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Measurement properties of the Brazilian version of the Working Alliance Inventory (patient and therapist short-forms) and Session Rating Scale for low back pain

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Abstract.

BACKGROUND: In the low back pain (LBP) field, therapeutic alliance is considered a non-specific factor of interventions associated with improvements in clinical outcomes. However, there is a paucity of studies aimed to evaluate measurement properties of tools used to objectively quantify the alliance between therapist and patients, such as the Working Alliance Inventory (WAI) and Session Rating Scale (SRS).

OBJECTIVE: To translate and cross-culturally adapt the short-form version of WAI – therapist and SRS into Brazilian Portuguese; to investigate the measurement properties of the WAI-Patient, WAI-Therapist and SRS in patients with LBP and their physical therapists, respectively.

METHODS: One hundred patients with LBP and 19 physical therapists were recruited from physical therapy clinics in Brazil. Therapeutic alliance measures were collected at the initial assessment, prior to the second session, and at 2-month follow-up. The measurement properties investigated were reproducibility, internal consistency, ceiling/floor effects and responsiveness.

RESULTS: Although WAI-Patient, WAI-Therapist and SRS were considered to have acceptable test-retest reliability ($ICC_{2,1} > 0.70$), these questionnaires showed problems with other measurement properties. WAI-Patient showed problems with internal consistency (i.e. Cronbach's alpha < 0.70 for all subscales). Presence of ceiling effect (i.e. $> 15\%$ of participants with the maximum score) and poor internal responsiveness were found for the WAI-Patient (Effect size $= 0.15$; 84% CI: 0.04 to 0.29) and for the SRS (Effect size $= 0.05$; 84% CI: -0.22 to 0.11). The WAI-Therapist revealed slightly better measurement properties.

CONCLUSION: We identified psychometric limitations with most measurement properties of the WAI questionnaires and SRS. Future studies are needed to refine these tools.

Keywords: ???

1. Introduction

Low back pain (LBP) is a highly prevalent condi-

tion worldwide [1]. Clinical guidelines show, in general, similar therapeutic recommendations for acute and chronic non-specific LBP [2]. For acute LBP, the consistent recommendations are: reassure patients (of a favourable prognosis), advise to stay active and discourage bed rest [2]. Guideline-endorsed treatments for chronic LBP include: discourage use of electro physical agents, short-term use of medication or ma-

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nipulation, supervised exercise therapy, cognitive behavioral therapy and multidisciplinary treatments [2]. However, the efficacy of most of these conservative treatments is considered to be similar with effect sizes ranging from small to moderate [3–5]. In chronic non-specific LBP, the overall responses to conservative treatments follow a rapid early improvement followed by a plateau irrespective of the type of treatment. Hence, it has been proposed that improvements in clinical outcomes might be related to other factors not related to components of the treatment itself [6]. These factors are known as non-specific factors of interventions and include, for example, the patient's expectations [7], the therapeutic effect [8] and the therapeutic alliance [9].

The importance of therapeutic alliance has only recently been recognized in the rehabilitation field [9]. Therapeutic alliance has traditionally been referred to the sense of collaboration, warmth and support between the patient and clinician [10]. The rationale behind a positive therapeutic alliance is that establishing a good rapport with patients make patients more satisfied with their treatment and, consequently, helps them to adhere and fully engage in rehabilitation programs [11]. In a recent study [12], patients with chronic LBP undergoing physical therapy who reported a strong positive therapeutic alliance showed an increase as high as four points on a 0–10 scale of global perceived effect compared to those with a weak therapeutic alliance. In another study [13], patients with LBP treated by physical therapists trained to establish a good therapeutic alliance reported less pain immediately following a single treatment session compared with those treated by therapists who were trained to have limited interaction with patients.

