 % indicated that they felt worse, 6.6% felt considerably better and 4.9% considerably worse than at the first rating time.

Six months after termination of treatment (follow-up) 52 % of the TG - clients felt considerably better than before therapy started, 28 % felt better, and 12 % did not notice any change. 8 % of the participants said they felt worse, and no test person felt considerably worse.

Therapists' assessment of changes

After the treatments were terminated 49 % of the therapists indicated that the objectives of the therapies were well or very well met, and 47 % reported average achievements as to therapy objectives. Only 4 % of the treatments were regarded as of little or no success.

Clients changes in the psychological questionnaires

25 out of 33 scales (= 76 %) showed significant changes indicating relevant effects of NLPT (i.e. there were significant differences between the therapy and control group as to changes in the psychological dimensions from rating time 1 to rating time 2). The tendencies of change usually pointed the desired or general therapy objectives (Table 6)

- (Insert Table 6) -

The results indicate a reduction of external orientation regarding belief in good or bad luck, chance as a strong guiding influence on one's own life and feelings of being dependent on persons of stronger social power. Because of the NLPT interventions perception of better control over one's own life increased to a 10 % significance level. So within the

context of this study the aim of NLP, teaching clients to find more options to control their lives, was obviously met.

The process of reflection and change that took place in the course of NLPT reduced most of the clinical-psychological symptoms found in the test sample. The intensity of compulsive behaviour, insecurity in social contacts, depressive symptoms, anxiety and anxiety-related physical symptoms, aggressive thoughts and actions, panic attacks, phobic anxiety, paranoid thoughts and interpersonal alienation could be reduced by means of NLPT techniques and the therapeutic relationship.

Action-oriented coping strategies adopted in stressful situations, like escape tendencies, use of pharmaceuticals and controlling one's own reactions decreased as a result of NLPT as well. In this context, the reduced control tendencies may be regarded as a new possible approach to disturbing, painful feelings associated with a situation that, due to socialisation, have often been repressed and denied and thus accumulated over a long period of time and are then expressed in another, "unhealthy" way. Tendencies toward adopting strategies that divert oneself from stress situations were increased in the course of treatment; this may be interpreted as attempts at detachment which in turn provide new angles from which to deal with a problem. Regarding intrapsychic stress management mechanisms the test showed that after therapy the clients

did not feel as threatened in stressful situations as before and were better able to favourably compare their own coping abilities to those of others. Self-pity, self-accusation, continued reflection on the problem situation and feelings of resignation were also considerably reduced. As a result of NLPT tendencies toward "minimising" stressful situations and toward defence against guilt had grown stronger. Regarding the items of the Stress Management Questionnaire the increase of minimising tendencies may be interpreted as attempts at dissociation from the stressful situation and thus preparation for problem solutions. As a result of stronger defence against guilt mechanisms a similar process to the one in the previous scale may have been started.

Within the context of NLPT, the individual discomforts indicated by the clients clearly decreased in intensity.

In addition to the treatment-related changes, 2 dimensions (6.06 % of the scales) showed effects which were not caused by NLPT but by the time factor, certain events in the clients' lives, increased maturity and other unspecific influences. Also, the realisation on the part of the clients that they were receiving therapeutic counselling, and the ensuing consequences for the way of perceiving their problems, may have caused the changes in these scales which could be observed both in the therapy and the control groups. The aggressive tendencies of the SMQ (LR (χ^2) =

23.78, df = 12, p < 0,05) tended to develop in the desired direction, namely reduction. Whereas psychosomatic symptoms (LR (χ^2) = 46.78, df = 24, p < 0,05) increased, which can be interpreted as a greater perception of physical distress. However, here the trend parameters were mostly considerably lower than the corresponding treatment parameters of the respective scales.

The influence of interactions between the test groups (TG and CG) and time effects were also examined. Significant interactions could be found concerning the scales "externality - social powerlessness" (LR (χ^2) = 34.50, df = 22, p < 0,05), "social insecurity" (LR (χ^2) = 41.46, df = 25, p < 0,05), "depressive symptoms" (LR (χ^2) = 62.30, df = 37, p < 0,05), "vicarious satisfaction" (LR (χ^2) = 25.58, df = 11, p < 0,05) and "resignation" (LR (χ^2) = 28.78, df = 11, p < 0,05). Consequently, the coaction of NLPT and the time factor must be taken into account regarding the changes from rating time 1 to rating time 2.

No significant changes, either treatment effects or unspecific trends, could be observed from rating time 1 to rating time 2 in the case of 6 dimensions (= 18.18 %) (Table 7). Consequently, these scales were excluded from testing the influence of treatments' duration, clients' sex and age on NLPT treatment effects.

- (Insert Table 7) -

Influence of duration of treatment, clients' sex and age

Further analyses showed that the variables duration of treatment, sex and age of the clients had significantly influenced various psychological dimensions and their changes.

In 60 % of the scales the clients receiving therapy over a longer period of time (11 to 48 sessions) changed more strongly than clients with short therapies (1 to 10 sessions) (see Fig.2).

- (Insert Fig.2) -

In 40 % of the psychological dimensions men showed stronger treatment effects than women (see Fig.3).

