

## EVALUATION OF THE WORKING ALLIANCE IN ASYNCHRONOUS THERAPY VIA INTERNET<sup>1</sup>

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The Brazilian Federal Council of Psychology has not yet approved Internet Therapy, however, research is recommended. The technical possibility of offering such a service and the possibility of developing Working Alliance were investigated. A system of registration and brief psychotherapy, which was asynchronously carried out, was created using free software. The therapeutic relationship was analyzed by using the Working Alliance Inventory (WAI). It was possible to conduct Internet therapy, and the therapeutic relationship presented characteristics similar to those described in the literature. Clients enrolled (373) were predominantly female, graduate, active Internet users and experienced in using computers. Therapists enrolled (20) presented demographic characteristics similar to clients, medium clinical experience and were academically active. In the 53 therapies created, there were significant differences, regarding the WAI, between clients who abandoned the therapy (19) and clients who completed it (29). On the other hand, in relation to the therapists (15), there were no significant differences between those whose clients abandoned the therapy and those whose clients completed it.

Psychotherapy, according to the Brazilian Federal Council of Psychology (FCP), is one of several practices of the psychologist. It consists of a scientific process of comprehension, analysis and intervention conducted by application of psychological methods and techniques which aim to provide conditions for the patient to face his psychic conflicts and troubles (Bock, 2000b).

Psychology has several schools, for example, Behavioral, Psychoanalysis, and Gestalt (Keller, 1983), which have different scientific, philosophic, theoretical and methodological models. However, the definition of psychotherapy used by the FCP tries to exempt itself from adopting the specific point of view of any particular psychological school of thought. It defines the psychologist's job as professional and subject to current Brazilian legislation and to the FCP resolutions.

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Although different psychological schools have large differences among them, the working alliance is present in all the existent psychotherapy approaches, despite each of them analyzing and understanding it in distinct ways.

Regarding treatment via Internet, there is no doubt that one of the main challenges is to know if this is genuinely psychotherapy and, therefore, if the working alliance will be formed without any kind of face-to-face contact. If it is verified that this alliance is created through the Internet, it will be possible to consider non-face-to-face therapeutic procedures. So, to evaluate therapy via Internet, one of the first steps would be to verify if this kind of interaction also forms a working alliance. The method used for this evaluation should be the same as used to evaluate the working alliance in conventional psychotherapy.

#### *Working Alliance and Behavioral Therapy*

Several behavioral therapists, including Brazilians, have written about the working alliance. Guilhardi (1997), who affirmed that in one therapy session, the information available for analysis includes both the statements of the patient and the therapeutic relationship pointed out the importance of this relationship. Kerbauy (1999) complemented this saying that the relevant variables in the clinic are broad categories that include resistance to change, the therapeutic relationship and interaction between therapist and patient.

Currently, there is a general consensus among behavioral therapists as to the importance of the therapeutic relationship, but there are differences regarding the role attributed to it.

On the one hand, some authors consider the therapeutic relationship a way to facilitate other important aspects of the process of change, to increase the reinforcing value of the therapist, to increase involvement in the therapy, promoting positive expectancy and solutions to overcome resistance (Raue & Goldfried, 1994).

In accordance to this, Rangé (1995) affirms that the therapeutic relationship can exert a positive influence if the therapist has effective participation in the treatment. If a positive therapeutic relationship is built up, the patient feels him/herself comfortable enough to provide the information necessary to the therapy (Lettner, 1995).

In the same way, Shinohara (2000) sees the therapeutic relationship as a factor that determines the therapeutic process, and facilitates the work and the possibility of reaching goals, if a climate of confidence and harmony is established.

On the other hand, there are authors who consider the relationship that occurs in therapy the main mechanism of change. To them, the therapeutic relationship is an opportunity for him/her to manifest behavior that has brought trouble and, after interaction with the therapist, to learn more effective responses (Follette, Naugle & Callaghan, 1996; Kohlenberg & Tsai, 2001; Rosenfarb, 1992).

The most established authors on behavioral therapy and therapeutic relationship are Robert J. Kohlenberg and Mavis Tsai, who developed Functional Analytic Psychotherapy (FAP), based on the concept of reinforcement in clinical situations and generalization to the outside environment. The process is done through observation and intervention on clinically relevant behavior (CRB) that occurs in the presence of the therapist. There are three types of clinically relevant behaviors: CRB1, which refers to the problems of the patient; CRB2, which refers to the progress of the patient; and CRB3, which refers to the patient's own interpretations of his behavior (Kohlenberg & Tsai, 2001).

Kohlenberg and Tsai, who consider the alliance an important component of the patient-therapist relationship, see the concept of working alliance as CRB2. This alliance has to do with the patient's ability to involve himself with self-observation and facilitating, therefore, other CRBs (Kohlenberg, & Tsai, 2001). These authors conclude that the center of the therapeutic process is the psychotherapeutic relationship.

