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IMPLEMENTATION OF DIALOGICAL SEQUENCE ANALYSIS AS A CASE FORMULATION FOR THE ASSESSMENT OF PATIENTS AT A COMMUNITY MENTAL HEALTH CENTRE**

Randomized Controlled Pilot Study

Background: We implemented a case formulation method, which is based on dialogical sequence analysis (DSA) in a community mental health center. The aim was to achieve better congruence and collaboration between the patient and professionals concerning the tasks and goals of the assessments. Here we report a randomized clinical study in which we compare DSA-based and standard psychiatric assessments.

Methods: In this randomised clinical study, we compared DSA-based and standard psychiatric assessments. There were 40 outpatients in both, the DSA and the assessment as usual (AAU) groups. We recorded the lengths of individual assessment periods, the number and durations of visits, and the numbers of clinicians who were involved in the various phases of assessment. The Working Alliance Inventory was completed by the patients (WAI-P) and the clinicians (WAI-T) during the treatment planning (i.e. final) visit.

Results: In our results, the total WAI-P and WAI-T scores and all WAI subscale scores correlated significantly in the DSA group (Spearman's rho = 0.562–.667, $p < 0.01$). In the AAU group, the only significant – albeit weaker – correlation was found in the WAI Bond subscale (rho = 0.369, $p < 0.05$). Compared to the AAU group, assessment periods were shorter and the number of visits were fewer in the DSA group.

Conclusion: Our findings are clinically notable. They show that the patient-centred, DSA-based case formulation complements psychiatric assessment in a collaborative way and results in a better joint understanding regarding the patient's problems and needs in a shorter time period than the standard assessment.

Keywords: working alliance, case formulation, dialogical sequence analysis, patient-centred approach, psychiatric assessment, mental health

1. Background

In addition to causing suffering to patients and their families, mental disorders place a burden on societies around the world. In the ageing West, they are the major cause of work disability among both middle-aged and younger people (JÄRVISALO et al. 2005). There is an urgent need to develop appropriate, accurate, and pragmatic methods of psychiatric assessment to enhance individualised and patient-focused treatment.

As is generally known, the aetiology and the pathophysiology of psychiatric illnesses are still mostly unidentified; thus, the diagnostics of mental disorders are mainly determined (e.g. ICD-11 and DSM-5) by symptoms and as syndromes (World Health Organization 2018; American Psychiatric Association 2013). Interacting with the social context and cultural background, the symptoms are manifested through the patient's problematic behavioural, emotional, and cognitive functions. As ANDREASEN and BLACK (2001, 23) note, 'Diagnosis helps to simplify our thinking and reduce the complexity of the clinical phenomena in psychiatry'. Moreover, CRADDOCK and MYNORS-WALLIS (2014) state that psychiatric diagnosis is necessary and important, but the 'diagnosis alone is insufficient in conceptualising psychopathology in any individual patient. Diagnosis should be part of a formulation that brings together aetiology, severity, and functioning and should lead to a management plan' (93). MEZZICH and SALLOUM (2007), MEZZICH and colleagues (2016) have constructed the model of Person-centered Integrative Diagnosis (PID) to advance the patients' psychiatric evaluation comprehensively. In a quite recent editorial, MAJ (2018) suggested that the current diagnostic classifications would be complemented systematically with alternative approaches promoting the patients' individual therapeutic management and prediction of outcome.

As is known, the descriptive and symptom-oriented psychiatric diagnostics have *proven reliability*, but their validity is much more uncertain (ANDREASEN & BLACK 2001). One of the weaknesses of current psychiatric diagnostics is that they do not provide a definitive direction for appropriate, individualised psychosocial treatments or define the appropriate rehabilitation methods reliably, because they permit a large variation in any diagnostic category. However, in the era of evidence-based medicine, diagnosis provides the basis for treatment. The goal of usual psychiatric assessment practices is a symptom-based descriptive diagnosis upon which plans for treatment and rehabilitation and several other decisions are based.

By searching the advantages and disadvantages of diagnostic assessment work, a recent British study found that people who seek psychiatric assessment wish to receive an explanation for their symptoms and problems (BILDERBECK et al. 2014). They expect a good interpersonal relationship with their clinician(s), want to be acknowledged and listened to, and seek to be involved in and informed about clinical decisions. Furthermore, receiving a psychiatric diagnosis evokes both positive and negative responses among patients relating to stigma, personal understanding and responsibility, prognosis, and treatment. By presenting the individual needs of patients, the researchers also negotiate the limitations of the diagnostic system (BILDERBECK et al. 2014).

For a long time, medicine in general – and psychiatry, as a part of its tradition – has been a paternalistic, physician-centred institution. In recent decades, healthcare has advanced gradually towards a patient-centred approach (LAINE & DAVIDOFF 1996; MEAD & BOWER 2000). CONSTAND and colleagues (2014) have detected three common features of the patient-centred approach, namely communication, partnership, and health promotion. Communication was the most consistently emphasised phenomenon. Patient-centred approaches are based on the assumption that the patients can care for their own health and social relationships through their actions, choices, and decisions. These approaches take place in the interaction between the patient and the clinician, during which the clinician tries to focus on the patient's experiences, needs, hopes, and expectations. Psychiatric assessment tools are more limited compared to those in the somatic fields of medicine. One of the psychiatrist's tools is the interaction with the patient, which is usually a dyadic, mutual, and constantly changing process, and this interaction is challenging to conceptualise and operationalise using scientific methodology. MEAD and BOWER (2000) have considered and recommended some conceptual dimensions for the measurement of patient-centeredness, including the therapeutic alliance. In psychotherapy research, the working alliance has repeatedly been shown to be an effective part of a good treatment outcome (NORCROSS & WAMPOLD 2011). The working alliance concept incorporates three components: agreement on goals, agreement on tasks, and the development of a therapeutic bond (BORDIN 1979). The working alliance is operationalised through a variety of measures, and these instruments can be used to measure the important aspect of the quality of the clinician-patient relationship and the degree of mutual understanding in terms of the goals and tasks of treatment in the clinical condition (HORVATH & GREENBERG 1989). The degree of alliance congruence indicates the level of convergence between the patient's and the clinician's viewpoints of the three components of the working alliance (SINCLAIR 2013). TRYON, BLACKWELL and HAMMEL (2007) have conducted a meta-analysis of the studies on client and therapist congruence. They found a moderate positive mean correlation (*mean r* = .36) between the therapists' and the clients' alliance ratings. MARMAROSH and KIVLIGHAN (2012) have explored the working alliance agreement between the client and the counsellor in two studies. They found that higher alliance convergence was associated with the smoothness – but not with the depth – of the

therapy session. Furthermore, more symptom change at the end of the treatment was associated with higher alliance agreement at the beginning of the treatment.