- (Insert Fig.3) -

In 63.15 % of the scales the changes achieved were more pronounced among younger clients (19 to 35 years) than was the case in the older age group (36 to 59 years) (see Fig.4).

- (Insert Fig.4) -

Follow up

Six months after treatment was terminated, 88 % of the therapeutic effects (= 22 scales) had remained stable, i. e. NLPT was effective in the long run as well (see Table 8). It is noticeable in this respect that it was rather the effects of short therapies (1 to 10 sessions) that remained stable.

- (Insert Table 8) -

Further improvements resulting from the effects of NLPT were subsequently found for 3 dimensions: Insecurity in social contacts (LR (χ^2) = 55.28, df = 33, $p < 0,05$) decreased, and individual discomforts (LR (χ^2) = 30.20, df = 17, $p < 0,05$) declined as well. Only aggressive impulses (LR (χ^2) = 36.6, df = 21, $p < 0,05$) rose.

Three scales, in which no significant treatment effects from T1 to T2 resulted come out, showed NLPT indicated improvements 6 months after the end of therapy: Somatizing symptoms (LR (χ^2) = 53.04, df = 45,

$p < 0,05$), as well as positive self-instruction (LR (χ^2) = 30.88, df = 21, $p < 0.05$) and tendencies toward avoiding disturbing situations (LR (χ^2) = 37.28, df = 21, $p < 0.05$) decreased.

Summary

To sum up it can be said that after the NLPT treatment the clients showed changes related to personality and to problem symptoms in conformity with the general objectives of psychotherapy. Problems like compulsive behaviour, insecurity in social contacts, depressive symptoms, anxiety, aggression, paranoid thinking, continued reflection on a disturbing situation, resignation, self-accusation, use of pharmaceuticals and diverting oneself from stressful situations decreased because of the effects of NL psychotherapy. The clients felt that they had more control over their own lives, and the stress management mechanisms of minimization, defence against guilt and attempts at controlling a situation were considerably improved in the course of treatment.

In addition to these improvements due to NLPT, some dimensions showed changes that could not be interpreted as effects of the NL psychotherapy but resulted from the time factor, certain events in the clients' lives, increased maturity and other unspecific influences.

Psychosomatic symptoms, paranoid thought patterns, escape tendencies, social isolation, self-pity and aggression had also changed in the desired direction but were not as pronounced as the corresponding therapy-related changes.

Most of the desirable changes shown after the end of treatment also remained stable after 6 months without further counselling taking place (long term efficacy of NLPT).

In the context of this study and based on the results obtained here it has become apparent that, in principle, NLP interventions and techniques in the field of psychotherapeutic processes have proven to be effective.

References

Allen, K. (1982) An investigation of the effectiveness of neurolinguistic programming procedure in treating snake phobia. *Dissertation Abstracts International B 43/3,* 861.

Bachmann, W. (1991) *Das neue Lernen. Eine systematische Einführung in das Konzept des NLP. [New learning. A systematic introduction of the concept of NLP].* Paderborn: Junfermann.

Bandler, R. & Grinder, J. (1981) *Neue Wege der Kurzzeittherapie. Neurolinguistische Programme. [New ways for short term psychotherapy. Neurolinguistic programs].* Paderborn: Junfermann Verlag.

Biefang, S. (1979) *Manual für die Planung und Durchführung von Therapiestudien. [Manual for conception and realization of outcome studies].* Berlin, Heidelberg, New York: Springer.

Bliemeister, J. (1988) Empirische Überprüfung zentraler theoretischer Konstrukte des Neurolinguistischen Programmierens (NLP*).* [Empirical examination of central theoretical constructions of Neurolinguistic programming*]. Zeitschrift für Klinische Psychologie, 17(1),* 21-30.

Burghard-Eckstein, K. & Gerhardt, K. (1993) NLP und Schmerz. [NLP and pain]. *MultiMind, 5,* 10-13.

Dilts, R. & Epstein, T. (1991) *Systemic NLP - A unified field theory.* Ben Lemond: Dynamic Learning Publications.

Dilts, R., Grinder, J., Bandler, R., Bandler, L. & Delozier, J. (1980) *Neuro-Linguistic Programming: Vol1*, Cupertina, Cal., Meta-Publications.

Derogatis, L. R. (1986) Symptom Check List 90 - Revised (SCL-90-R) In*: CIPS. Internationale Skalen für Psychiatrie. [CIPS. International scales for psychiatry].* 3rd ed. Weinheim: Beltz.

Dooley, K. O. & Farmer, A. (1988) Comparison of aphasic and control subjects of eye movements hypothesized in neurolinguistic programming. *Perception, Motoric Skills, 67(1),* 233-234.

Duncan, R. C.& Konefal, J. (1990) Effect of neurolinguistic programming training on self-actualization as measured by the Personal Orientation Inventory*. Psychological Reports, 66,* 1323-1330.

Einspruch, E. L. & Forman, B. D. (1985) Observations concerning research literature on Neuro-Linguistic Programming. *Journal of Counseling Psychology, 32(4),* 589-596.

Einspruch, E. L. & Forman, B. D. (1988) Neuro-linguistic programming in the treatment of phobia. Psychotherapy in: *Private Practice, 6(1), 91-100*. cit. PsycINFO Database, 1989.