According to Follette et al. (1996), who discussed FAP, at the beginning of the therapeutic process the professional offers general expressions of approval merely because the patient is in therapy. After this reinforcement is provided when the patient speaks about sensitive subjects and exposes himself in therapy. Little by little, the therapist starts to select categories of behavior, which indicate relevant changes, according to previously established goals. The generalization of the new behavior is also worked on. In accordance with this view, various authors consider the strengthening of an ample group of responses prerequisite to the engagement of the patient in the process, but that this is not enough to make effective change. It is necessary to reinforce the emission of alternative behavior, considered more desirable. At the same time, it is considered essential that the therapist presents consequences which are different from those in the patient's natural environment, since these have perpetuated his problem-behavior (Meyer & Vermes, 2001).

But Kohlenberg and Tsai (2001) have admitted that the therapeutic relationship has been little emphasized by behavioral therapy and its literature. This opinion is also found in Follette et al. (1996).

Roserfarb (1992) concludes that behavior therapy research is restricted by the lack of critical investigation into the effectiveness of therapeutic relationship. It has concentrated on the development of techniques, excluding the exploration of the processes of change inside the relationship, a fact also pointed out by Raue and Goldfried (1994).

Thus, there is, in behavioral therapy literature, agreement regarding the existence and importance of the therapeutic relationship, despite this relationship tending to be seen by many, as secondary to the specific techniques considered central to the process of change.

This point of view is not shared by patients who have undergone behavioral therapy, who describe the therapeutic relationship as what most influences their improvement, (Raue & Goldfried, 1994) nor by the literature of psychotherapy based on evidence. Horvath and

Greenberg (1994) described that research in the area of the therapeutic relationship shows consistent results: a good alliance is related with positive results of the therapy.

### *The Evaluation of The Working Alliance*

Reviewing the relevant literature for means to evaluate the therapeutic relationship, Meyer and Vermes (2001) have found two groups of instruments:

- Questionnaires answered by the patients and the therapists.
- Observation and analysis of the sessions focusing on aspects of the therapeutic relationship with systems of categorization.

Regarding these two groups of instruments, the first has an already well defined methodology of investigation with concrete results, established in psychotherapy literature.

To support this affirmation is research done by Luborsky (1994), using articles written after 1976, which concluded that questionnaires that measure the therapeutic alliance are important predictors of results in therapy. In spite of the majority of the studies were based on dynamic therapies, it was also verified that the alliance is predictor of results in cognitive and behavioral therapies. Horvath and Symonds (1991) did a meta-analysis with 24 studies, which related the quality of the therapeutic alliance with results, finding a moderate but trustworthy association between the good alliance and good results. The authors concluded that, generally, the quality of the therapeutic alliance was more predictive of results of treatment when based on evaluation of the patients. They concluded also that the relation between work alliance and results does not seem to be associated to the type of therapy and neither to the length of treatment nor to the number of participants in the study.

Luborsky (1994) also argued that the point of view of the patient better predicts the results of the therapy than the point of view of the therapist, though this tendency is not seen in all studies. This author also affirmed that the behavior of the therapist has a close link with the facilitation of the patient-therapist relationship.

If there is enough empirical evidence showing a relation between the therapeutic alliance and the results, in which moment of the therapy should this relationship be evaluated?

Data in literature show that evaluation done through questionnaire in the third or fourth session seem to indicate, to a sufficient degree, a prediction of results (Luborsky, 1994). Horvath (1994) also argued favorably for conducting the alliance evaluation in the initial phase of the therapy as a better form of prediction of results. He emphasized that evaluation at the beginning of the therapy also permits the therapist or researcher to know which patients may drop out in the future.

Garfield (1995) described the formation of the alliance created in the beginning of the therapy as important to the continuity as far as psychotherapy results.

There is sufficient evidence that the therapeutic alliance can be evaluated in the beginning of the therapy through questionnaires and that these will be predictive of participation and results in the therapy. It was thus necessary to choose suitable questionnaires for use in Internet therapy.

#### *Questionnaires to Evaluate the Therapist-Patient Relationship*

Questionnaires and inventories were researched through the *PsycLIT*, and the articles obtained at Library of the University of São Paulo's Psychology Institute. The focus was on the empirical results rather than theoretical viewpoints. The criteria used in the selection were the frequency of the instrument being mentioned in the literature and the availability of the articles at the library.

The following instruments were selected:

1. California Psychotherapy Alliance Scales (CALPAS) – Gaston and Marmar (1994);
2. Penn Helping Alliance Questionnaire – Alexander and Luborsky (1986);
3. Session Evaluation Questionnaire (SEQ) – Stiles (1980);

4. Session Impact Scale (SIS) – Elliot and Wexler (1994);
5. Vanderbilt Psychotherapy Process Scale (VPPS) – O’Malley, Suh and Strupp (1983);
6. Working Alliance Inventory (WAI) – Horvath and Greenberg (1989).

*Working Alliance Inventory (WAI)*

The creator of WAI considers it a pantheoretical instrument, which can be used to evaluate the therapeutic alliance apart from theoretical approach. It consists of a questionnaire (with versions for patient, therapist and observer) that has three subscales with twelve questions in each. Each question has a seven point scale (always – never).