1.1. Case formulation as patient-centred care

In psychotherapy research, PERSONS (1991) introduced the idea of an individually conceptualised therapeutic case formulation to improve the therapeutic relationship. In the 1990s, EELLS outlined a working definition for psychotherapy case formulation: it is a 'hypothesis about the causes, precipitants, and maintaining influences of a person's psychological, interpersonal, and behavioural problems' (1997, 1). Since then, various case formulation methods have been developed (EELLS 1997; JOHNSTONE & DALLOS 2014). There is some evidence that when a psychotherapy assessment is based on a case formulation, the treatment outcome is superior – or at least equal – to standard treatment (SCHULTE et al. 1992; GHADERI 2006; ALLEN et al. 2016). Outside the field of psychotherapy, case formulation is a rare approach for assessing patients within general psychiatry. For example, FERNANDO and colleagues (2012) have suggested an individual psychiatric pattern-based formulation methodology, based on the renowned theoretical models of psychiatric psychopathology, for the development of trainees' and students' skills to complement the diagnostic work and advance the treatments more individually.

1.2. The current study

Based on our clinical experience with the usual psychiatric assessments together with the above-mentioned considerations, we conducted a randomised clinical trial in a community mental health centre in Finland. The Finnish mental health services are stipulated by *Mielenterveyslaki 1116/1990* [Mental Health Act] (1990). Prevention of mental health disorders, early diagnosis, and treatment are organized by municipal primary social and health services. The professionals are general practitioners, psychiatric nurses (3rd degree education), psychologists, and they have possibilities to provide a psychiatric consultation in the primary outpatient care. More severe and problematic mental health disorders, assessments, and treatments are arranged via specialised psychiatric outpatient clinics and hospital care. At this level, the professionals are also psychiatric nurses, psychologists, and physicians (psychiatrists or residents). Our study was conducted in the environments of specialized psychiatric outpatient clinics.

We implemented a case formulation method to complement the psychiatric assessment process. Dialogical sequence analysis (DSA) is a microanalytical method for analysing utterances (LEIMAN 1997; 2012). Its concept is based on Mikhail BAKHTIN's (1984) theory of utterance, which states that utterances, simultaneously, convey the speaker's position to the referential content and the recipient. DSA focuses on this twofold dynamic of content and participant in any communicative situation (*Figure 1*).
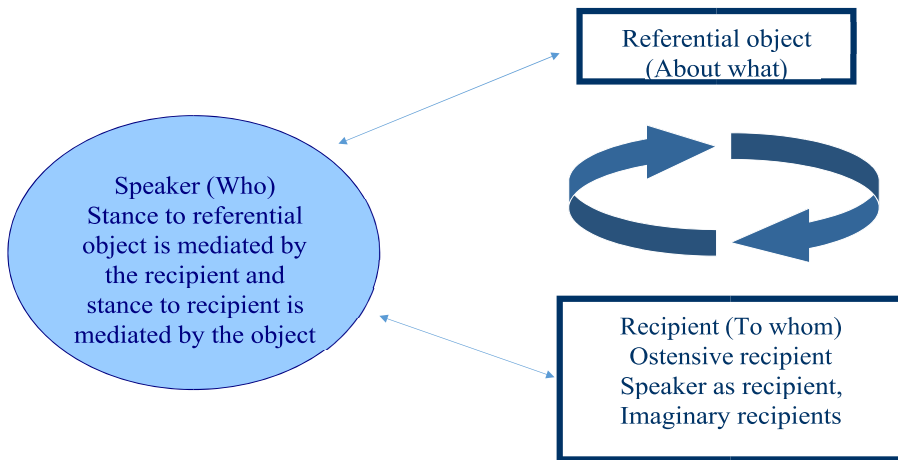
Figure 1
The double positioning in utterances

The unit of analysis is the *stance to the referential object*, bearing in mind that the speaker's stance is determined by the reciprocal relationship between the referential object and the recipient. As a simple illustration of analysis, a published excerpt of a client utterance in a counselling session (COOPER 2004) will be presented here. The referential object is in boldface and the stance in italics.

> *Counsellor:* So you're saying you *hate* that **feeling of tiredness**, but tell me more about what goes on for you when you feel it.
> *Client:* I just get this sense that **everything** is *completely pointless*. Like, why should I bother getting up, why should I go to work, what's the point of it all. It's *just* **another** *pointless* **day**: fixing printers, cleaning computer screens, reading the news on the internet. . . **It all** seems *totally futile*. I may just as well stay in bed. (COOPER 2004, 70)

The client describes vividly the personal meaning of 'tiredness' that the counsellor referred to in his request. It is worth noticing that the counsellor's turn also contains an expression of stance, i.e., hating the feeling of tiredness. The client has presumably introduced the topic before this excerpt.

The client continues his response by elaborating the hating of 'felt tiredness'.

> And I *just hate* **feeling like that**, because **it's** so *bloody stupid* and **it's** such a *bloody luxury to be able* **to say that**. . . what about all those people with one arm or who have got Aids in Africa who are so much worse off than me. **It's** so *self-indulgent*. (COOPER 2004, 70)

The client addresses the negative, dismissing stance to his everyday life, which he introduced in the first part. He now adopts a highly judgmental and critical attitude to the sense of complete futility by which he characterized his days. Both feeling it and saying it are condemned and labelled as self-indulgent.

The second part of the utterance may be regarded as a response to the first part. Clients hear what they are saying, and when answering the counsellor's request, the client adopts a conscious stance to what he has just expressed. This is an illustration of how the recipient may shape the content of the utterance, remembering that in clinical interaction, the client is one of the recipients. The stance to a referential object is affected by the anticipated response of the recipient. In this illustration, the client adopts a judgmental attitude to his personal experience, but this attitude may partly be affected by the client's assumption that the counsellor, too, will adopt a moral position toward his 'self-indulgence'.

BAKHTIN (1984) termed this double positioning *semantic position.* This implies that the stance toward an object involves networks of personal meanings and values that are manifested in the words used, the prosodic aspects of speech, the ways by which the sentences are compiled, and the nonverbal signs accompanying their utterances.

In DSA, identifying recurring semantic positions in the sequence of utterances helps generate hypotheses about habitual action patterns and their relationships within multiple domains, such as in intimate relationships or in one's relationship with oneself. By identifying a person's individual configuration of semantic positions, DSA is a useful tool in clinical case formulation. It allows the clinician to identify regularities in the patient's freely flowing talk and provides immediate feedback to assist the patient's self-observation. Appropriate and well-timed feedback has a powerfully validating effect on the patient, who experiences a sense of being heard.