Field, E. S. (1990) Neurolinguistic programming as an adjunct to other psychotherapeutic/ hypnotherapeutic interventions. *American Journal of Clinical Hypnoses, 1990, 32(3),* 174-182.

Fischer, G. H. (1974*)* *Einführung in die Theorie psychologischer Tests. Grundlagen und Anwendung. [Introduction of the theory of psychological tests. Basics and applications]*. Bern, Stuttgart, Wien: Hans Huber.

Fischer, G. H. (1989*)* An IRT-based model for dichotomous longitudinal data. *Psychometrika, 54,* 599-624.

Fischer, G. H. & Parzer, P. (1991) An extension of the rating scale model with an application to the measurement of change. *Psychometrika, 56,* 627-651.

Fischer, G. H. & Ponocny, I. (1994) An extension of the partial credit model with an application to the measurement of change. *Psychometrika, 59(2),* 177-192.

Franke, G. (1995) *SCL-90-R. Symptom-Checkliste von Derogatis. Deutsche Version. Manual. [Symptom-Checklist of Derogatis. German version, Manual].* Göttingen: Beltz Test.

Hossack, A. & Standidge, K. (1993) Using an imaginary scrapbook for neurolinguistic programming in the aftermath of a clinical depression: a case history. *Gerontologist, 33(2),* 265-268.

Janke, W. (1985) *Streßverarbeitungsfragebogen (SVF). [Stress Management Questionnaire].* Göttingen: Hogrefe.

Krampen, G. (1981*)* *IPC-Fragebogen zu Kontrollüberzeugungen („locus of control"). [IPC-questionnare on locus of control].* Göttingen: Hogrefe.

Krugman, M., Kirsch, I., Wickless, C., Milling, L., Golicz, H. & Toth, A. (1985) Neuro-Linguistic Programming Treatment for Anxiety: Magic or Myth? *Journal of Consulting and Clinical Psychology, 53(4),* 526-530.

Liberman, M. B. (1984) The treatment of simple phobias with neurolinguistic programming techniques. *Dissertations Abstract International, B 45 (6),* 1918.

Mattar, A. T. (1981) Primary representational system as a basic for improved comprehension and communication*. Dissertations Abstract International, B 41 (8),* 3162*.*

McMorran, P. R. (1988) Brief treatment of disturbing memory: A neuro-linguistic programming submodality procedure. *Dissertations Abstract International, 1988, A 48 (7),* 1710-1711.

Parzer, P. (1990) *Das lineare Rating-Scale-Modell und seine Anwendung zur Veränderungsmessung. [The linear rating scale model and its application for measuring change].* Unpublished master's thesis, University of Vienna, Austria.

Reckert, H. W. (1994) Prüfungsangst.... Wegankern in nur einer Sitzung? [Examination phobia .... can it be overcome by anchoring in only one session?]. *MultiMind, 6,* 22.

Schauer, G. (1995) *NLP als Psychotherapie. Harmlose Mixtur oder hochwirksames Verfahren? [NLP as psychotherapeutic method. Harmless mixture or highly effective procedure?].* Paderborn: Junfermann Verlag.

Schiermann, J. & Ringelband, O. (1985) Repräsentationssysteme und Blickrichtungen. Eine empirische Untersuchung zum Neurolinguistischen Programmieren. [Representational systems and eye movements. An empirical investigation on Neurolinguistic Programing]. *GwG-Info, 1985, 61,* 63-76.

Sharpley, C. F. (1987) Research findings on Neurolinguistic Programming: Nonsupportive data or an untestable theory? *Journal of Counseling Psychology, 34(1),* 103-107.

Tausch, R. & Tausch, A. M. (1981) *Gesprächspsychotherapie. [Client-centered therapy].* Göttingen: Hogrefe.

Weerth, R. (1992) *NLP und Imagination. Grundannahmen, Methoden, Möglichkeiten und Grenzen. [NLP and imagination. Basis assumptions, methods, possibilities and limits].* Paderborn:Junfermann. Volume 1.

Wertheim, E. H., Habib, C. & Cumming, G. (1986) Test of the neurolinguistic programming hypothesis that eye-movements relate to processing imagery. *Perception & Motoric Skills, 62(2),* 523-529.

Martina Genser-Medlitsch, M. Sc. and Peter Schütz, M. Sc. , ÖTZ-NLP, Wiederhofergasse 4, A-1090 Vienna, Austria.

The article represents an elaboration of the master thesis from Martina Genser-Medlitsch, including a greater client sample and the 6 month follow up ratings.

Correspondence concerning this article should be addressed to Mag.Martina Genser-Medlitsch, Eichwaldgasse 32/3, 2500 Baden, Austria or to Mag.Peter Schütz, ÖTZ-NLP, Widerhofergasse 4, 1090 Wien, Austria.

Electronic mail may be sent via Internet to: mgm@mycity.at.