The subscales are a) Goals – characterized by negotiation and mutual comprehension between therapist and patient about the goals of the therapy in terms of results. b) Task – the specific activities developed by the therapist and the patient to incite or facilitate changes. c) Bond – the interpersonal liaison between the therapist and the patient, developed through activities shared in the therapy. It is felt and expressed in terms of friendship, kindness, confidence, respect and a feeling of mutual commitment and a shared comprehension of the activities.

These scales are highly correlated (Horvath & Greenberg, 1989; Horvath, 1994), indicating that they deal with aspects of the alliance that are strongly interrelated.

In addition to the WAI being an instrument that evaluates the therapeutic alliance and predicts results of therapy, it has been used as a “thermometer” to measure variables present in different modalities of therapy and in the several forms of conducting clinical research. It was found in literature that the use of WAI was a way to: a) Validate other instruments which measure the therapist-patient's relation (Mallinckrodt, Gantt & Coble 1995). b) Evaluate different forms of supervision and training (Multon, Kivlighan, & Gold, 1996; Kivlighan, Angelone, & Swafford, 1991; Patton & Kivlighan, 1997). c) Verify the relation between level of the therapists training and the formation of the therapeutic alliance (Mallinckrodt &

Nelson, 1991). d) Relate interpersonal characteristics of therapists and/or patients and the formation of the therapeutic alliance (Reandeu & Wampold, 1991; Mallinckrodt, Coble & Gantt, 1995; Muran, Segal, Samstag & Crawford, 1994; Kokohovic & Tracey, 1990). e) Verify the development of the alliance over time (Sexton, Hembre & Kvarme, 1996) and the results of therapy (Kivlighan & Shaughnessy, 1995). f) Relate the alliance with level of participation in the treatment and with results, among different groups of patients (Connors, Carroll, DiClemente, Longabaugh, & Donovan, 1997). g) Verify how strong the alliance is in therapies of different approaches (Raue, Goldfried & Barkham, 1997). h) Relate the behavior of the therapist with how patients perceive the therapeutic alliance (Kivlighan, 1990). i) Verify single and/or shared views among patients and therapists regarding therapy and therapeutic alliance (Hatcher, Barends, Hansell, & Gutfreund, 1995; Al-Darmaki & Kivlighan, 1993).

The WAI was chosen among the selected instruments for the following reasons:

- There is an authorized version in Portuguese, by Paulo Machado and Cristiano Nabuco de Abreu;
- It was one of the most mentioned in literature researched;
- The possibility of using it in therapy with no real sessions, since the instrument does not evaluate the sessions but goals, tasks and bond between therapist and patient, considering that the majority of the other instruments evaluate therapy sessions;
- The broad support in the literature about the validity of the instrument. Horvath (1994) reports several independent studies that assure the validity of the WAI;
- The reliability of the instrument, based on the homogeneity (Alpha of Cronbach) among the items, goes from .84 to .93 and among the subscales, from .68 to .92 (Horvath, 1994).

The WAI was also chosen to measure the therapeutic alliance in research conducted by Cook (2001), that studied working alliance and therapy via Internet in different ways of communication (synchronous and asynchronous). In this study, therapists who conducted therapy via Internet (as a professional service) were contacted by the author and then provided to some of their patients (with therapy in progress) a login and a password so that they could answer the WAI. The sample of patients (N = 15), from USA and Canada, was comprised mostly of women. These patients mainly used asynchronous communication in the therapy, spending between five and twenty hours per week on the Internet and were in college or had college education. Neither differences between the working alliance and the type of therapy used via Internet were found, nor between the working alliance found in the sample and the results mentioned in the literature used for comparison. The author concluded that the working alliance could be strongly established between those who consider therapy via Internet an attractive method to receive assistance in mental health.

Cook's study had limitations regarding sample control. For example, the researcher had no control over which patients the therapist chose to give the login and the password to answer the research. So, it is not possible to determine how different these patients were from the others who did not participate in the research (and who were also treated by the same therapists). There was also no control over how long these patients had been undergoing therapy. Yet, these results are one of the first indicators that the therapeutic relationship can be formed and maintained by Internet.

Based on the cited articles, which used the WAI as an instrument of evaluation, no common method of analyzing it and relating it to the researched variables was found. There are also no norms for results or defined forms to evaluate a single result. Therefore, the way to interpret the results of the WAI is based on an intra-sample statistical analysis or on an analysis supported by other instruments. It is also possible to compare results of different

studies. By examining different results of the WAI in the researched literature, medium values for patients who completed therapies were found to be between 5.16 and 6. Regarding the scales, the values found varied between 5.59 and 5.90 on the scale Bond, 5.53 and 5.66 for Task and 5.43 and 5.52 for the scale Goal (Al-Darmaki, & Kivlighan, 1993; Connors et al., 1997; Kivlighan et al., 1991; Kokohovic, & Tracey, 1990; Mallinckrodt, Coble et al., 1995; Mallinckrodt, Gantt et al., 1995; Multon et al., 1996).