More recently, DSA has also been applied in psychotherapy research. DSA, as a microanalytic method, has been used to detect clients' recurring problematic positions in early sessions (LEIMAN & STILES 2001); in-session development using the assimilation model (STILES et al. 2006; TIKKANEN et al. 2013; ZONZI et al. 2014), as well as alliance ruptures, and their repair in brief psychotherapy (GERSH et al. 2018).

1.3. Objectives

In this study, our aims were: 1) to determine how the DSA-based case formulation and the standard approach differed in terms of collaboration, especially in terms of patient and professional congruence concerning the goals and tasks of assessment; and 2) to examine whether there were any differences in the time and resources needed between the individualised and patient-focused assessment and the standard psychiatric assessment processes.

2. Methods

2.1. Study registration

The study was conducted between January 2015 and March 2017 at the Unit for Psychiatric Assessments at the Community Mental Health Centre, which is a part of Päijät-Häme Central Hospital in Lahti, Finland. The trial was registered retrospectively at the Clinical Trials Registry with the International Standard Randomised Controlled Trials Number (ISRCTN15831929) in June 2018.

2.2. Study population

There were 138 eligible patients who came in with a referral to our unit for a psychiatric assessment (*Figure 2*). The referrals were sent from primary, occupational, or student healthcare units, or from private practice. The study's inclusion criteria were as follows. First, the patient had to be 18–65 years of age. Second, the patient had to be able to understand the study's purpose and give written, informed consent.

We excluded subjects whose referral suggested any psychotic or neuropsychiatric disorders, such as attention deficit disorders and autism, or any cognitive disabilities. Secondly, patients were excluded if they had a referral for an emergency or urgent assessment (i.e. within seven days). Thirdly, the patient's native language had to be Finnish.

All randomised patients were diverse in terms of background, mental symptoms, severity of distress, limits of functioning, socioeconomic status, occupation, education, and marital status. Of the 138 recruited patients, 40 (35%) declined to participate. Six (13%) subjects in the DSA group and 12 (23%) in the AAU group discontinued the study, and in this respect, there is no significant difference between the groups ($p = 0.20$). No difference was found in the discontinuation rate between men (5/28, 18%) and women (13/70, 19%; $p = 0.93$). The mean age of those who participated in the study was 37.9 (SD = 12.6) years; the average age of those who discontinued was 33.1 (SD = 12.1) years ($p = 0.14$). There were 26/40 (65%) women in the DSA group and 32/40 (80%) women in the AAU group ($p = 0.13$). The mean ages of the study subjects were 37.4 (SD = 12.0) years and 38.2 (13.2) years, respectively ($p = 0.80$).
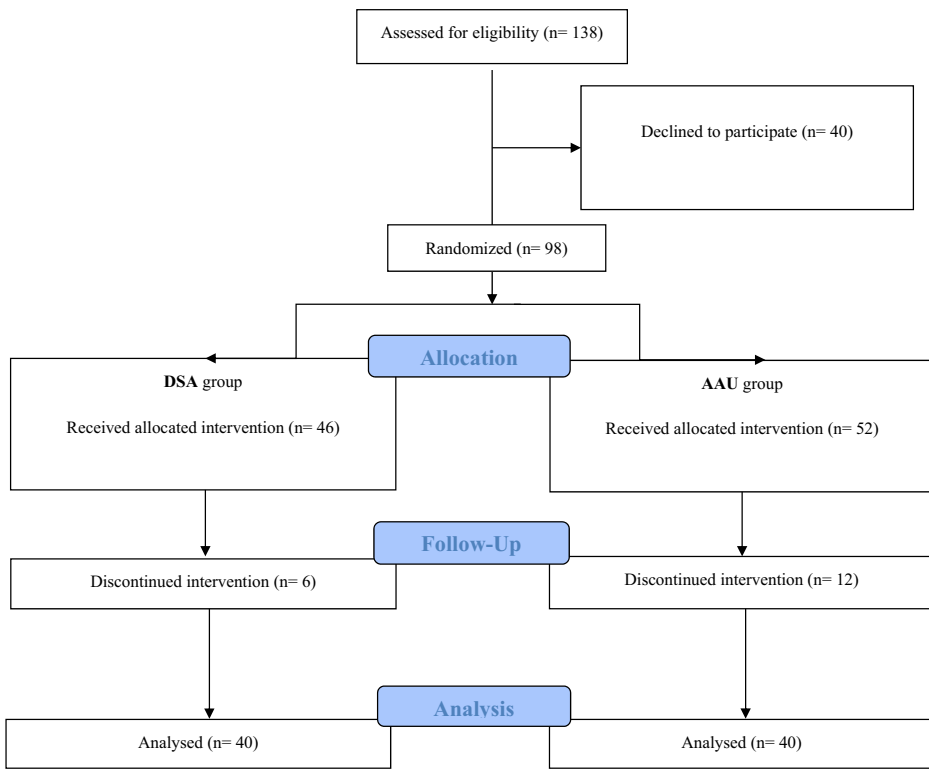
Figure 2
Patient flow in the randomised controlled trial

Note: DSA: Assessment based on dialogical sequence analysis; AAU: Assessment as usual

2.3. Study interventions

2.3.1. Assessments based on Dialogical Sequence Analysis (DSA group)

In the DSA group, the assessments were performed by three psychiatrists and three psychologists who participated in a two-year DSA training programme between September 2013 and May 2015. The DSA training was not yet completed when the project began in January 2015.

In the DSA group, the patient's first visit was conducted by a psychiatrist-psychologist pair. The visit was divided into two parts. In the first part, the clinicians focused on the patient's presenting problem. The conceptual tools of DSA-based case formulation were used when conducting the clinical interview and the evaluation of the patient's current problem.

After the initial interview, there was a 10–15-minute break, during which the clinicians discussed and formulated a working hypothesis about the patient's repetitive problematic action patterns that possibly maintained the patient's predicament and symptoms.

In the second part of the first visit, the clinicians estimated the patient's risk behaviour, possible self-harm, and psychotic symptoms. Similarly, they evaluated the patient's need for other necessary clinical interventions, such as laboratory tests or medications, and wrote statements to allow the patient to receive social security benefits. At the end of the first visit, the clinicians offered the patient a tentative formulation of the current problem, which the patient could then reflect on in order to collaborate in shaping the treatment plan. The clinicians and the patient then discussed the content of the following assessment visits and the preliminary diagnosis.

Depending on the patient's needs, the psychologist, the psychiatrist, or both conducted the following assessment visits. The purpose was to understand accurately the patients' important life events, problems, symptoms, and relationships with significant others through their accounts and reports. Additionally, by paying close attention to their gestures, facial expressions, speech prosody, postures, and behaviours, the clinicians observed the patient's stance on the addressed topic.