FIGURES

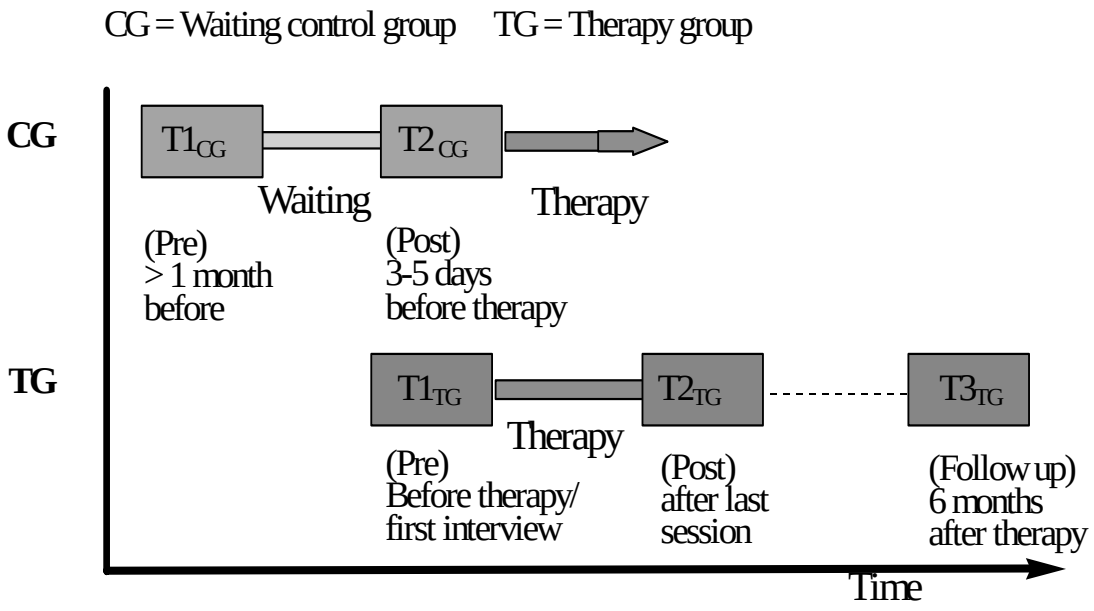

Fig. 1: Repeated-measures design of the prospective controlled NLPT study with 3 rating times. TG = NLPT – therapy group, CG = waiting control group.

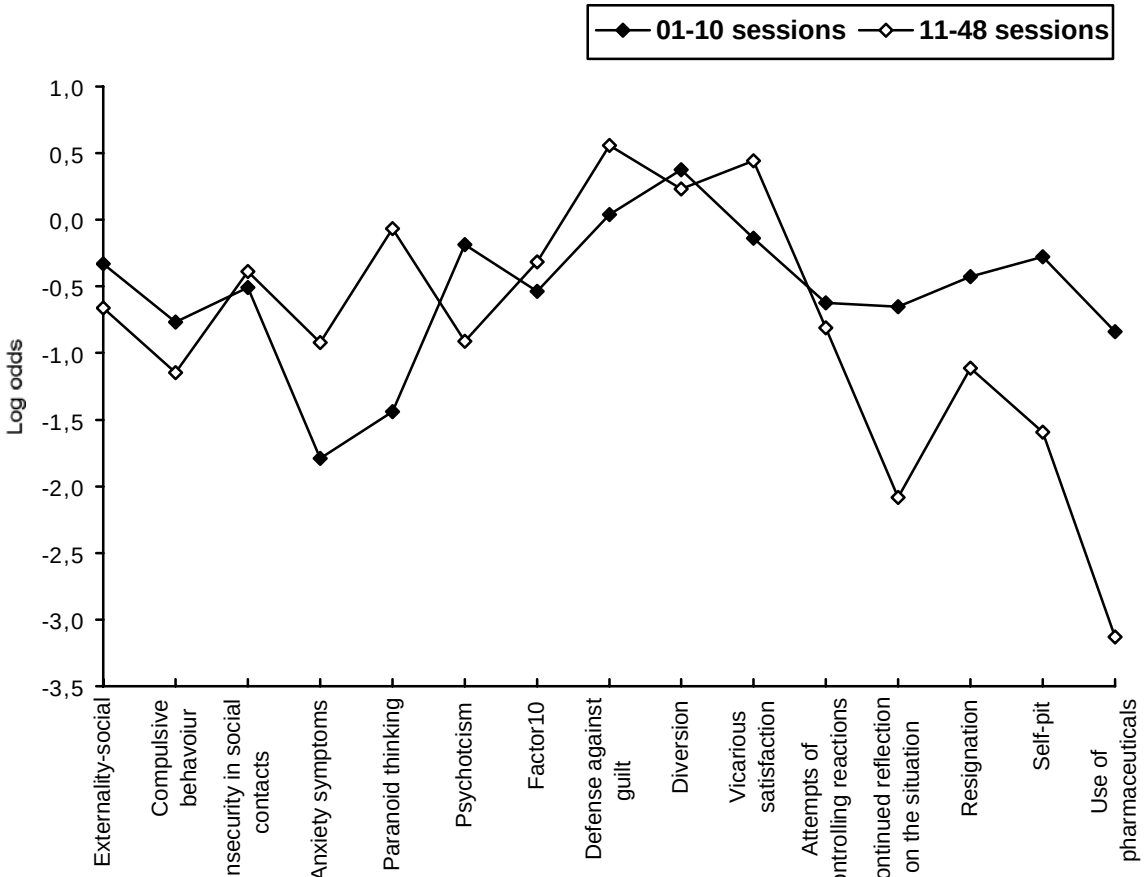

Fig. 2: Psychological dimensions in which the treatments duration has a significant influence on the effect of NLPT. The changes are expressed as the logarithmic odds of the answer in the selected category. The higher the probability, the higher the level of a property, e.g. the „symptom“ is more distinctly marked. The sign shows the tendency of change: a negative sign indicates a

symptom reduction, a positive sign indicates an increased property level.