This information only reflects the results of the articles obtained in the bibliographic research carried out in this study, which differ in number and characteristics of the participants, moment of the therapy in which the WAI was applied, objectives and criteria to choose the results of the studies. The articles did not always detail results of WAI and of the subscales. Thus, these values can be considered only as indicative of what is expected to be obtained when working with the WAI.

## METHOD

### Participants

#### *Therapists*

#### *Criteria of inclusion*

Psychologists with at least four years of clinical experience (including undergraduate training) and with basic knowledge of Internet usage, as well as communication tools through computer. These psychologists had to accept the terms of the contract to do the therapy for fifteen weeks and had to have a computer and software compatible with the tools used in the study.

#### *Patients*

#### *Criteria of inclusion*

Over 18 years, with Internet access and with experience in using it, having answered the anamnesis questionnaire and the forms sent by mail and accepted and signed the terms of

the therapeutic contract and informed consent, as well as having a computer and software compatible with the tools used in the study.

### *Criteria of exclusion*

To have mentioned in the anamnesis suicidal tendencies or previous attempts before the treatment, daily use of psychotropic drugs or ingestion higher than two portions of alcohol per day, to be under some kind of other psychological or psychiatric treatment, or if the number of participants in the study exceeded availability (the two first cases would be directed to a professional or institution placed near the participant, if it was asked).

## Material

### *Software and Hardware*

To conduct therapy via Internet, a website was created containing basic information about the research, researchers and institution. It contained also a copy of the informed consent (which was also mailed to those who subscribed to the research), detailing the resolution of the Federal Council of Psychology number 003/2000 regarding the delivery of psychological services over Internet and other similar media. There was also the resolution of the National Health Council, number 196/96 regarding research with human beings and the research approval from the Committee of Ethics of the Public Health College of University of São Paulo (presented in a .gif file).

In order to conduct the therapies a modified version of the *software Learnloop*<sup>4</sup>, originally created for distance education, was used; also a computerized version of WAI was attached to the modified *Learnloop*. The server computer used the operational system *Linux* and the participant computers should have Internet connection and a 4.x or superior version of Browser (Internet Explorer, Netscape or similar), to access the website and the *Learnloop*. All information sent by participants remained stored in a MySQL database in the server computer.

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<sup>4</sup> <http://www.learnloop.org>

### Divulcation and Enrollment

Only after creating the website for the research, and obtaining approval from the committee of ethics, divulgation of the research was started. The procedure for this was different for therapists and patients: for therapists it was specifically sent to them, through e-mails to psychology e-mail lists and to psychologists who the researcher knew. To the patients the release was made through a publication at the News Agency of University of São Paulo<sup>5</sup>, that was republished in the general news media, with the possibility of reaching any kind of Internet user.

The enrollment was done by the research's web site, and was divided in two parts: the first asked demographic information, of personal identification and about the Internet usage and the second, the option to enroll as patient or as therapist. In the case of patients, a Life History Questionnaire (anamnesis) had to be filled out and in the case of therapists, a Professional Experience Questionnaire.

After completing all the forms, the participants received e-mail with instructions on how to log into the system. They received a login and password to the system and then, for those who signed in, terms of agreement were sent by mail. They had to sign the agreement and attach a photocopy of their personal identification document: General Register (patients) or License (therapists) and then return to the researcher address.

### The Therapy Process

After the conclusion of all procedures of the inscription, participants received an e-mail message with instructions regarding the therapy.

Therapy was carried out in an asynchronous way, in a discussion forum. So, the messages were sent at different times, and there was no session time limit, as happens in presential or synchronous therapy. Neither a day nor time to send the messages were determined. The user could log into the system, read the messages and send his own. Each

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<sup>5</sup> <http://www.usp.br/agenciausp/>

therapy had a room only accessed by patient, therapist and system administrator (the researcher).

Therapy rules established that it should take 15 weeks, and only the weeks in which the patient accessed the system would be counted. So, when he remained more than one week without accessing the system, this absence was counted, but a week of therapy was not discounted. Counting the weeks this way, it was possible to have 15 weeks of participation in the therapy, even if the total of weeks exceeded 15.

At the 5<sup>th</sup>, 10<sup>th</sup> and 15<sup>th</sup> week of therapy, a message was sent to each therapy forum, asking therapists and patients to answer the WAI. On the 15<sup>th</sup>, they were asked to answer the final questionnaire (that will not be analyzed in this article) as well as a warning that the therapy was finished, but that they could conclude it using, if necessary, another one or two weeks. At the end of the therapy, the room was deactivated. If the therapy finished before the 15<sup>th</sup> week, because the patient abandoned it or wanted to finish it, the room was also deactivated. It was considered abandonment if the participant did not access the system for four weeks didn't answer the therapist's or the researcher's e-mail messages, or just decided to stop the therapy.

## RESULTS

### Enrollment and Participation

The research received 373 inscriptions to therapy by Internet as patients, and 20 as therapists. These therapists were of different theoretical approaches. As in other research and clinical treatments, there were several dropouts: 161 patients and 15 therapists did login into the system and 86 patients and 16 therapists answered the mail (one of the 20 therapists answered the mail without doing login).