In the final assessment visit, which was the treatment-planning session, the clinicians and the patient aimed at clarifying the repetitive external and internal activity patterns that seemed to provoke and maintain the patient's presenting problems. Based on this joint formulation, they outlined the treatment targets and tasks. Additionally, the intent was to specify a diagnosis and identify the immediate and long-term objectives as well as the relevant patient-specific outcome indicators. The treatment plan, along with case formulation, was written in the patient's records. After the assessment phase, one of the clinicians continued the treatment according to the treatment plan and schedule.

2.3.2. Assessments as usual (AAU group)

In the AAU group, the assessment team was chosen from a group of seven doctors (psychiatrists and residents), nine psychiatric nurses, and five psychologists who worked and rotated irregularly at the Evaluation Team of the Community Mental Health Care Centre, Lahti. In the AAU group, the patient's clinical assessment and need for treatment were based on the current symptom-oriented and descriptive diagnostic evaluation guidelines of public mental healthcare. The number of assessment visits was not specified. A doctor with a nurse or a psychologist conducted the first visit. During the following assessment visits, one of the clinicians continued the evaluation of the patient's clinical condition based on the usual symptom-oriented guidelines. In the treatment-planning visit, both clinicians presented and shaped the treatment tasks and targets, and agreed on the subsequent treatment placement with the patient. If the duration of the treatment was estimated to last longer than six months, the patient's treatment was transferred to another Care Team within the same Mental Health Care Centre.

The clinicians' interview strategies were methodologically different in the AAU and DSA group. These different aspects are summarised in *Table 1*.

Table 1
Differences between the professionals' strategies in AAU and the DSA-based assessment

		AAU	*DSA*
1.	Focus	Mainly focusing on the patient's symptoms as categorized by psychiatric knowledge	Mainly focusing on the patient's internal and interpersonal subjective experiences, events, and attitudes
2.	Observation	Observing signs and behaviors that selectively confirm the set of symptoms	Observing signs and behaviors that refer to subjective experiences
3.	Communication practices	Using more closed questions, alongside structured scales and questionnaires	Using more open questions, follow-up questions, and reflections
4.	Inference	Mainly deductive thinking	Mainly inductive thinking in the first part of interview
5.	Attitude	Professional's attitude is interested and neutral. Spontaneous, yet restricted empathy may facilitate the gathering of diagnostic information.	The professional is purposefully trying to empathize with the patient's perspective to gather individually meaningful information and increase awareness of the patient's problem.
6.	Objective	Intention to form an explanation of problems based on diagnostic categories	Intention to form an individual formulation of the patient's problems, their psychosocial causes, and action patterns associated with them, thereby complementing the diagnostic process

Note: DSA: DSA-based case formulation assessment; AAU: Assessment as usual

Here, we present a few examples of DSA-based case formulation from the patients' records (the text has been modified to not identify the patients). Three diagnoses with the DSA-based case formulations:

F32.1 Moderate Depressive Episode (prolonged).
> *The patient is seeking psychiatric help for the first time in her life. Her traumatic background has shaped her attitude toward herself and to others. She sacrifices herself, she would like to repair issues, and she tries to avoid unbearable feelings from her past. On the other hand, she can be very demanding and critical, then her tone may become quite offensive to others, getting her into trouble at work. She recognizes that her feelings may stem from her traumatic past, but she is not able to change or control them. She has difficulties in limiting what she can give to others and she feels unable to ask for help.*

F33.1 Recurrent depressive disorder, current episode moderate.
> *The patient's central problem is a mood decline associated with anxiety. This combination seems to be related to strong and paralyzing feelings of guilt and shame, to which she responds with a lack of initiative and avoidance. This pattern of behaviour may protect the patient from intolerable failure, because he is very self-critical and a perfectionist, having a tendency to compete with others.*

F33.1 Recurrent depressive disorder, current episode moderate; F40.1 Social phobia.
> *In addition to symptoms of depression and anxiety, the patient suffers from social phobia. It seems that behind these is a complex of excessive demandingness, self-criticism, and judgmental stance toward self. The patient easily feels guilty and in such situations, she thinks that she does not deserve help. Her basic assumption is that she will fail and, hence, she does not dare to try, which strengthens her assumption of failure. She has begun to avoid social situations and at times she tends isolate herself.*

2.4. Measures

The Working Alliance Inventory (WAI) was originally developed for the self-assessment of the therapeutic alliance in psychotherapy (HORVATH & GREENBERG 1989). Both patient (WAI-P) and therapist (WAI-T) scales consist of 36 items measuring three domains of alliance, namely agreement on the goals of therapy (Goal Scale), consensus on the efficacy of the tasks undertaken in treatment (Task Scale), and the therapeutic bond (Bond scale), as originally postulated by BORDIN (1979). WAI has been widely used to assess therapeutic collaboration and patient-therapist congruence in counselling and psychotherapy (HORVATH et al. 2011; TRYON & WINOGRAD 2011; MARMAROSH & KIVLIGHAN 2012). In this study, we applied the Finnish version of the Long Form WAI, which was used in the Helsinki Psychotherapy Project (HEINONEN et al. 2014). The 36-item is scored with a 7-point Likert scale as follows: 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Sometimes; 5 = Often; 6 = Very Often; 7 = Always. The higher score means better alliance. Next, we present some examples from both inventories (http://wai.profhorvath.com). From the WAI-P (WAI-C, in English version) inventory, questions in the Task scale are: '*4. What I was doing in therapy gave me new ways of looking at my problem'*; or in the Bond scale: '*28. My relationship with 'my clinician' was very important to me'*; or in the Goal scale: '*25. As a result of the therapy I became clearer as to how I might be able to change'*. Furthermore, from the WAI-T inventory, the analogue questions in the Task scale are: '*4. My client and I both feel confident about the usefulness of our current activity in therapy';* or in the Bond scale: '*28. Our relationship is important to "my patient" '* and in the Goal scale: '*25. As a result of these sessions, "my patient" is clearer as to how she/he might be able to change'*. The internal consistency of WAI-P and WAI-T subscales

together was measured by calculating Cronbach's alphas (a). They were 0.911 in the Task subscales, 0.633 in the Bond subscales and 0.915 in the Goal subscales.

The Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM) was used as the baseline (EVANS et al. 2002) which was completed during the first visit. This 34-item self-report instrument was developed to evaluate four domains: subjective well-being (CORE-W, 4 items), psychic symptoms (CORE-P, 12 items), life functioning (CORE-F, 12 items), and risk behaviour (CORE-R, 6 items). The Finnish version of the CORE-OM was approved by the Core System Trust in 2011. A validation study of the Finnish version has been conducted at the University of Eastern Finland (JUNTUNEN et al. 2015). The 34-item is scored with a 5-point scale as follows: 0 = Not at all; 1 = Only occasionally; 2 = Sometimes; 3 = Often; 4 = Most or all the time (http://www.coreims.co.uk). Next, we show the following examples of each subscale domain, hereby from CORE-W: '*17 I have felt overwhelmed by my problems*' or from CORE-P: '*11 Tension and anxiety have prevented me doing important things*' or from CORE-F: '*10 Talking to people has felt too much for me*' and from CORE-R: '*24 I have thought it would be better if I were dead*'. The higher scores mean the patient's worse condition. The scale reliability of the CORE-OM subscales was estimated in Cronbach's alpha (a) coefficient, as they were 0.748 in the CORE-W domain, 0.906 in the CORE-P domain, 0.854 in the CORE-F domain, 0.667 in the CORE-R domain and 0.944 in the CORE-Total.

In addition, we recorded the lengths of individual assessment periods, the number and durations of visits, and the numbers of clinicians who were involved in the various phases of assessment.

2.5. Procedure

An evaluation of the ethical standards and permission to conduct the study was obtained from the Ethics Committee of Tampere University Hospital.

This was a single-blind randomised controlled trial. The patients were randomised into two groups. We calculated that to get a 10–15 percent increase in the total WAI score to be statistically significant (a = 0.05, power 80%), we would need 40 study subjects in both groups. Thus, the aim was to obtain 40 participating subjects for both groups. The randomisation was carried out immediately when the patient's referral was accepted and the assessment phase started. The study protocol was similar in both groups. At the first visit, the clinicians informed the patient about the research protocol, provided a written statement, and requested the patient's consent to participate in the study. In addition, five randomly selected patients in the AAU group gave their written consent for the first visit to be audiotaped. In the DSA group, every first visit was audiotaped with the patient's consent. If the patient agreed, some later visits were also recorded.

During the first visit, every patient in both study groups was asked to complete the CORE-OM form. Furthermore, in the treatment-planning (i.e. final) visit, patients in both groups were asked to complete a WAI-P scale and to put it in an envelope,

making the results of this assessment unknown to the clinicians. After the patient's departure, the clinicians completed a WAI-T scale together. The clinicians in both groups completed an assessment form after every assessment visit.

2.6. Statistical analyses

Depending on the distribution, we used Student's *t*-test or the Mann-Whitney *U* test to compare continuous variables between the groups. To compare the WAI scores between the groups, Spearman's rank-order correlation coefficients (rho) were calculated because of the skewed distributions. The correlation coefficients were compared by first transforming rho values into Z scores and then Z statistics was used to evaluate the statistical significance of differences in correlation coefficients. A *p* value < 0.05 was used to indicate statistical significance.

3. Results

3.1. Differences in the CORE and WAI measurements

No differences were found in total and subscale CORE-OM scores between the DSA and AAU groups at study entry (*Table 2*). No significant differences were found in the patients' and assessors' total and subscale WAI scores between the DSA and AAU groups at the end of the assessment periods. However, the DSA group score was slightly and consistently higher (*Table 3*). The total score and all subscale WAI scores separately rated by clinicians and patients correlated significantly in the DSA group, whereas in the AAU group the only significant – albeit weaker – correlation was found in the WAI Bond subscale (*Figure 3*). In addition, the assessment periods were shorter and the visits were fewer in the DSA group compared to the AAU group (*Table 4*).

Table 2
Baseline CORE-OM scores in the DSA and AAU groups

	DSA group (n = 40)	AAU group (n = 40)	Mann–Whitney U test
	Mean (SD)	Mean (SD)	p-value
CORE-W	2.04 (0.79)	2.30 (0.80)	0.127
CORE-P	2.15 (0.89)	2.30 (0.76)	0.616
CORE-F	1.66 (0.78)	1.89 (0.57)	0.155
CORE-R	0.30 (0.44)	0.39 (0.43)	0.245
CORE-TOTAL	1.64 (0.69)	1.82 (0.57)	0.234
CORE-TOTAL WITHOUT R	1.92 (0.79)	2.12 (0.64)	0.264

Notes: DSA = Assessment based on dialogical sequence analysis; AAU = Assessment as usual; CORE-OM = Clinical Outcomes in Routine Evaluation-Outcome Measure; CORE-W: subscale of subjective well-being; CORE-P = subscale of psychic symptoms; CORE-F = subscale of life functioning; CORE-R = subscale of risk behavior

Table 3

WAI total and subscale scores compiled by professionals (WAI-T) and patients (WAI-P) at the end of the assessment period in the DSA and AAU groups

Scales	DSA group Mean (SD)	AAU group Mean (SD)	Mann–Whitney U test p-value
WAI-T total	209.1 (27.6)	200.9 (32.9)	0.90
WAI-T Task	67.6 (6.8)	65.3 (12.0)	0.90
WAI-T Bond	75.4 (18.8)	71.1 (9.0)	0.92
WAI-T Goal	66.1 (7.9)	64.1 (13.7)	0.94
WAI-P total	199.1 (27.0)	195.0 (29.9)	0.43
WAI-P Task	65.9 (9.0)	64.6 (10.1)	0.46
WAI-P Bond	67.6 (10.3)	65.0 (11.5)	0.28
WAI-P Goal	66.1 (9.3)	65.3 (9.8)	0.62

Notes: WAI-T = Working Alliance Inventory form for Therapist; WAI-P = Working Alliance Inventory form for Patient; DSA = Assessment based on dialogical sequence analysis; AAU = Assessment as usual

Table 4

Characteristics of the assessment periods in the DSA and AAU groups

	DSA Mean (SD)	AAU Mean (SD)	Student's t-test[*] t	p-value
Duration of assessment period (days)	58.9 (39.2)	90.1 (35.2)	3.74	<0.001
Number of visits (n)	4.3 (2.0)	5.9 (2.4)	3.24	0.002
Total duration of visits (minutes)	290.1 (121.1)	355.7 (253.8)	1.48	0.14
Total time used by professionals (minutes)	448.5 (155.6)	460.0 (254.5)	0.24	0.81