α = 5%.

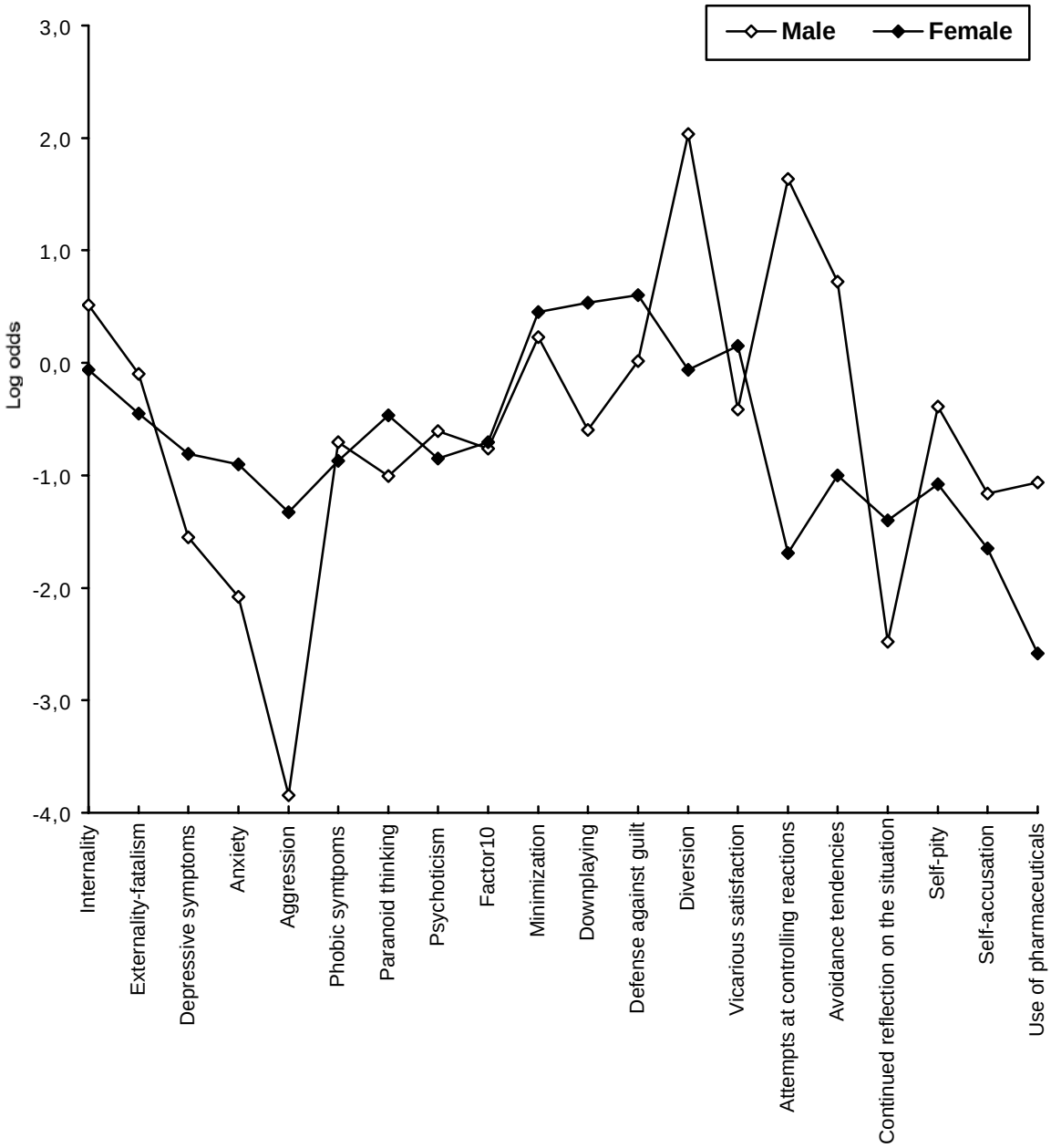
Male
Female
Log odds
3,0
2,0
1,0
0,0
-1,0
-2,0
-3,0
-4,0
Internality
Externality-fatalism
Depressive symptoms
Anxiety
Aggression
Phobic symtpoms
Paranoid thinking
Psychoticism
Factor10
Minimization
Downplaying
Defense against guilt
Diversion
Vicarious satisfaction
Attempts at controlling reactions
Avoidance tendencies
Continued reflection on the situation
Self-pity
Self-accusation
Use of pharmaceuticals

Fig. 3: Psychological dimensions in which the clients' sex has a significant influence on the effect of NLPT. The changes are expressed as the logarithmic odds of the answer in the selected category. The higher the probability, the higher the level of a property, e.g. the „symptom“ is more distinctly marked. The sign shows the tendency of change: a negative sign indicates a symptom reduction, a positive sign indicates an increased property level.

α = 5%.