Despite the emerging evidence about the importance of therapeutic alliance, there is a lack of instruments specifically designed to measure the quality of the interaction between therapists and patients with LBP. Among the available questionnaires, the short-form version of the *Working Alliance Inventory* (WAI), originally developed to objectively quantify the alliance between therapist and patients in psychotherapy [14], has now became popular in the physical rehabilitation areas, such as brain injury [15,16], LBP [12,17] and cardiovascular disease [18]. However, studies that evaluate the measurement properties of this questionnaire in the rehabilitation settings are scarce. There are two versions available: one designed for completion by the patient (WAI-Patient), and the other for the therapist (WAI-Therapist). While the WAI-Patient has already been translated into Portuguese [19], the WAI-Therapist is only available in English. The Session Rating Scale (SRS) is another common questionnaire, which has shown to be a valid and reliable measure of therapeutic alliance in psychotherapy. The SRS, however, has only recently been introduced in the rehabilitation field [20]. Therefore, the aims of this study were: (i) to translate and cross-culturally adapt the WAI-therapist and SRS into Brazilian-Portuguese; and (ii) to investigate the measurement properties (i.e., internal consistency, test-retest reliability, standard error of the measurement, minimal detectable change, ceiling or floor effects analysis, internal responsiveness), of the short-form versions of the WAI-Patient and WAI-therapist as well as the SRS in patients with LBP and their physical therapists, respectively.

2. Methods

2.1. Participants

Participants seeking treatment for LBP were recruited through physical therapy clinics in Presidente Prudente – Brazil. To be included, patients had to be diagnosed with non-specific LBP of any duration, defined as pain localized below the costal margin and above the inferior gluteal folds with or without leg pain, but without neurologic deficit (i.e. presence of at least 2 of the following 3 tests: dermatome, myotome and reflex tests). Patients were eligible if presenting with at least two points in the Roland Morris Disability Questionnaire [21] and in the Numeric Pain Rating Scale (0–10) [22]. Patients with imaging diagnosis of osteoarthritis, spondylolysis and grade I spondylolisthesis, protrusion/herniation/disc prolapse or spinal stenosis were also included. Patients were excluded if they underwent abdominal or spinal surgery in the past 12 months; if they were pregnant; if presenting with suspected or diagnosed serious spinal pathology (i.e. inflammatory spondyloarthropathies, fractures, malignancy, cauda equina syndrome, or infection) or any contraindications to exercise. After confirming the patient's eligibility, the physical therapist in charge of the treatment was invited to participate into the study. To be included, physical therapists had to hold a valid registration/license to practice.

For the current study, a sample size of 100 patients were chosen because this sample is greater than the criteria of greater than 50 patients recommended for studies investigating measurement properties (i.e. reliability, and ceiling or floor effects analysis) of health status questionnaires and is the sample size needed for

internal consistency [23,24]. The number of therapists was not specified a priori. If the same physical therapist was in charge of two or more eligible patients, he/she completed WAI-therapist forms for each patient. For the purposes of this study, the form of treatment was not specified.

All patients gave informed consent to participate in the study. This study was approved by the ethics committee of the Universidade Estadual Paulista – UNESP (CAAE: 05466712.4.0000.5402).

2.2. Procedures

2.2.1. Cross-cultural adaptation of the WAI-therapist version and SRS

The cross-cultural adaptation of the WAI-therapist and Session Rating Scale (SRS) followed the standards proposed elsewhere [25,26]. This process was divided into 5 phases: initial translation, synthesis of translation, back-translation, consensus version and evaluation and testing phase. In the 'initial translation' phase, two Brazilian bilingual translators were responsible for translating the original version of both questionnaires into Portuguese. In the 'synthesis of translation' phase, the translators and two investigators prepared a single consensus Brazilian-Portuguese version of both questionnaires. In the 'back-translation' phase, two bilingual translators, whose native language was English and had no previous contact with the original questionnaires, translated separately the consensus Brazilian-Portuguese version back into English. This new English version when compared with the original version allowed possible translation error and grammatical inconsistencies to be identified. In the 'consensus version and evaluation' phase, a committee of experts, which was composed of two physical therapists, two Brazilian bilingual translators and two university lecturers with experience in the use of the WAI English version and familiar with the process of cultural adaptation, analyzed all reports and produced the final version of both questionnaires. The committee used the Portuguese version of the WAI-Patient as a reference guide to reach final consensus. For the 'testing phase', both questionnaires were administered to 30 patients to check whether the patients face any difficulty in understanding any of the items. As none of the patients experienced any difficulties, this sample was included in the final sample of the study.