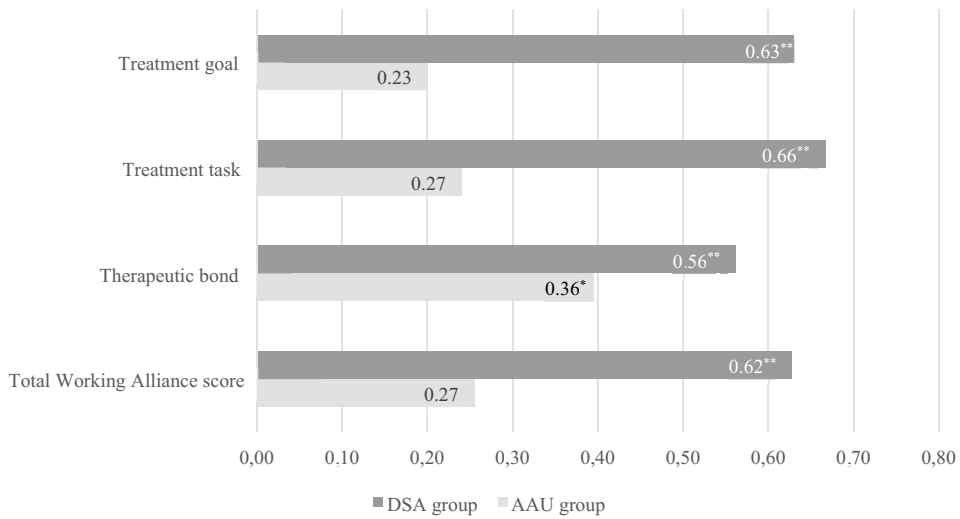Notes: DSA = Assessment based on dialogical sequence analysis; AAU = Assessment as usual
[*]: df = 79

Figure 3
Correlations of patient and professional perspectives in this study

*: p < 0.05 **: p<.01; DSA: DSA-based case formulation assessment group; AAU: Assessment as Usual group

   The correlation coefficients differed between the DSA and AAU groups statistically significantly in treatment goal (p = 0.03) and task (p = 0.03) subscales and borderlined significantly in the Total Working Alliance score (p = 0.05). No difference was found in the therapeutic bond subscale (p = 0.13).

4. Discussion

In this study, we compared the usual psychiatric assessment with the new assessment method of using a DSA-based case formulation. We wanted to determine how each method addresses the patient's needs and expectations concerning his/her treatment. To assess the joint understanding of goals and tasks, we used the correlation of the patient and clinician WAI scores as our main indicator.
   We found no previous studies that examined the congruence of the working alliance between the patient and the clinician(s) in the psychiatric assessment phase.
   Our comparison showed that there was a remarkable convergence between patients' and clinicians' appraisals of the alliance when psychiatric assessments were conducted using the DSA-based case formulation. By contrast, the findings from the AAU group indicate a moderate mutual understanding of tasks and goals, corresponding with the congruence estimations in the research literature. Moreover, the assessment periods were shorter and the visits were fewer in the DSA group than in the AAU group, suggesting that the DSA-based assessments were more convenient

for the patients. The evaluations of the working alliance by both the patients and clinicians were slightly – but consistently – better in the DSA group than in the AAU group. Nevertheless, no statistically significant differences were found due to the weak statistical power of our study (*Table 3*).

Tryon and colleagues (2007) examined the congruence of client and counsellor alliance ratings in their meta-analysis of 53 studies representing different modes of counselling and psychotherapy. They found that client and therapist working alliance ratings were only moderately correlated (*mean r* = 0.36). The congruence of the AAU group lies in the lower range of the findings of Tryon and colleagues (2007). By contrast, in our study, the correlation between client and therapist ratings in the DSA group (*rho* = 0.63) was exceptionally high compared to the meta-analysis. This finding suggests that the psychiatrists and psychologists in the DSA group could generate a formulation of the patients' predicament that was accessible to both themselves and the patient, and it could be shared.

In the DSA-based case formulation assessment, the clinicians derived the treatment plan from a use of a coherent set of high-level concepts that guided their perception of the patient's important interpersonal experiences, attitudes, behaviour, and personal meanings of life events. This permitted a flexible method of accommodating the patients' unique way of making sense of their problems and personal attitudes. This interview strategy invited the patient to collaborate in recognising repetitive patterns of thoughts and actions and to find alternative ways of relating to these issues. An individualised case formulation strategy is diametrically opposed to the standard diagnostic approach that aims at subsuming the patient's personal action patterns and attitudes under a general descriptive label (*Table 1*). A possible explanation for the variance in congruence between the DSA and AAU groups may lie in this difference: it is difficult to derive individualised treatment plans based on generalised diagnostic categories.

The working alliance concept makes the therapeutic relationship measurable (Norcross & Wamplod 2011); it can also be used to address the quality of the clinician-patient relationship in the diagnostic assessment phase. While the therapeutic relationship and the assessment cooperation serve different purposes, both forms of institutional interactions can be therapeutic from the beginning of the very first contact. Based on our results of the first research goal, we found that the DSA-based case formulation resulted in a greater joint understanding of the patient's problems and needs compared to the standard assessment process.

Our second goal was to determine whether there were any differences in the time and/or employee resources used between the DSA-based and usual assessment processes. Using the DSA method, the assessment phase was shorter and fewer visits were required, making it likely more patient-friendly than the standard approach. Nevertheless, there were no statistically significant differences in the total duration of visits and total time used by professionals. Both assessment protocols demanded the same amount of employee resources. In the DSA group, the clinicians worked deliberately in pairs more often, and they took a break for discussion during the first

visit so that they could both contribute their expert views to the case formulation. Thus, the assessment with the DSA-based case formulation could complement and modify the usual assessment accurately and address the patients' needs and expectations in a shorter period than the standard assessment. Essentially, we can improve the quality while using the same resources.

As mentioned above, healthcare has been advancing gradually toward the patient-centred approach (LAINE & DAVIDOFF 1996; MEAD & BOWER 2000). Our findings confirm the value of such a patient-centred orientation in the psychiatric assessment phase.

4.1. Limitations and strengths

Our intention was to build a naturalistic setting, which may entail many uncontrolled variables that could affect the outcome. Correlation is an indication of common variability in one outcome variables, but it is not in itself sufficient evidence for causality. The sample size was small and the statistical power for showing differences between the groups was limited.

In addition, we used the Working Alliance Inventory, which has been validated for the evaluation of the psychotherapy context and dyadic processes. We used this scale in psychiatric assessment situations that sometimes involved more than two participants, and the setting was sometimes more varied than in standard psychotherapeutic contexts.

The WAI scales were completed during the treatment-planning visit, which was the final assessment visit. Our findings showed shorter assessment periods and fewer visits in the DSA group than in the AAU group. Consequently, the working alliance was measured at different time points. This may have affected the working alliance ratings. In psychotherapy research, most studies evaluated working alliance and convergence in the early phase of psychotherapy or counselling, between sessions one and five (HORVATH & BEDI 2002; FLÜCKIGER et al. 2012; MARMAROSH & KIVLIGHAN 2012). The mean numbers of visits in our study groups are comparable with those studies. However, our study's comparability with those studies is limited concerning our different diagnostic assessment context.

There were some differences in the educational backgrounds of the clinicians between the groups. All clinicians in the DSA group were psychiatrists and psychologists. In the AAU group, there were also residents and nurses. Nevertheless, all of them had several years of clinical experience. During the study project, the AAU group received supervision ten times a year while the DSA was supervised 16 times a year. The effects of these differences on the results cannot be ruled out.