Due to time restrictions, from the 86 possible therapies, only 53 therapy rooms were created, from which 29 were concluded, 23 were not and one had to end for lack of time. All

rooms not concluded were considered abandons, irrespective of when and why. No distinction was made between the therapies that were abandoned without warning to the therapist or researcher and those finished with previous warning from the patient.

### Demographic Data

The majority of the participants who subscribe as patients, were from the State of São Paulo (32%), and the second largest group from the State of Rio Grande do Sul (19%). However, there was a great diversity amongst the places where the patients were from: there were participants from all Brazilian states, except Acre, Roraima and Tocantins. Even though the release had been focused on Brazil, there were some patients from other countries.

The majority of them was women (70%) and had a high educational level: 80% were undergraduates. About 55% were single and the medium age was 28 years old. About 77% of the patients had more than two years of experience using the Internet.

### Working Alliance

To accept or reject the hypothesis of formation and maintenance of the therapeutic alliance in therapy via Internet, it was necessary to follow some criteria. One of them was to analyze if the results of the WAI were similar to those in the literature about the therapy relationship. This analysis was made based on a) the moment in which the relationship is formed, b) the maintenance of the relationship during the process of the therapy and c) the differences between therapists and patients relative to prediction of results.

Another criterion was to analyze if the psychometric properties of WAI in the sample of this research were similar to those described in the literature. This would be necessary, since the discovery of comparable results would be one more indication that this pantheoretical instrument functions in the therapy by Internet in a similar way to established therapies.

In order to perform the analysis of the data from WAI to examine these questions, statistical tests and comparisons were carried. It is important to emphasize that not all therapists nor patients answered the WAI at all times when requested.

After conclusion of all therapies, data were separated into four different groups:<sup>6</sup> a) patients who finished the therapy (PF); b) therapists from the rooms that finished the therapy (TF); c) patients who did not finish the therapy, abandoning it or being abandoned (PA); d) therapists from the rooms that did not finish the therapy, abandoning it or being abandoned (TA). The numbers of the groups ( $n$ ) describe the pair therapist/patient, and  $n$  of patients is equal to the number of participants, but  $n$  of therapists is not, since the majority attended more than one patient. Different groups were not created with the criteria of who abandoned the therapy (therapist or patient), because the number of therapies, four, in which who abandoned were the therapists, was not a sufficient sample for statistical testing. Regarding the 23 therapies that were not concluded, 11 patients answered the WAI of the 5<sup>th</sup> week of therapy.

Table 1 shows means, medians and standard deviations of WAI and its subscales for the four groups. It can be seen that the group PA has lower medians of WAI (4,08), compared to the other three groups, in which the lower number was 5,50 and the higher 5,92.

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<sup>6</sup> In order of to do the statistic tests, the participants who did not answer the WAI in any moment of the application had to be excluded from the analysis.

Table 1  
*Means, Medians and Standard Deviations of the WAI and Subscales*

	PF (n = 28)			PA (n = 11)			TF (n = 25)			TA (n = 10)		
	M	M <sub>t</sub>	SD	M	M <sub>t</sub>	SD	M	M <sub>t</sub>	SD	M	M <sub>t</sub>	SD
1° Moment												
Bond	5.79	5.92	.85	4.63	4.58	.74	5.96	6.00	.56	6.08	6.17	.64
Task	5.41	5.75	1.04	3.85	3.83	1.33	5.42	5.33	.74	5.23	5.21	1.04
Goal	5.05	5.33	.97	3.60	3.42	1.10	4.93	4.75	.92	4.90	4.80	1.00
WAI	5.40	5.60	1.00	4.03	4.08	1.14	5.44	5.50	.86	5.41	5.43	.83
2° Moment												
Bond	5.88	5.96	.85				6.09	6.08	.64			
Task	5.61	5.88	.97				5.52	5.58	.91			
Goal	5.31	5.50	.95				5.22	5.50	.99			
WAI	5.60	5.70	.90				5.61	5.75	.92			
3° Moment												
Bond	5.81	5.83	.94				6.14	6.08	.64			
Task	5.54	5.67	1.10				5.71	5.67	.93			
Goal	5.20	5.17	.98				5.35	5.25	.95			
WAI	5.50	5.80	1.00				5.73	5.92	.90			

*Note.* PF = Patients Finished, TF = Therapists Finished (n = 14), PA = Patients Abandoned  
 TA=Therapists Abandoned(n = 7). 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Moments correspond to 5<sup>th</sup>, 10<sup>th</sup> and 15<sup>th</sup>  
 weeks of therapy respectively. The table's n correspond to the therapy rooms .

The data indicates that the numbers of PF and TF are similar, while the numbers of PA and TA, are not, which creates the hypothesis that the results of WAI from the patients were better predictors of the participation in the therapy than the results of the therapists.

Variations among the subscales were also observed in all the groups but not many variations between each subscale in the different moments were noted.

The data in this table are enough to indicate that the intensity of the therapeutic relationship among the participants who finished the therapy was high. The medians varied between 5,5 and 5,9, so, considering the classification of the answers of WAI (from 1 to 7 – never to always), the evaluation of the therapeutic relationship varied between frequently and very frequently.