2.2.2. Data collection

Data was collected at the initial assessment, prior to the second session, and at 2-month follow-up. At the initial assessment, we collected demographic and clinical data. Patients' demographic data included age, gender, body mass index, employment status and health insurance type and symptoms duration. Clinical data included alliance measures and outcome measures of pain, disability and function. Data collected from physical therapists included age, gender, years of experience, number of treatment sessions and alliance measure. Prior to the second session, alliance measures were re-administered and used in the reliability analysis. At 2-month follow-up, alliance and outcome measures were collected. At this stage, patients would either be discharged or still be receiving ongoing treatment. Two trained assessors (A.A. and C.O.) were responsible for data collection and informed all patients that the staff from the clinics did not have access to their answers to the questionnaires. Although the alliance measures are self-administered questionnaires, the research team together with the committee of experts decided that an interview would be the best way to administer the alliance measures to the patients due to the their low level of education. During the interview, the assessor read out the questionnaire to the participant and recorded the participants' responses. The assessor was instructed to read slowly and clearly the accompanying instructions, each item of the questionnaire and its response options. This approach has been adopted in previous studies [21,27].

2.3. Questionnaires

2.3.1. Therapeutic alliance measures
2.3.1.1. WAI-patient

The short-form version of the WAI-Patient has 12 items with a total score ranging from 12 (weak alliance) to 60 (strong alliance) points. Each item is scored on a 5 point Likert-scale that describes the patient's opinion about the item (seldom, sometimes, fairly often, very often, always). The 12 items are grouped into 3 subscales: Goals (items 4, 6, 8 and 11), Tasks items (items 1, 2, 10 and 12) and Bond (items 3, 5, 7 and 9). The Goals subscale measures the extent to which a patient and therapist agree the goals of treatment. The Tasks subscale evaluates the agreement on tasks that lead towards achieving these goals. The Bond subscale measures the extent to which a client and therapist possess mutual trust, acceptance, and confidence. For the purpose of this study, we used the WAI revised short-form [28]. The Portuguese version was made available by the author who developed the WAI questionnaire upon request and only small spelling adjustments made by the committee of experts were needed to produce the Brazilian-Portuguese version of the WAI-Patient [19].

2.3.1.2. WAI-therapist

The short-form version of the WAI-Therapist, which was cross-culturally adapted in the current study, has the same number of items and contains the same subscales as the WAI-Patient. The WAI-Therapist differs from the WAI-Patient with regards to the 7 point Likert-scale used to score each item (never, rarely, occasionally, sometimes, often, very often, always). Hence, the WAI-Therapist total score ranges from 12 (weak alliance) to 84 (strong alliance) points.

SRS. The SRS consists of four items assessed separately on a 0–10 visual analogue scale with a total score ranging from 0 to 40 points [20]. The items refers to: Relationship (i.e., "*Does the patient feel heard, understood, and respected?*"), Goals and Topics (i.e., "*Does the patient feel that the session focused on what he/she wanted to work on?*"), Approach and Methods (i.e., "*Was the therapist's approach a good fit?*") and Overall ("Was the session helpful [right] for the patient?").

2.3.2. Outcome measures

2.3.2.1. Pain

To measure the severity of pain, the Numeric Pain Rating Scale (0–10) was used [22]. Patients were asked to rate their average pain in the last 24 hours on a scale from 0 – 'no pain' to 10 – 'extreme pain'.