The clinical skill of conducting the dialogue with the DSA method demands two years of training and supervision. When the study began, the members of the DSA group were still learning the new interview strategy, while the members of the AAU group continued their ordinary work. It may be the case that the differences in outcome were partly affected by this Hawthorne Effect (CHIESA & HOBBS 2008), but it

was not possible to estimate whether it had any effect on the results. In the future, more studies should be done with bigger sample sizes in order to determine the results in the larger clinical field. The two-year DSA training is taught by the author of the concept and theory, Emeritus Professor Mikael Leiman. However, while he teaches the new trainers all the time, the clinical implementation of the DSA case formulation is still limited.

Notwithstanding these limitations, our study has some unique strengths. It possesses ecological validity; it was a clinical trial located in a public mental health care clinic. We tried to maintain the natural context and keep the inclusion criteria as wide as possible. We chose the samples randomly from public healthcare patients who sought help and treatment. Both groups were recruited from the same socio-demographically heterogeneous population. However, possible socio-economic differences between the groups were not analysed. No differences were found in total and subscale CORE-OM scores between the DSA and AAU groups at study entry. Therefore, the groups seem to be clinically comparable.

4.2. Conclusion

The present clinical pilot study was the first to apply the DSA-based case formulation in psychiatric assessment. Our findings of a higher mean level of convergence between the patient's and professional's viewpoints of the working alliance suggests that the DSA-based case formulation can help to improve psychiatric assessment and move towards an individual- and patient-centred approach within a shorter period of time. A shared view of the problem and the treatment plan may strengthen the patient's vulnerable agency and influence the efficacy of the treatment. This novel method may also improve the patient-centeredness and the validity of the psychiatric assessment for the individual patient.

References

American Psychiatric Association (2013) *Diagnostic and Statistical Manual of Mental Disorder (DSM-5®)* (Washington, DC: American Psychiatric Pub.).

ANDREASEN, N.C. & D.W. BLACK (2001) *Introductory Textbook of Psychiatry* (3rd ed., Washington, DC: American Psychiatric Pub.).

ALLEN, K.L., C.B. O'HARA, S. BARTHOLDY, B. RENWICK, A. KEYES, A. LOSE, M. KENYON, H. DEJONG, H. BROADBENT, R. LOOMES, J. MCCLELLAND, L. SERPELL, L. RICHARDS, E. JOHNSON-SABINE, N. BOUGHTON, L. WHITEHEAD, J. TREASURE, T. WADE & U. SCHMIDT (2016) 'Written Case Formulations in the Treatment of Anorexia Nervosa: Evidence for Therapeutic Benefits', *International Journal of Eating Disorders* 49, 874–82 (https://doi.org/10.1002/eat.22561).

BAKHTIN, M.M. (1984) *Problems of Dostoevsky's Poetics* (Manchester: Manchester UP).

BILDERBECK, A.C., K.E.A. SAUNDERS, J. PRICE & G.M. GOODWIN (2014) 'Psychiatric Assessment of Mood Instability: Qualitative Study of Patient Experience' *The British Journal of Psychiatry* 204, 234–39 (https://doi.org/10.1192/bjp.bp.113.128348)

Bordin, E.S (1979) 'The Generalizability of the Psychoanalytic Concept of the Working Alliance', *Psychotherapy: Theory, Research & Practice* 16, 252–60 (https://doi.org/10.1037/h0085885).

Chiesa, M. & S. Hobbs (2008) 'Making Sense of Social Research: How Useful is the Hawthorne Effect? *European Journal of Social Psychology* 38, 67–74 (https://doi.org/10.1002/ejsp.401).

Constand, M., J. Macdermid, V. Dal Bello-Haas & M. Law (2014) 'Scoping Review of Patient-Centered Care Approaches in Healthcare' *BMC Health Services Research* 14, 271 (https://doi.org/10.1186/1472-6963-14-271).

Cooper, M. (2004) 'Encountering Self-Otherness: 'I-I' and 'I-Me' Modes of Self-Relating' in H.J.M. Hermans & G. Dimaggio, ed., *The Dialogical Self in Psychotherapy* (New York: Brunner-Routledge) 60–73.

Craddock, N. & L. Mynors-Wallis (2014) 'Psychiatric Diagnosis: Impersonal, Imperfect and Important', *The British Journal of Psychiatry* 204, 93–95 (https://doi.org/10.1192/bjp.bp.113.133090).

Eells, T.D. (1997) 'Psychotherapy Case Formulation: History and Current Status' in T.D. EELLS, ed., *Handbook of Psychotherapy Case Formulation* (New York: Guilford) 1–25.

Evans, C., J. Connell, M. Barkham, F. Margison, G. McGrath, J. Mellor-Clark & K. Audin (2002) 'Towards a Standardized Brief Outcome Measure: Psychometric Properties and Utility of the CORE-OM', *The British Journal of Psychiatry* 180, 51–60 (https://doi.org/10.1192/bjp.180.1.51).

Fernando, I., M. Cohen & F. Henskens (2012) 'Pattern-Based Formulation: A Methodology for Psychiatric Case Formulation', *Australasian Psychiatry* 20, 121–26 (http://doi.org/ 10.1177/1039856212437255).

Flückiger, C., A.C. Del Re, B.E. Wampold, D. Symonds & A.O. Horvath (2012) 'How Central is the Alliance in Psychotherapy? A Multilevel Longitudinal Meta-Analysis', *Journal of Counseling Psychology* 59, 10–17 (https://doi.org/10.1037/a0025749).

Gersh, E., M. Leiman, C. Hulbert, L. Mccutcheon, E. Burke, H. Valkonen, S. Tikkanen & A.M. Chanen (2018) 'Alliance Rupture and Repair Processes in Borderline Personality Disorder: A Case Study Using Dialogical Sequence Analysis', *Counselling Psychology Quarterly* 31, 477–96 (https://doi.org/10.1080/09515070.2017.1331203).

Ghaderi, A. (2006) 'Does Individualization Matter? A Randomized Trial of Standardized (Focused) Versus Individualized (Broad) Cognitive Behavior Therapy for Bulimia Nervosa', *Behavior Research and Therapy* 44, 273–88 (https://doi.org/10.1016/j.brat.2005.02.004).

Heinonen, E., O. Lindfors, T. Härkänen, E. Virtala, T. Jääskeläinen & P. Knekt (2014) 'Therapists' Professional and Personal Characteristics as Predictors of Working Alliance in Short-Term and Long-Term Psychotherapies', *Clinical Psychology & Psychotherapy* 21, 475–94 (https://doi.org/10.1002/cpp.1852).

