

Validity of the Working Alliance Inventory (patient version) in adult systemic psychotherapy

Evidence from an experiment using
the non-random change method

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ABSTRACT

Aim

The aim of this study was to verify the validity of the patient version of the Working Alliance Inventory (WAI-PC).

Method

The theoretical validity of the WAI-PC was experimentally estimated using the non-random change method proposed by Cronbach and Meehl.

Results

The results of the t-test showed significant differences between the experimental and control groups.

Conclusion

The study confirmed the validity of the WAI-PC as a tool for measuring alliance in adult psychotherapy.

Keywords: working alliance, Working Alliance Inventory, validity, non-random change method.

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INTRODUCTION

In the last four decades, there has been a growing interest in the relationship between the helper and the person being helped, especially in alliance in psychotherapy (Folmo et al., 2020; Horvath, 2018). Psychotherapeutic alliance is crucial in clinical work both with adults and adolescents and it involves constant exploration and understanding, especially given the recovery process that is dependent on it (Flückiger et al., 2018; Karver et al., 2018). The results of empirical research invariably show that psychotherapeutic alliance is one of the key factors that ensure positive outcomes of psychotherapy (Crits-Christoph et al., 2020).

However, there is no generally accepted definition of alliance as yet (Fitzpatrick et al., 2005; Horvath, 2018), although numerous attempts were made to specify its content and structure (Cirasola et al., 2020). Despite lack of agreement on the definition, most researchers agree that it is a multidimensional construct. Of the several explanations of the concept of psychotherapeutic alliance that appeared in the last few decades (Horvath, 2018), the one proposed by Bordin (1979, 1994) is generally accepted as “modern” and regarded as canonical.

Bordin notes that psychotherapeutic alliance, which he called working alliance, consists of three integrated components: agreement of tasks, agreement on goals, development of bonds. The first two sessions, which psychotherapists also use to diagnose the patients focus specifically on the first two dimensions. Achievement of goals and tasks is conditional on the third dimension, which is developed throughout all the sessions, it being impossible to simply “Agree” on mutual trust. Alliance is the most rational part of a therapist-patient relationship as it enables the patient to become confident about and accept the proposed treatment, and to follow the rules of the psychotherapy process established with the therapist.

On the basis of Bordin’s pantheoretical suggestion, following several stages of an operationalisation process, a valuable measuring method was developed, called the Working Alliance Inventory (WAI; Horvath, Greenberg, 1989; Polish version: Prusiński, 2021). WAI makes working alliance operational in three dimensions; (1) quality of the agreement on goals relating to the mutual understanding of changes to be achieved through the therapeutic process, (2) quality of the agreement on tasks that are necessary to achieve those goals and (3) quality of the bond that characterizes the nature of the relationship between the therapist and the patient (Bordin, 1979). For the purpose of clarity, Figure 1 presents a structural model with latent variables.

In the last decade of the 20th century and in the first two decades of the 21st century, the original WAI and its shorter version (WAI-S; Tracey & Kokotovic, 1989) were the most often chosen methods to measure alliance in adult and adolescent therapy (DiGiuseppe et al., 1996; Figueiredo et al., 2016; Karver et al., 2018; McLeod, 2011; Shirk et al., 2011). As recommended by one of the authors of the method (Horvath, 1994), the inventory was extended to include various possible situations of professional assistance.

Empirical research using this scale (Martin et al., 2000) was frequently conducted among middle-class patients in short-term weekly therapy. The results of such research consequently show that good working alliance has positive

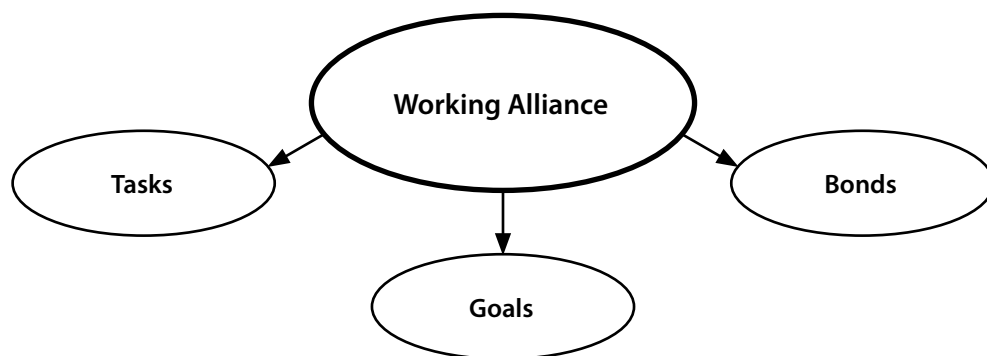


Figure 1. Hierarchical model of latent variables:
Tasks – Agreement of Tasks, *Goals* – Agreement on Goals, *Bonds* – Development of Bonds, *Working alliance* – a higher-order factor.

predictive value for therapy success (Guedeney et al., 2005). The scale was used in psychological counselling (Mallinckrodt & Nelson, 1991; Satterfield & Lyddon, 1995), nursing of chronic mental patients (Forchuk, 1995) and evaluation of the quality of alliance in addiction treatment (Connors et al., 1997). Most research results served to prove the psychometric value of the tripartite WAI scale.