2.3.2.2. Disability

Brazilian-Portuguese version of the Roland Morris Disability Questionnaire (0–24) was used as a measure of disability [21]. Greater levels of disability are reflected by higher scores.

2.3.2.3. Function

The Patient-Specific Functional Scale (PSFS) was used to quantify activity limitation and measure functional outcome [29]. The PSFS requires the patient to nominate three activities that are limited by the condition for which they are seeking treatment and rate the degree of difficulty of each activity from 1 (unable to perform) to 10 (able to perform at pre-injury). The PSFS overall score is an average of all three activities.

2.4. Statistical analysis

Data normality was verified using the Kolmogorov-Smirnov Test. Normal and non-normal distributed data was expressed as mean (standard deviation) and median (interquartile range), respectively. Frequency and percentages were calculated for categorical and dichotomous variables. Paired T-test for difference in means and Wilcoxon signed-rank test for difference in medians were used to compare outcome and therapeutic alliance measures before and after treatment.

2.4.1. Measurement properties

The following analyses were used to test the measurement properties of the alliance measures:

(i) *Internal consistency.* Cronbach's α was used to determine how well the items on each subscale measure the same construct. The Cronbach's alpha is considered adequate between 0.70 and 0.95 [23]. If a Cronbach's alpha is below 0.70, the analysis is repeated again after deleting the item in each subscale with the worst performance.

(ii) *Test-retest* reliability. Intraclass correlation coefficient ($ICC_{(2,1)}$) was used to measure reliability and results interpreted as: poor (lower than 0.40); good (from 0.40 to 0.75); and excellent (above 0.75) reliability [30].

(iii) *Standard error of the measurement (SEM) and minimal detectable change (MDC) were also calculated.* SEM reflects the variability associated with the individual score in the questionnaire and MDC determines the magnitude of change that a measurement must demonstrate to exceed the anticipated measurement error and variability. The formulas used for calculating the SEM and MDC, respectively, were $SEM = S \sqrt{1\text{-}ICC}$ and $MDC = 1{,}96 \sqrt{2}.\ SEM$ [31].

(iv) *Correlation analyses.* As no cross-cultural and valid tool to measure therapeutic alliance was found to investigate construct validity, Spearman's correlation (rho) coefficient was used to determine the correlation between SRS and WAI-Patient. The magnitude of association was interpreted as no relationship (from 0.00 to 0.25), fair relationship (from 0.25 to 0.50), moderate to good relationship (from 0.50 to 0.75), and good to excellent relationship (above 0.75) [30]. We conducted an exploratory analysis to investigate the correlation between WAI-Therapist and WAI-Patient in order to examine whether patients' perception of therapeutic alliance correlates with their therapists' perceptions.

(v) *Potential ceiling and floor effects.* The percentage of respondents who answered the maximum score (ceiling effect) and the minimum scores (floor effect) of the questionnaire were calculated. Ceiling and floor effects were defined as when more than 15% of the respondents answer the maximum and/or minimum score, respectively [32].

(vi) *Internal responsiveness.* To investigate whether alliance measures were capable of detecting real change, we compared the internal responsiveness
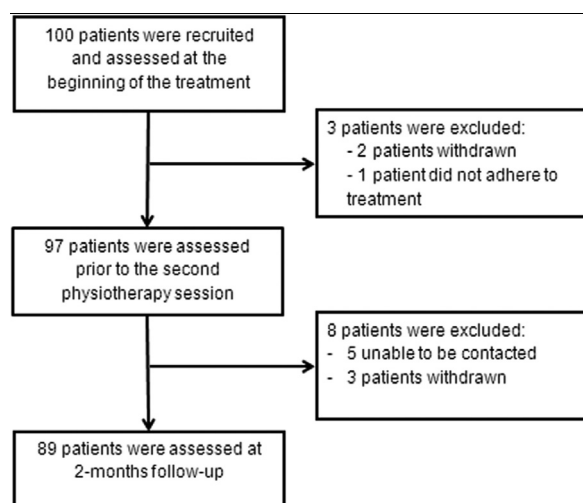
Fig. 1. Follow of patients in the study.