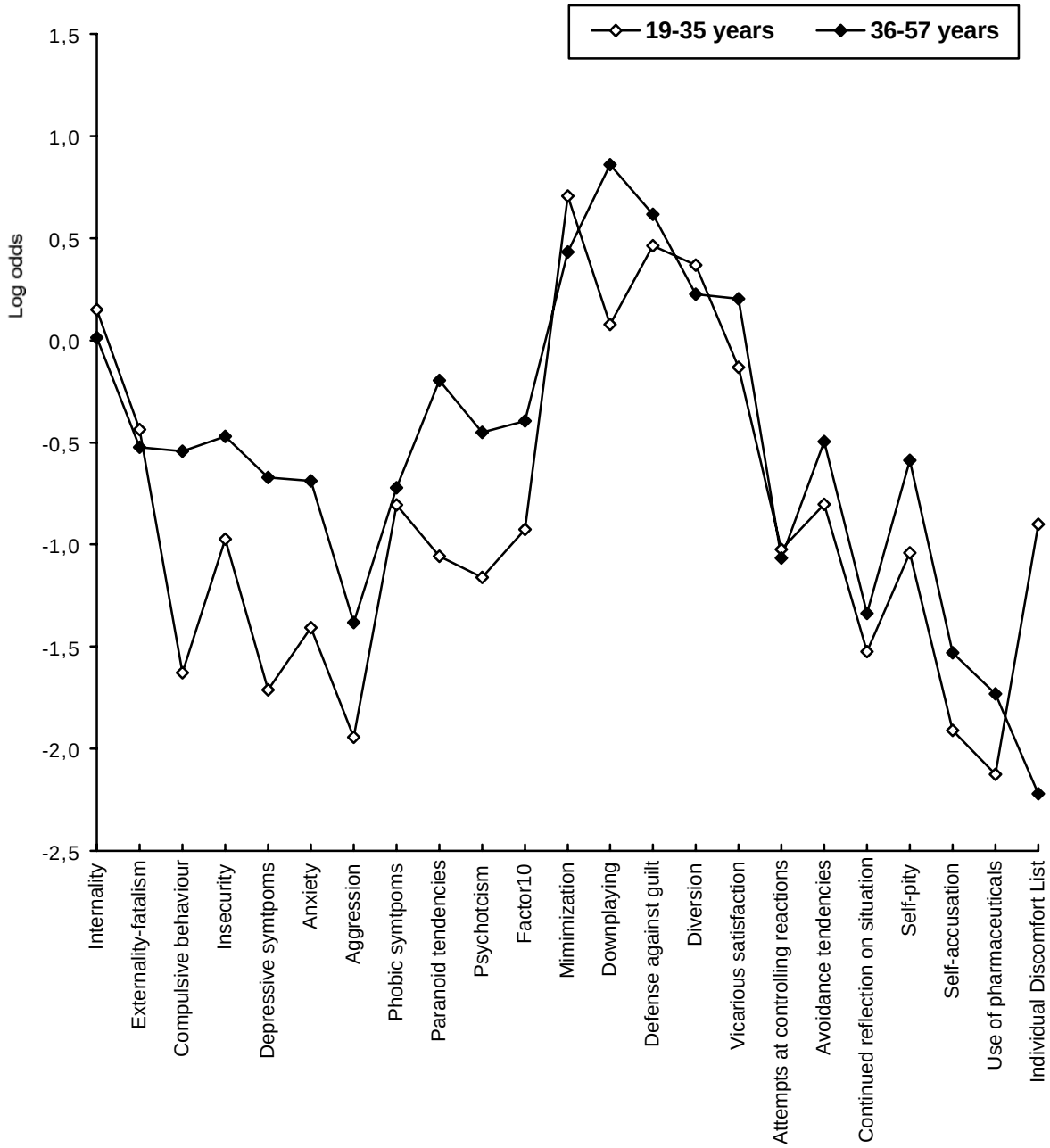
19-35 years
36-57 years
Log odds
1,5
1,0
0,5
0,0
-0,5
-1,0
-1,5
-2,0
-2,5
Internality
Externality-fatalism
Compulsive behaviour
Insecurity
Depressive symtpoms
Anxiety
Aggression
Phobic symtpoms
Paranoid tendencies
Psychotcism
Factor10
Mimimization
Downplaying
Defense against guilt
Diversion
Vicarious satisfaction
Attempts at controlling reactions
Avoidance tendencies
Continued reflection on situation
Self-pity
Self-accusation
Use of pharmaceuticals
Individual Discomfort List

Fig. 4: Psychological dimensions in which the clients' age has a significant influence on the effect of NLPT. The changes are expressed as the logarithmic odds of the answer in the selected category. The higher the probability, the higher the level of a property, e.g. the „symptom“ is more distinctly marked. The sign shows the tendency of change: a negative sign indicates a symptom reduction, a positive sign indicates an increased property level.

α = 5%.