The theoreticians as well as practitioners of psychology and psychotherapy in Poland are familiar with the English version of the WAI. Although lately there have been some empirical analyses using WAI (Cierpiałkowska & Kubiak, 2010), its preliminary and final adaptations, followed by psychometric validation, have only recently been developed (Prusiński, 2020; 2021). Major WAI research, the results of which were presented in the *Journal of Contemporary Psychotherapy* (Prusiński, 2021), have made it possible to estimate the factorial structure of working alliance by means of the confirmatory factor analysis CFA. The CFA was used to extract three dimension of the working alliance, and it was noted that the Polish versions of the WAI for the patient and for the psychotherapist had the same factorial structure as the original tool (Hukkelberg & Ogden, 2016). The analyses were based on separate and aggregate measuring models and they produced strong evidence for the validity of measuring the quality of working alliance with the Polish versions of the WAI. Reliability of the measurements was estimated by means of the Cronbach's alpha internal consistency coefficient, Jöreskog's composite reliability index, Aranowska's γ coefficient and intraclass correlation coefficient ρ_2 . Reliability coefficients turned out to be very high in all the respective subscales as well as in the overall result and they were coherent with the results of corresponding analyses from other countries (Capaldi et al., 2016; Hanson et al., 2002; Hatcher et al., 2020; Horvath & Greenberg, 1989; Hukkelberg & Ogden, 2016; Miragall, 2015).

However, it is well known that the process of psychometric evaluation of a psychological tool, especially one that has only recently been adapted, is a continuous activity and in a sense never ending. The evidence regarding validity of WAI measurements available so far suggests that this method is sound and reliable

(Prusiński, 2021). However, new psychometric validations of the tool should use different new validation methods (Fronczyk, 2009). The goal of this research was to verify the validity of measurements by means of the patient version of the Working Alliance Inventory (WAI-PC) in adult psychotherapy. The validity was estimated using a method other than classical factor analysis, namely the non-random change method proposed by Cronbach and Meehl (2005). The non-random change method provides evidence of the theoretical validity of psychometric tests and it uses experimental manipulation with repeated measurement, which (from the theoretical perspective) should influence the test results. Then, the tool's sensitivity to an active factor is checked, i.e. whether there are statistically significant differences in research participants' test results before and after experimental manipulation.

METHOD

Research participants

The research was conducted in the natural environment of private psychotherapy clinics and it was voluntary and anonymous. The research procedure received a positive opinion from the Research Ethics Committee of the Maria Grzegorzewska Academy of Special Education in Warsaw (decision no. 188–2019/2020). The sample consisted of 22 patients attending systemic therapy sessions with one of the two psychotherapists using this method. Psychotherapists knew the assumptions and goals of the research and they assisted its author – in particular, they were supposed to perform experimental manipulation in the experimental group as opposed to the control group, where there was to be no such manipulation.

The research sample was purposeful (expert) – the author of the research selected participants depending on the progress of their therapeutic process. The patients were supposed to be in the early stage of their therapy (2nd-4th session), i.e. in the consultation phase, when the goals and tasks of psychotherapy are determined and the foundations of a patient-psychotherapist alliance are established. Of the patients who participated in the research 15 were female and 7 were male (experimental group: 7 females and 4 males, control group: 8 females and 3 males). Overall the participants were aged between 25 and 50 years ($M = 35.45$; $SD = 6.59$) – members of the experimental group were aged between 25 and 47 years ($M = 34.82$; $SD = 6.57$) and members of the control group were aged 28 to 50 years ($M = 36.09$; $SD = 6.86$). All the participants had university education and lived in cities. They did not receive any compensation for taking part in the research.

Measuring the variables

Working Alliance Inventory, patient version (WAI-PC; Prusiński, 2021).