Table 1
Patient and physical therapist characteristics

Characteristics	Mean (SD)
Patients ($n = 100$)	
Age (years)	47.8 (15.4)
Gender, female(%)	54 (54.0)
BMI (kg/m^2)	27.7 (5.4)
Employment status, n(%)	
Employed	47 (47.0)
Unemployed	53 (53.0)
Health insurance, n(%)	
Private	54 (54.0)
Government	46 (46.0)
Duration of symptoms, n(%)	
Acute (< 4 weeks)	22 (22.0)
Subacute (> 4 weeks to < 12 weeks)	26 (26.0)
Chronic (> 12 weeks)	52 (52.0)
Baseline measures	
Pain (NRS 0–10)	5.6 (2.4)
Disability (RM 0–24)	13.2 (11.3)
Function (PSFS 0–30)	12.3 (6.7)
WAI-Patient (12–60)	55.0 [9.0]
Post treatment measures	
Pain (NRS 0–10)*	3.7 (3.1)
Disability (RM 0–24)*	10.1 (12.6)
Function (PSFS 0–30)*	18.6 (8.1)
WAI-Patient (12–60)	57.0 [6.0]
Physical Therapist ($n = 18$)	
Age (years)	25.6 (4.3)
Gender, female (%)	14 (77.8)
Experience as a registered physical therapist (months)	30 [37]
Number of treatment sessions per patient	13.4 (7.0)
Baseline measure	
WAI-Therapist (12–84)	67.5 (8.3)
Post treatment measure	
WAI-Therapist (12–84)	70.5 (9.2)

Data are mean (standard deviation) or numbers of participants (percentage) and median [interquartile range]. BMI, body mass index; NRS, numerical pain rating scale; RM, Roland Morris disability questionnaire; PSFS, Patient-Specific Functional Scale; WAI, Working Alliance Inventory. *$p < 0.001$ for comparisons between baseline and post treatment measures.

of the alliance measures. Internal Responsiveness was calculated using the following formula for Effect Size (ES):

$$\text{ES} = \frac{\text{Mean difference (baseline)} - \text{Mean (post treatment)}}{\text{Standard Deviation (baseline)}}$$

We calculated 84% confidence intervals (CI) for direct comparison of the ES because non-overlapping 84% CIs are equivalent to a Z test of means at the 0.05 level [33]. Interpretation of the magnitude of ES should follow Cohen's conventions for small ($r = 0.1$), medium ($r = 0.3$) and large ($r = 0.5$) [34].

3. Results

Appendix 1 shows the whole process to produce the final Brazilian-Portuguese version of the WAI-Therapist. The SRS was directly translated into Brazilian-Portuguese without losing the intended meaning of the original English version. The final Brazilian-Portuguese version of the WAI-therapist and the SRS are available from the authors upon request.

A total of 100 patients with non-specific low back pain were recruited between March 2013 and February 2014. Figure 1 shows the flow of the participants through the study. A total of 18 physical therapists participated into the study. Overall, physical therapists were aged below 30 years old with few years of experience. Demographic and clinical data for included patients and therapists are summarized in Table 1.

Table 2 shows the results for the analysis of internal consistency. Cronbach's α values for all WAI-

Patient subscales and WAI-Therapist Bond subscale were lower than the recommended value of 0.70.