To answer the other questions, other statistical tests were carried out.

Firstly, correlation between each group was verified, separately, observing in each PA and TA the correlation between the subscales and for PF and TF, the correlation between the subscales and also between the WAIs. The *Pearson* test was used. In all the analyses, correlation was found, varying between moderate to strong. In the crossings, no *P* value equal or higher than 0.05 were found, which proves the hypothesis that there is significant statistic correlation between all variables. For the two groups of patients, correlations varied between 0.462 and 0.889 and for the two groups of therapists correlations varied between 0.511 and 0.933.

The fact that there is moderate and strong correlation indicates that the scales from the WAI are measuring coefficients of the working alliance (Bond, Task and Goal) that are interlinked and, also, among the three moments.

In order to verify if there is a significant difference among the four groups, between the subscales and the moments, analysis of variance (ANOVA) was chosen. The ANOVA is important because results are analyzed considering the individual data of each participant and not only the means and medians of the groups. The level of significance used in all tests was 5% (0.05).

ANOVAS with these coefficients were used:

- Moments and subscales of PF and TF (each group individually);
- Groups, subscales and moments, comparing the groups PF x TF;
- Groups and scales, comparing the groups PF x PA, TF x TA and PA x TA.

Table 2  
Analysis of Variance for the Four Groups of Participants

	Finished				Abandon			
	Patients (n=28)		Therapists (n =25)		Patients (n = 11)		Therapists (n = 10)	
	df	F	df	F	df	F	df	F
PF								
Moments	2	.78	2	1.69	-	-	-	-
Subscales	2	10.15***	2	20.90***	2	6.21**	2	1.40***
Group	-	-	1	.61	1	60.96***	1	03
TF								
Moments			2	2.66	-	-	-	-
Subscales			2	21,66***	2	6.41**	2	1.40***
Group			-	-	1	25.86***	1	03

Note. PF = Patients Finished, TF = Therapists Finished

There were omitted the non significant crossing that verified the factor interaction

In the PF and TF, PF has (n=25). The therapist numbers are relative to the rooms attended

\*\*\* P < 0.01 \*\* P < 0.05

Table 2 shows the numbers of the statistic test (F) and the degrees of freedom (df) of the ANOVAS that were done with the four analyzed groups. As no crossing (interaction) among the analyzed coefficients were found, only the crossing of the coefficients listed above were demonstrated in the table. It shows that there were significant differences among the scales ( $p < 0.05$ ) in all crossings between groups and within groups. This test, however, did not make it possible to discriminate which subscale is different from the other, only that at least one of them is different.

With respect to the three different moments of application of the WAI, no differences were noted within and between groups PF and TF. But comparing the groups PA, PF, TA and TF, a difference was found between the group PA and the others.

Summarizing, the results show that for all groups there are differences among the subscales, that for all who concluded the therapy (patients and therapists) there are no differences in the three moments of application of the WAI and that when comparing the four groups, only the PA is different from the others.

The differences verified in all the analysis among the subscales could raise doubts about the consistency of the WAI, a fact already refuted in the validation of the instrument with traditional therapies, but not with therapies via Internet. While observing in this study positive correlation among scales, doubts could be raised about the use of the WAI in this kind of therapy with the argument that the working alliance via Internet doesn't have the same characteristics as that of traditional therapy, where there are no differences between the subscales.

The *Cronbach* technique was used to answer this question. It is a test that considers the number of items of the subscales, the covariance, the variance and the mean correlation among the items. This test can be interpreted as a correlation coefficient.

The group PF was chosen for this test, because it had the largest number of participants and had better predicted results of participation in therapy. The three subscales were used in the three moments, and for the first moment the obtained alpha was .9287, .8930 for the second moment and .9203 for the third. These results show that the internal consistency of WAI is high also when applied to therapy via Internet.