WAI-PC consists of 36 statements that operationalize the working alliance construct, and the respondent uses the Likert scale (1: never; 7: always) to assess

how accurately they describe the patient-psychotherapist collaboration. The Cronbach's alpha reliability coefficient for each of the three individually examined subscales (Agreement on Goals, Agreement of Tasks, Development of Bonds) was 0.93 in each case, whereas the overall result was 0.97.

Experimental procedure

Repeated measurement with WAI-PC was not recommended due to a high probability of the respondents' sensitivity to manipulation, which is why the respondents were randomly divided into two independent samples. It was assumed that if the inventory is a sound measure of working alliance, then manipulation by the psychotherapist intentionally taking greater care of the quality of the therapist-patient relationships will affect the WAI-PC results in the way that patients exposed to such manipulation would later declare a higher alliance compared with patients from the control group. The research process is described in detail in the subsequent paragraph.

First, a patient was informed about the purpose of the research and asked for a consent to participate. Then, the patient was told that there would be a few minutes of break (to randomly allocated the patient to either the experimental or the control group). After the break, the patient had a therapeutic session. The independent variable, the same as the working alliance, was tripartite. The manipulation in the experimental group involved three types of psychotherapist's activity (the behaviours were identical for each therapist and each patient): (1) activity suggesting higher care for the relationship with the patient (during the session, the therapist paid attention to how the patient was feeling and made sure the patient was emotionally comfortable), (2) activity suggesting greater effort to discuss the goals of the therapy with the patient (during the session, the therapist asked about the goal of psychotherapy and made sure that the therapist and the patient had a similar understanding of that goal, and emphasized the need to work together to determine the goals of therapeutic sessions), (3) activity intended to determine the tasks through which the goals of the therapy were supposed to be achieved (during the session, the therapist asked and specified the steps that ought to be taken in order to improve the patient's situation; the psychotherapist asked the patient about specific activities that could help achieve the goals of psychotherapy). In the control group, the therapist was not directive and did not engage in the above activities. After the session, the patient was given the WAI form and a questionnaire concerning socio-demographic variables. Finally, the therapist explained the assumptions of the research and the patient's role in the experiment to the patient.

RESULTS

The results of comparing the mean WAI-PC results of patients from the experimental and control groups, respectively, are presented in table 1. As can be seen, *t* tests of the equality of means for independent samples show statistically

significant differences between the two groups – WAI-PC results were higher for patients in the experimental group, where the psychotherapist intentionally took greater care of the relationship with the patient and focused more on discussing the goals of the therapy with the patient and the tasks that were supposed to help achieve those goals. This regularity was observed both for the overall result (Alliance) and for the results in the three subscales (Agreement on Goals, Agreement of Tasks, Development of Bonds).

Table 1**Different quality of working alliance in the experimental and working groups**

WAI-PC subscale	group	<i>M</i>	<i>SD</i>	Kurtosis	Skewness	<i>t</i>
Agreement on Goals	E	68.09	2.12	-0.07	0.01	22.23
	K	44.82	2.75			
Agreement of Tasks	E	60.18	3.03	0.99	-1.03	10.96
	K	45.91	3.08			
Development of Bonds	E	64.09	2.34	-1.78	-0.13	13.37
	K	44.36	4.30			
Alliance – total score	E	197.55	6.10	1.29	-0.97	18.44
	K	135.09	9.43			

Note. E – experimental group, K – control group, *t* – Student's *t* – distribution for independent samples (*df* = 20, all values *p* < 0.001)

DISCUSSION

The goal of the research was an experimental measurement of the validity of the patient version of Working Alliance Inventory (WAI-PC) using the non-random change analysis (Cronbach & Meehl, 2005), a method rarely used by researchers even though it produces direct and particularly valuable evidence of the validity (or its lack) of psychological tools. The results of this research constitute additional and important evidence of the validity of WAI-PC, the inventory having proven to be sensitive to changing intensity of patients' experiences related to working alliance. The results also suggest that working alliance develops simultaneously in all of its three components (Agreement on Goals, Agreement of Tasks, Development of Bonds). Thus, the alliance should be analysed as a tripartite phenomenon.

This research had certain limitations. For example, in this research, psychotherapist's modality and type of patient's disorder were constants rather than variables (the selected research samples were generally homogeneous, i.e. psychotherapists worked in systemic modality and most patients were diagnosed with adjustment disorders). Thus, it is not certain whether similar results would

be obtained when comparing groups of varied psychotherapist modalities and types of patient disorders. Although, according to Bordin's model (1979), working alliance should not be dependent on a specific therapeutic modality, no extensive empirical research has been conducted that would confirm this hypothesis. This gap is worth filling in the future. Another limitation of this research is the small sample and its non-random selection – future research would require more participants (both patients and psychotherapists).

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