Table 3 shows the results for test-retest reliability, SEM, MDC and ceiling/floor effects. The ICCs for WAI-Patient, WAI-Therapist and SRS, were higher than 0.70, interpreted as excellent reliability. The results for SEM and MDC revealed that WAI-Patient and WAI-Therapist scores showed higher variability compared to SRS and the magnitude of change needed to exceed the anticipate measurement error and variability for WAI-Patient, WAI-Therapist and SRS was around 8, 7 and 5 points, respectively. Ceiling effect was detected for WAI-Patient and SRS but not for WAI-Therapist.

The correlation analyses revealed a low correlation between the SRS and WAI-Patient (rho = 0.39, $p \leqslant$

Table 2
Internal consistency analysis

	WAI-Patient*			WAI-Therapist*		
	Tasks subscale	Goals subscale	Bond subscale	Tasks subscale	Goals subscale	Bond subscale
Alpha cronbach	0.52	0.58	0.62	0.81	0.79	0.58
Alpha cronbach (item deleted)**	0.53 (Item 10)	0.61 (Item 11)	0.68 (Item 5)	–	–	0.65 (Item 5)

WAI, working alliance inventory.*WAI-Patient and WAI-Therapist subscales are Tasks (items 1, 2, 10 and 12), Goals (items 4, 6, 8 and 11) and Bond (items 3, 5, 7 and 9)**Analysis performed after deleting the item with worst performance, only for those alpha Cronbach below 0.70.

Table 3
Psychometric properties analysis of the therapeutic alliance questionnaires, including test-retest reliability, standard error of the measurement, minimal detectable change and potential ceiling/floor effects

Questionnaires	$ICC_{2,1}$ (95%CI)	SEM	MDC	% Ceiling*	% Floor*
WAI-therapist	0.85 (0.79–0.89)	3.2	8.87	1.0	1.0
WAI-patient	0.74 (0.66–0.81)	3.3	9.14	26.0	1.0
SRS	0.79 (0.71–0.85)	1.83	5.05	58.0	1.0

WAI-Therapist, Working Alliance Inventory – Therapist version; WAI-Patient, Working Alliance Inventory – Patient version; SRS, Session Rating Scale; ICC, Intraclass correlation coefficient; CI, Confidence interval; SEM, Standard error of the measurement; MDC, minimal detectable change.* Proportion of subjects with the highest score (ceiling effect) or the lowest score (floor effect) in the baseline.

0.001), meaning that these instruments might not be measuring the same construct of therapeutic alliance. The exploratory analysis revealed a weak and non-significant correlations between WAI-Therapist and WAI-Patient (rho = 0.09, p = 0.37). Regarding internal responsiveness, WAI-Patient (ES = 0.15; 84%CI: 0.04 to 0.29), WAI-Therapist (ES = 0.37; 84%CI: 0.29 to 0.49) and SRS (ES = 0.05; 84%CI: −0.22 to 0.11.

4. Discussion

Our findings revealed that although the WAI-Patient, WAI-Therapist and SRS have good reliability, problems were identified with other measurement properties. The WAI-patient showed lower degree of internal consistency for all subscales and presence of ceiling effect. The WAI-Therapist revealed slightly better measurement properties, including higher degree of internal consistency particularly for the task and goals subscales and no presence of ceiling effect. Based on these findings, WAI questionnaires and SRS need to be refined before it can be widely applied in the context of LBP.

Strengths of this study are the large sample size (n = 100) and the lower dropout rate (< 15%) at follow-up. We did not restrict the inclusion of participants based on symptoms duration, age or type of health insurance. Although it is possible that therapeutic alliance may vary depending on specific patients' characteristics, the sample recruited is in line with the reality of most physical therapy clinics. A limitation of this study was that alliance measures were collected

at the first session. It has been argued that the alliance between therapist and patients may need time to form and peaks around the third session [35]. One factor that may have influenced our results is the inclusion of novice physical therapists. Less experienced therapists may have difficulties with engaging in a more collaborative models of care [36]. The limited number of treating physical therapists (n = 18), however, may prevent us from generalizing WAI-Therapist results to a broader population. Although none of the patients reported difficulty in understanding any of the items, the inclusion of the sample used in the 'testing phase' in our analysis should be seen as a limitation of this study.