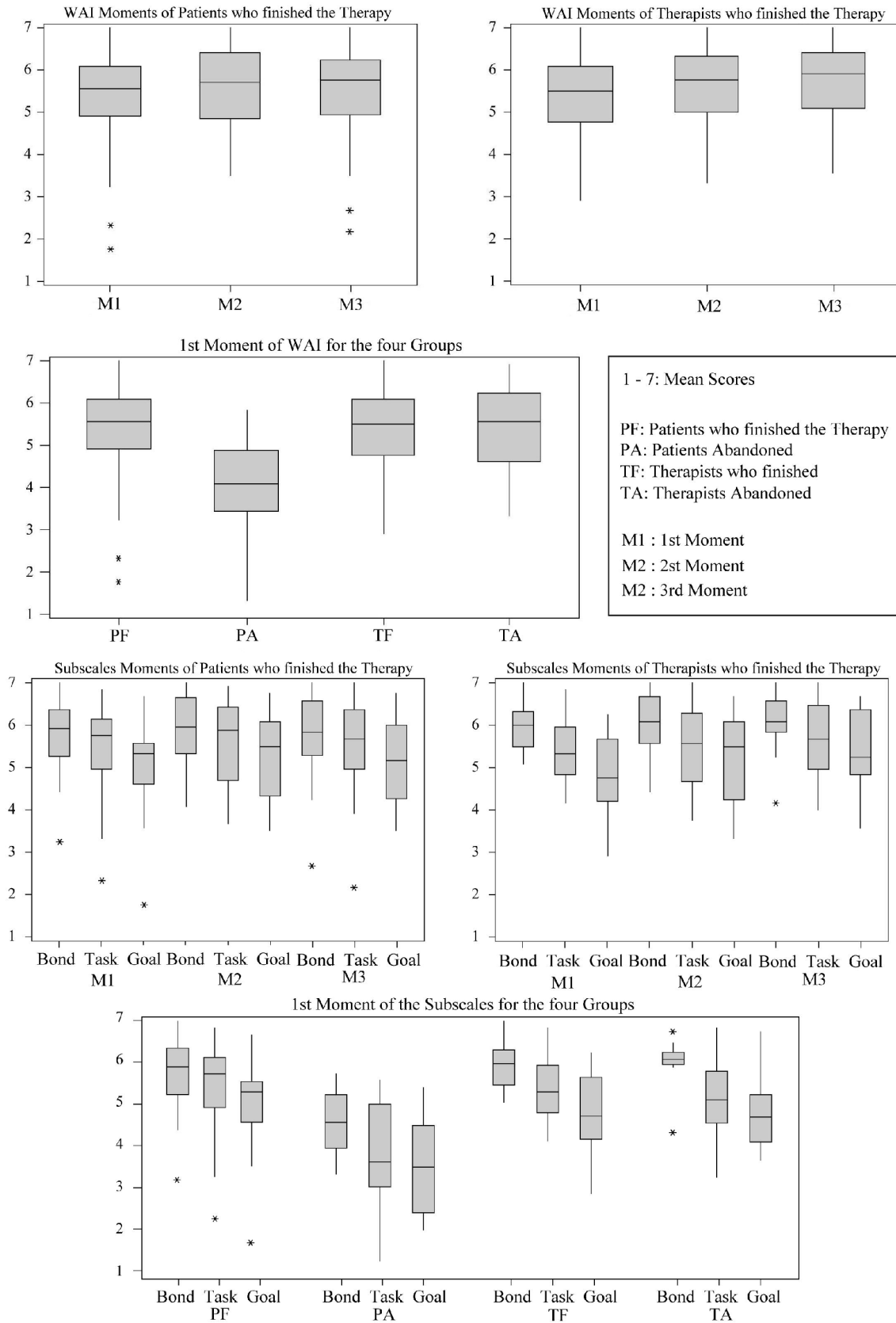
Figure 1, a Box Plot of the WAI, contains the following information: a) median, the traces inside each box on the graphic; b) variability, the size of the box that contains 50% of the sample; c) points of maximum, the traces above the boxes; d) points of minimum, the traces below the boxes. The asterisks represent outliers (discrepant results).

Observing the groups PF and TF graphics, it is possible to visualize what the statistical tests analyzed. There is a similar pattern of the WAI in the three moments and among the subscales in the three moments, for the patients and for the therapists. Scale bond has higher values in the three moments.

Comparing the results of WAI of group PA with the other three, an evident difference is found though all the groups have the same pattern of subscales. The subscale Bond has

higher values, than the subscale Task, followed by subscale Objectives. The figure shows that the evaluation of groups PA and TA was different. There were differences between the groups of patients that concluded the therapy and those who abandoned it, but the therapists evaluated similarly the therapies of rooms that concluded and rooms that abandoned the process.

A point to be emphasized is the subscale Bond of group TA, which has variability very much lower than the other groups. This group had seven therapists, and two of them were therapists in five rooms (from 10 analyzed). So, this data became biased because of individual responses of these two participants.



**Figure 1** Box Plot of the WAI results and it's subscales of the four groups analyzed

## DISCUSSION

### Participants

The number of registered participants in this study was higher than expected. Even after the deadline for registration, lots of people tried to register.

Since the participation demanded new steps, there were several withdraws before therapy, and it was not possible to evaluate if the cause of it was any kind of technical problems or the individual own characteristics.

In this study it was verified the affirmation of Miller and Gergen (1998) regarding large geographic potential of therapy via the Internet, since the participants were originally from almost all the states of Brazil, and four were from other countries.

Future research could consider the possibility of people who live in other countries and have no access to therapy in their language using therapy via Internet, as well as verify its utility to people who do not want or can not, for practical or health reasons, undergo traditional psychotherapy. In these studies, this information should be collected during registration period.

It can be concluded that the users profile of this research may be the desirable one for future participants of therapy via Internet, but this conclusion can not be applied to other kind of people. The users profile consisted of people who had at least two years of experience using Internet, were graduates or undergraduates (having, in this way, better conditions to express and understand written language). They accessed the Internet daily, for at least five hours a week. They had also permanent ways of connecting the Internet, such as *ADSL*, cable and others.

Future research could observe which other patient characteristics produce good results with therapy via Internet, the kind of diagnostic, the kind of presented problems among others.