TABLES

Table 1: Rating times and psychological instruments used for the clients in the TG and the CG

Group	Rating Time T1 (pre)	Rating Time T2 (post)	Rating Time T3 (follow-up)
TG	IDL	IDL	IDL
	IPC	IPC	IPC
	SCL-90-R	SCL-90-R	SCL-90-R
	SMQ	SMQ	SMQ
CG	IDL	IDL	--
	IPC	IPC	--
	SCL-90-R	SCL-90-R	--
	SMQ	SMQ	--

Table 2: Sociodemographic and Pre-treatment Variables of the clients

Variable	TG (n= 55)	CG (n= 60)
Gender		
Male	13 (23.6%)	14 (23.3%)
Female	42 (76.4%)	46 (76.7%)
Family status		
Single	17 (30.9%)	11 (18.3%)
Living with a partner	6 (10.9%)	6 (10%)
Married	25 (45.5%)	34 (56.7%)
Separated from partner	2 (3.6%)	1 (1.7%)
Divorced	4 (7.2%)	6 (10%)
Widowed	1 (1.8%)	2 (3.3%)
Education or training level		
Primary school	3 (5.5.%)	1 (1.7%)
Compulsory vocational school	14 (25.5%)	9 (15%)
Upper secondary school	12 (21.8)	12 (20%)
University degree	4 (7.3%)	18 (30%)
Others	21 (38.2%)	20 (33.3%)

Occupational situation		
Free lance	2 (3.6%)	11 (18.3%)
Executive position	0	1 (1.7%)
Civil servants	4 (7.3%)	7 (11.7%)
Company proprietor	0	2 (3.3%)
White collar occupation	19 (34.5%)	23 (38.3%)
Skilled worker	1 (1.8%)	0
Occupied in blue collar occupation	1 (1.8%)	1 (1.7%)
Students	7 (12.7%)	2 (3.3%)
Homemakers	13 (23.6%)	6 (10.0%)
Retired persons	2 (3.6%)	0
„Other“ occupation	5 (9.1%)	4 (6.7%)
No occupation	1 (1.8%)	2 (3.3%)
No answer	0	1 (1.7%)
Place of residence (number of inhabitants)		
Up to 5000 inhabitants	21 (38.2%)	12 (29.0%)
Between 5000 and 30000 inhabitants	7 (12.7%)	15 (25.0%)
Between 30000 and 100000 inhabitants	8 (14.5%)	0
More than 100000 inhabitants	19 (34.5%)	33 (55.0%)
Use of pharmaceuticals (frequency)		

No use at all	34 (61.8%)	52 (86.7%)
Regularly for more than 3 months	20 (36.4%)	8 (13.3%)
No answer	1 (1.8%)	0
Therapy experience		
No experience at all	24 (43.6%)	16 (26.7%)
1 to 3 courses or therapies	20 (36.4%)	25 (41.7%)
More than 3 courses or therapies	11 (20.0%)	19 (31.7%)

Note: N = 115. Percentages are within group. TG = therapy group; CG = waiting control group.

Table 3: Properties of the IPC, SCL and SQM at the first rating time expressed in T-scores.

Variable	T score		
	TG	CG	Total
IPC			
Internality	55	55	50
Externality - social powerlessness*	50	45	50
Externality - fatalism *	50	50	50
SCL-90-R			
Somatization *	64	57	61
Compulsive behaviour *	66	59	63
Social insecurity *	67	60	63
Depressive symptoms *	71	62	67
Anxiety symptoms *	71	61	67
Aggression *	65	60	63
Phobic anxiety *	71	54	63
Paranoid thinking *	68	61	62
psychoticism *	68	61	65
PST (Positive Symptom Total)	66	59	63
GSI (Global severity index level)	72	63	68

PSDI (Positive symptoms distress index)	68	61	65
SQM			
Minimisation	42	43	43
Downplaying	47	45	46
Defence against guilt	50	47	50
Diversion	42	45	45
Vicarious satisfaction	51	55	54
Seeking self-confirmation	50	48	50
Attempts at controlling the situation	46	47	47
Attempts at control over reactions	45	41	42
Positive self-instruction	43	41	43
Need for social support	54	56	55
Avoidance tendencies	49	45	48
Escape tendencies	53	48	49
Social isolation *	55	50	52
Continued reflection on situation	53	52	52
Resignation	55	54	53
Self-pity *	53	49	49
Self-accusation	53	53	52
Aggression	51	54	52

Use of pharmaceuticals *	56	51	51

* Significant differences between CG and TG (t-tests, α = 5%).

Table 4: Distribution of individual complaints of TG and CG members at the first rating time, expressed in percentages.

Group of complaints	TG (n=224)	CG (n=231)
Family, relationship, sexuality	21.88%	32.90%
Social contact	16.07%	10.82%
Self-esteem	11.16%	15.58%
Depressive symptoms	12.50%	9.09%
Others	8.93%	7.36%
Psychosomatic problems	6.70%	4.76%
Phobic problems	7.60%	4.76%
Occupation	5.36%	4.32%
Identity problems	4.46%	3.90%
Efficiency, concentration	1.24%	1.73%
Eating, weight	2.23%	1.73%
Drug addiction	0.89%	1.30%
Money	0.89%	0.87%

Table 5: Percentages of NLP techniques used in therapies

NLP technique	Percentage (N=55)
Reframing	60
Outcome frame	56
Part work	34
Meta-model	30
Metaphors	30
Trance	30
Systemic NLP	28
Time line	26
Anchoring	22
Reimprint	20
Building of resources	20
Belief change	12
Submodalities	10
Strategies	10
Meta programs	6
Trauma	6
Phobia work	6