Our results differ from previous studies in the psychotherapy field. Previous studies reported Cronbach's alpha for the WAI subscales varying between 0.85 and 0.90 [28,37]. Other cultural adapted versions of the WAI-Patient, such as the German [38] and Spanish [39] versions, tested in patients undergoing psychotherapy treatment have shown similar Cronbach's alpha for the WAI subscales ranging from 0.81 to 0.91 and 0.86 to 0.91, respectively. The inclusion of patients from a rehabilitation setting may account for the poor internal consistency found in this study.

The alliance measures showed poor responsiveness. This might not be an unexpected finding, as the intervention was not manipulated to improve the interaction between therapists and patients. The presence of ceiling effect (i.e. > 15% of patients scoring the maximum value) might have also influenced WAI-Patient and SRS responsiveness. The ceiling effect suggests that, in its current format, these questionnaires are unable to discriminate between groups of patients with strong

or weak therapeutic alliance or do not have enough items to properly evaluate the full concept of therapeutic alliance in this population. A possible explanation for these findings is the inclusion of patients who still hold preferences for a passive role in health care decisions and aimed to please the therapist when answering the questionnaires. In Brazil, the patient-clinician relationship has evolved based on a paternalism model of care (i.e. clinicians hold the information and take the responsibility for health care decisions) [40]. Although recent data show that Brazil is moving towards a model of shared decision-making, in which patients are willing to be involved in health care decisions, patients still lack knowledge about how to engage in a shared model of care [41]. A possible way to further refine these questionnaires is to conduct Factorial analysis. In recent studies [42,43] conducted in the psychotherapy field, a two-factor model showed the best psychometric properties.

Our findings question whether an instrument developed to measure the therapeutic alliance in psychotherapy can be used in rehabilitation settings. In psychotherapy, the psychologist provides a supportive environment strongly based on dialogue in which both, therapist and patient, work together to identify and change emotions, thought or behavior patterns with the aim to improve the patient's well being and mental health. Nevertheless, in the context of musculoskeletal rehabilitation, the physical therapist aims is to help the patient to maintain and restore maximum movement and functional ability. Hence, we would argue that the nature of the alliance between physical therapist and patients is different from the alliance developed in psychotherapy. Hence, questionnaires specifically designed to measure the therapeutic alliance in rehabilitation are needed. A recent developed tool known as Pain Rehabilitation Expectation Scale [44] has a Working Alliance subscale with 11 items, which may be an alternative tool to measure the therapeutic alliance in rehabilitation settings. As an example this questionnaires includes items such as *"My therapist informed me of what to expect from treatment (including possible side effects)"* and *"My therapist does a good job of explaining my treatment to me?"* rated on a 4-point Likert scale. Future studies investigating other measurement properties, such as test re-test reliability, measurement error and responsiveness, are needed to validate this subscale.

In conclusion, this study identified problems with the WAI-Patient, WAI-Therapist and SRS which limits its use for measuring the quality of alliance between therapists and patients with low back pain. As the topic of therapeutic alliance becomes popular in the rehabilitation field [9,45], studies investigating the factor structure of the WAI questionnaires in rehabilitation settings may help to improve these measures. In addition, future research should aim to recruit a larger number of physical therapists to fully investigate the measurement properties of the WAI-Therapist. Alternatively, future studies might need to focus on developing new questionnaires or determining the measurement properties of existing tools.

Conflict of interest

The authors have no conflict of interest to report.

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Appendix 1.