There were almost no problems identifying the participants in this study. As Sampson et al. (1997) and Grohol (1998) affirmed and following Grohol's directions it was possible to identify all the patients who participated in the therapy through sending mail to their addresses and receiving from them the signed Informed Consent with photocopy of identification documents. It is possible, obviously, that someone sent false information, but this can also happen in other processes of identification.

#### Working Alliance via Internet

Some tests and statistical analyses were done based on the application of the WAI in three moments of the therapy and the division of the participants into four groups. The results will be discussed according to the psychometric characteristics of WAI, the moment when the working alliance was formed, the maintenance of this relationship during the therapy, the differences among the groups of therapists and clients in the prediction of results.

#### *Psychometric Characteristics of WAI*

Correlation among the subscales was found, varying in all the groups between moderate and strong. There are differences in all the groups among at least one subscale when compared to the others. The internal consistency (alpha) among the subscales of the instrument was high in the three moments of application.

This data agrees with the correlation among subscales and high grade of consistency and reliability of the instrument described by Horvath and Greenberg (1989) and Horvath (1994). Moreover, the differences among the subscales reinforce the affirmations by these authors about the fact that these subscales approach distinct dimension of the therapeutic relationship but are, however, highly interconnected.

#### *Moment of Formation and Maintenance of the Working Alliance*

Literature on the subject describes that this relationship is formed in the beginning of the therapy, in the third or fourth session (Luborsky, 1994; Horvath, 1994; Garfield, 1995).

The present study verified that around the 5<sup>th</sup> week of therapy, the working alliance had been formed and remained stable during the 15 weeks of therapy (observing the groups as a whole). We opted to measure it in the 5<sup>th</sup> week, considering that in the first weeks, the participants were starting the therapeutic contact and the adaptation to the communication system.

It was also verified that the working alliance for patients who concluded the therapy was similar to the results described by Al-Darmaki and Kivlighan (1993), Connors et al. (1997), Kivlighan et al. (1991), Kokohovic and Tracey (1990), Mallinckrodt, Coble et al. (1995), Mallinckrodt, Gantt et al. (1995) and Multon et al. (1996) when observed as a whole. In this study, the mean WAI results varied between 5.40 and 5.60, while the numbers found in the literature vary between 5.16 and 6. The scores of the subscale Bond varied between 5.79 and 5.88 and those found in the literature vary between 5.59 and 5.90. The scores of the subscale Task varied between 5.41 and 5.54, while the numbers in the literature vary from 5.53 to 5.66. And finally, the numbers of subscale Objectives varied between 5.05 and 5.31 and the numbers found in the literature vary between 5.43 and 5.52.

Even if this analysis is merely visual, we can observe that the scores on subscale Bond are highest as well as that they are closer to the interval of results found in the literature. This shows the possibility of establishing a strong connection of confidence, collaboration and commitment between patient and therapist on therapy via Internet.

Horvath (1994) argues that the working alliance has common essential characteristics in the beginning of the therapy but that therapeutic environment becomes more complex and specific as therapy develops. In the present study therapies were not analyzed individually, however non-significant changes were observed during the 15 weeks of therapy. It would be interesting to study closer those changes.

### *Differences among Groups and Prediction of Results*

Significant differences were found among the patients who abandoned the therapy and the other three groups: their WAI results were lower than that observed in the other groups. So, the patients' WAI predicted the participation in therapy, but the therapists' WAI did not. This is in accordance with Luborsky (1994), Horvath and Symonds (1991), Horvath (1994), Horvath and Greenberg (1989) and Garfield (1995) about measuring the bond at the beginning of the therapy to predict results.

In accordance to what Horvath, Symonds and Luborsky affirmed, the patients' point of view is better than therapists' point of view to predict results. The present study did not verify that the therapists' point of view predicts results, which is in agreement with the literature. It is also necessary to consider that the results of the therapists' group that attended the rooms where abandoning occurred, became biased because of the view of two therapists responsible for five of the ten evaluated rooms. One of these therapists abandoned their three rooms and the other had the highest number of clients who abandoned therapy.

So, it was observed that for the sample of participants who concluded the therapy, the working alliance was formed and maintained during the therapy with characteristics very similar to the characteristics described in evidence based psychotherapies.

### CONCLUSION

Regarding the objectives and hypothesis of this study, but observing the limitations of the size of the sample, it can be concluded that: The working alliance was formed and maintained with characteristics similar to the characteristics described in the literature. This shows that by using Internet and asynchronous ways of communication it is possible to establish a pleasant and productive environment between therapists and patients. The working alliance is a central aspect to psychotherapy, and the possibility of establishing it via Internet indicates that it is possible to do psychotherapy in this way.

It is still necessary, that other studies verify the differences among therapy via Internet and the working alliance considering the different ways of electronic communication (asynchronous versus synchronous and textual versus sensory) and to what kind of problems and interpersonal characteristics they are more useful.

Also further analysis can be made with the collected data, to verify the behavior of the participants in their therapies and the strength of the working alliance.

Finally additional research can investigate if other known issues in the field of the working alliance research can be replicated in the Internet Therapy.

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