Horvath, A.O. & R.P. Bedi (2002) 'The Alliance' in J.C. Norcross, ed., *Psychotherapy Relationships That Work: Therapist Contributions and Responsiveness to Patients* (New York: Oxford UP) 37–70.

Horvath, A.O. & L.S. Greenberg (1989) 'Development and Validation of the Working Alliance Inventory', *Journal of Counseling Psychology* 36, 223–33 (https://doi.org/10.1037/0022-0167.36.2.223).

Horvath, A.O., A.C. Del Re, C. Flückiger & D. Symonds (2011) 'Alliance in Individual Psychotherapy', *Psychotherapy* 48, 9–16 (https://doi.org/10.1037/a0022186).

Johnstone, L. & R. Dallos (2014) *Formulation in Psychology and Psychotherapy: Making Sense of People's Problems* (New York: Routledge).

Juntunen, H., A. Piiparinen, K. Honkalampi, M. Inkinen & A. Laitila (2015) 'CORE-OM-mittarin suomalainen validointitutkimus yleisväestössä' (in Finnish) *Psykologia* 50, 257–75.

JÄRVISALO, J., B. ANDERSSON, W. BOEDEKER & I. HOUTMAN (2005) *Mental Disorders as a Major Challenge in Prevention of Work Disability. Experiences in Finland, Germany, the Netherlands and Sweden* (Helsinki: Kela).

LAINE, C. & F. DAVIDOFF (1996) 'Patient-Centered Medicine: A Professional Evolution', *Jama* 275, 152–56.

LEIMAN, M. (1997) 'Procedures as Dialogical Sequences: A Revised Version of the Fundamental Concept in Cognitive Analytic Therapy', *British Journal of Medical Psychology* 70, 193–207 (https://doi.org/10.1111/j.2044-8341.1997.tb01899.x).

LEIMAN, M. (2012) 'Dialogical Sequence Analysis in Studying Psychotherapeutic Discourse', *International Journal for Dialogical Science* 6, 123–47, retrieved 2 May 2017 from http://ijds.lemoyne.edu/journal/3_1/IJDS.3.1.02.Chaudhary.html.

LEIMAN, M. & W.B. STILES (2001) 'Dialogical Sequence Analysis and the Zone of Proximal Development as Conceptual Enhancements to the Assimilation Model: The Case of Jan Revisited', Psychotherapy Research 11, 311–30 (https://doi.org/10.1080/713663986).

MAJ, M. (2018) 'Why the Clinical Utility of Diagnostic Categories in Psychiatry is Intrinsically Limited and How we can Use New Approaches to Complement them', *World Psychiatry* 17, 121–22 (https://doi.org/10.1002/wps.20512).

MARMAROSH, C.L. & D.M. KIVLIGHAN Jr (2012) 'Relationships among Client and Counselor Agreement about the Working Alliance, Session Evaluations, and Change in Client Symptoms Using Response Surface Analysis', *Journal of Counseling Psychology* 59, 352–67 (https://doi.org/10.1037/a0028907).

MEAD, N. & P. BOWER (2000) 'Patient-Centredness: A Conceptual Framework and Review of the Empirical Literature', *Social Science & Medicine* 51, 1087–110 (https://doi.org/10.1016/s0277-9536(00)00098-8).

MEZZICH, J.E. & I.M. SALLOUM (2007) 'Towards Innovative International Classification and Diagnostic Systems: ICD-11 and Person-Centered Integrative Diagnosis', *Acta Psychiatrica Scandinavica* 116, 1-5 (https://doi.org/10.1111/j.1600-0447.2007.01028.x).

MEZZICH, J.E., I.M. SALLOUM, C.R. CLONINGER & M. BOTBOL (2016) 'Person-Centered Integrative Diagnosis and Its Context' in J.E. MEZZICH, M. BOTBOL, G.N. CHISTODOULOU C.R. CLONINGER & I. SALLOUM, eds., *Person Centered Psychiatry* (Springer).

Mielenterveyslaki 1116/1990 (1990) [Mental Health Act] retrieved 13 Sept 2019 from https://www.finlex.fi/fi/laki/ajantasa/1990/19901116.

NORCROSS, J.C. & B.E. WAMPOLD (2011) 'Evidence-Based Therapy Relationships: Research Conclusions and Clinical Practices', *Psychotherapy* 48, 98–102 (https://doi.org/10.1037/a0022161).

PERSONS, J.B. (1991) 'Psychotherapy Outcome Studies do not Accurately Represent Current Models of Psychotherapy: A Proposed Remedy', *American Psychologist* 46, 99–106 (https://doi.org/10.1037/0003-066X.46.2.99).

SCHULTE, D., R. KÜNZEL, G. PEPPING & T. SCHULTE-BAHRENBERG (1992) 'Tailor-Made Versus Standardized Therapy of Phobic Patients', *Advances in Behavior Research and Therapy* 14, 67–92 (https://doi.org/10.1016/0146-6402(92)90001-5).

SINCLAIR, M. (2013) *Congruence in the Therapists' and Clients' Ratings of the Therapeutic Alliance does not Predict Outcome in Psychological Treatment* (Ph.D. diss., University of Linköping, Linköping).

STILES, W.B., M. LEIMAN, D.A. SHAPIRO, G.E. HARDY, M. BARKHAM, N.B. DETERT & S.P. LLEWELYN. (2006) 'What does the First Exchange Tell? Dialogical Sequence Analysis and Assimilation in Very Brief Therapy', *Psychotherapy Research* 16, 408–21 (https://doi.org/10.1080/10503300500288829).

Tikkanen, S., W.B. Stiles & M. Leiman (2013) 'Achieving an Empathic Stance: Dialogical Sequence Analysis of a Change Episode', *Psychotherapy Research* 23, 178–89 (https://doi.org/10.1080/10503307.2012.752115).

Tryon, G.S., S.C. Blackwell & E.F. Hammel (2007) 'A Meta-Analytic Examination of Client–Therapist Perspectives of the Working Alliance', *Psychotherapy Research* 17, 629–42 (https://doi.org/10.1080/10503300701320611).

Tryon, G.S. & G. Winograd (2011) 'Goal Consensus and Collaboration', *Psychotherapy* 48, 50–57 (https://doi.org/10.1037/a0022061).

Zonzi, A., M. Barkham, G. Hardy, S. Llewelyn, W.B. Stiles &, M. Leiman (2014) 'Zone of Proximal Development (ZPD) as an Ability to Play in Psychotherapy: A Theory-Building Case Study of Very Brief Therapy', *Psychology and Psychotherapy: Theory, Research and Practice* 87, 447–64 (https://doi.org/10.1111/papt.12022).

World Health Organization (2018) *The ICD-11 Classification of Mental and Behavioral Disorders: Diagnostic Criteria for Research* (Geneva, Switzerland: World Health Organization).