Original version, consensus Brazilian-Portuguese version, back translations and final Brazilian-Portuguese version of WAI Therapist. T1, first translator; T2, second translator

Original version	Consensus brazilian-portuguese version	Back translations	Final brazilian-portuguese version
1. ___ and I agree about the steps to be taken to improve his/her situation.	1. ___ e eu estamos de acordo acerca dos passos que devem ser tomados para melhorar a sua situação.	T1. ___ and I always agree on the steps that should be taken in order to improve his/her/your situation. T2. ___ and I agree about the steps that must be taken to improve his situation.	1. ___ e eu estamos de acordo acerca dos passos que devem ser tomados para melhorar a sua situação.
2. My client and I both feel confident about the usefullness of our current activity in therapy.	2. Meu client e eu nos sentimos confiantes em relação ao valor da nossa atividade atual no tratamento/terapia.	T1. My client and I feel confident about the meaning of our current activity in the treatment/therapy. T2. My client and I feel confident towards the value of our current activity in the treatment/therapy.	2. Meu cliente e eu nos sentimos confiantes em relação a utilidade da nossa atual atividade no tratamento.
3. I believe ___ likes me.	3. Eu acho que o/a ___ gosta de mim.	T1. I think ___ likes me. T2. I think (I suppose; I believe) that ___ likes me.	3. Eu acho que o/a ___ gosta de mim.
4. I have doubts about what we are trying to accomplish in therapy.	4. Eu tenho dúvidas sobre o que tentamos conseguir no tratamento/terapia.	T1. I'm doubtful about what we try to accomplish in the treatment/therapy. T2. I have doubts about what we've been trying to achieve in the treatment/therapy.	4. Eu tenho dúvidas sobre o que estamos tentando conseguir no tratamento.
5. I am confident in my ability to help ___.	5. Eu tenho confiança na minha capacidade para ajudar o/a ___.	T1. I'm confident about my capacity to help ___. T2. I've confidence in my ability to help ___.	5. Eu tenho confiança na minha capacidade para ajudar o/a ___.
6. We are working towards mutually agreed upon goals.	6. Nós estamos trabalhando para alcançar os objetivos estabelecidos em conjunto.	T1. We have been working so as to reach the goals set together. T2. We're working to achieve the goals established together.	6. Nós estamos trabalhando para alcançar os objetivos que foram estabelecidos em conjunto.
7. I appreciate ___ as a person.	7. Eu admiro a/o ___ como pessoa.	T1. I admire ___ as a person. T2. I admire ___ as a person.	7. Eu admiro a/o ___ como pessoa.
8. We agree on what is important for ___ to work on.	8. Nós estamos de acordo com o que é importante para o/a ___ praticar.	T1. We agree on what is important for ___ to practice. T2. We agree with what is important to ___ practice.	8. Nós concordamos em relação ao que é importante para o/a ___ fazer.
9. ___ and I have built a mutual trust.	9. ___ e eu construímos uma confiança mutua.	T1. ___ and I build mutual confidence. T2. ___ built a mutual trust.	9. ___ e eu construímos uma confiança mútua.
10. ___ and I have different ideas on what his/her real problems are.	10. ___ e eu temos idéias diferentes sobre o seu problema real/verdadeiro.	T1. ___ and I have different ideas about his or her real/true problem. T2. ___ and I have different ideas about his real/true problem.	10. ___ e eu temos ideias diferentes sobre o seu real problema.
11. We have established a good understanding between us of the kind of changes that would be good for ___.	11. Nós estabelecemos um bom entendimento entre nós quanto às mudanças que seriam boas para o/a ___.	T1. We have a nice understanding between us in regard to changes that would be beneficial for ___. T2. We have established a good understanding between us about the changes that would be good for ___.	11. Nós estabelecemos um bom entendimento quanto às mudanças que seriam boas para o/a ___.
12. ___ believes the way we are working with her/his problem is correct.	12. ___ acredita que o modo como estamos trabalhando o seu problema é correto.	T1. ___ believes the way in which we've been working on his\her problem is correct. T2. ___ believes the way we are working his problem is correct.	12. ___ acredita que o modo como estamos trabalhando com o seu problema é correto.