Table 6: Likelihood ratio test results for the IPC, SCL-90-R, SVF, IDL and tendencies of changes from T1 (pre) to T2 (post) caused by NLPT

Variable	Likelihood ratio test: Treatment parameter			Direction of change
	χ^2	df	p	
IPC				
Internality	22.52	15	$p < 0.10$	reduction
Externality – social	43.32	15	$p < 0.05$	reduction
Externality – fatalism	32.18	15	$p < 0.05$	reduction
SCL-90-R				
Somatization	29.40	23	$p > 0.05$	-
Compulsive behaviour	41.06	19	$p < 0.05$	reduction
Social insecurity	47.30	17	$p < 0.05$	reduction
Depressive symptoms	-124.42	25	$p < 0.05$	reduction
Anxiety symptoms	74.76	19	$p < 0.05$	reduction
Aggression	70.90	11	$p < 0.05$	reduction

Phobic anxiety	38.44	13	$p < 0.05$	reduction
Paranoid thinking	-21.7	11	$p < 0.05$	reduction
Psychoticism	35.80	19	$p < 0.05$	reduction
Factor 10	35.84	13	$p < 0.05$	reduction
SQM				
Minimazation	20.10	11	$p < 0.05$	increase
Downplaying	20.20	11	$p < 0.05$	increase
Defence against guilt	21.68	11	$p < 0.05$	increase
Diversion	22.08	11	$p < 0.05$	reduction
Vicarious satisfaction	20.76	11	$p < 0.05$	increase
Seeking self-confirmation	9.36	11	$p > 0.05$	-
Attempts at control over situation	14.08	11	$p > 0.05$	-
Attempts at control over reactions	26.36	11	$p < 0.05$	reduction
Positive self-instruction	9.94	11	$p > 0.05$	-
Need for social support	11.22	11	$p > 0.05$	-

Avoidance tendency	12.92	11	p > 0.05	-
Escape tendency	22.80	11	p < 0.05	reduction
Social isolation	13.76	11	p > 0.05	-
Continued reflection on situation	40.02	11	p < 0.05	reduction
Resignation	32.50	11	p < 0.05	reduction
Self-pity	24.46	11	p < 0.05	reduction
Self-accusation	76.06	11	p < 0.05	reduction
Aggression	14.20	11	p > 0.05	-
Use of pharmaceuticals	60.80	11	p < 0.05	reduction
IDL	50.00	18	p < 0.05	reduction

The likelihood ratio test results follow an χ^2 - distribution (α = 5%).

The tendencies of changes are separated for the treatment and trend effects.

df = degrees of freedom

- No significant changes from T1 to T2 (p< 0.05).

Table 7: Likelihood ratio test results for the 5 scales with no changes from T1 (pre) to T2 (post)

Variable	Likelihood ratio test: Trend parameter		
	χ^2	df	p
SQM			< 0.05
Seeking self-confirmation	9.36	12	< 0.05
Attempts at control over situation	14.08	12	< 0.05
Positive self-instruction	9.94	12	< 0.05
Need for social support	11.22	12	< 0.05
Avoidance tendency	14.64	12	< 0.05

The likelihood ratio test results follow an χ^2 - distribution (α = 5%).

df = degrees of freedom

Table 8: Likelihood ratio test results and tendencies of changes from T2 (post) to T3 (follow-up) for the 24 scales with significant therapy effects

Variable	χ^2	df	p	Direction of significant changes
IPC				
Internality	37.50	29	> 0.05 (st)	-
Externality – social	25.58	29	> 0.05 (st)	-
Externality – fatalism	26.98	29	> 0.05 (st)	-
SCL-90-R				
Compulsive behaviour	34.02	37	> 0.05 (st)	-
Social insecurity	55.28	33	< 0.05	reduction*
Depressive symptoms	29.00	49	> 0.05 (st)	-
Anxiety symptoms	35.62	37	> 0.05 (st)	-
Aggression	36.6	21	< 0.05	increase*
Phobic anxiety	20.96	25	> 0.05 (st)	-
Paranoid thinking	17.18	21	> 0.05 (st)	-
psychoticism	46.60	37	> 0.05 (st)	-

Factor 10	17.82	25	> 0.05 (st)	-
SQM				
Minimazation	25.52	21	> 0.05 (st)	-
Downplaying by comparison	26.26	21	> 0.05 (st)	-
Defence against guilt	18.32	21	> 0.05 (st)	-
Diversion from situation	32.18	21	> 0.05 (st)	-
Vicarious satisfaction	17.94	21	> 0.05 (st)	-
Attempts at control over reactions	30.88	21	> 0.05 (st)	-
Escape tendency	29.50	21	> 0.05 (st)	-
Continued reflection on situation	21.98	21	> 0.05 (st)	-
Resignation	31.62	21	> 0.05 (st)	-
Self-pity	21.06	21	> 0.05 (st)	-
Self-accusation	24.92	21	> 0.05 (st)	-
Use of pharmaceuticals	19.36	21	> 0.05 (st)	-
IDL	30.20	17	< 0.05	reduction*

The likelihood ratio test results follow an χ^2 - distribution (α = 5%).

(st) The treatment effects shown from T1 to T2 remained stable 6 month after the end of the therapy.

* Significant changes from T2 to T3

- No significant changes from T2 to T3 ($p < 0.05$).