

# Therapeutic alliance in forensic mental health: coercion, consent and recovery

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## Abstract

**Objective:** We examined the Working Alliance Inventory (WAI) and Interpersonal Trust in Physician (ITP) in a forensic psychiatry hospital, where all patients were detained under mental health legislation for psychosis. We hypothesised that working alliance and trust are bilateral and can be measured.

**Method:** We adapted the WAI and ITP minimally so that patients rated both their treating psychiatrist and primary nurse. We also adapted them minimally so that clinicians could rate WAI and ITP with the patient. A total of 81 of 83 patients completed the assessments. The clinicians (seven consultant psychiatrists and 43 nurses) also completed a minimally altered version of the same questionnaires. All three (patient, nurse and psychiatrist) were blind to the ratings of the others.

**Results:** Cronbach's alpha was greater than 0.9 for both patient and clinician versions of the WAI and greater than 0.8 for the ITP. The WAI and ITP correlated with each other (Spearman  $r > 0.67$  for patients, for psychiatrists and for nurses). Patients rated clinicians higher than clinicians rated patients. Ratings were higher in pre-discharge wards than in acute wards. Patients' ratings of WAI for their psychiatrist and nurse correlated  $r = 0.75$ , and patients rating of IPT for psychiatrist and nurse correlated 0.67. Psychiatrists correlated with nurses 0.38 for WAI, 0.53 for IPT. Psychiatrists and patients mutual ratings correlated  $r = 0.35$  for WAI, 0.24 for IPT. Nurses and patients correlated  $r = 0.34$  for WAI, 0.25 for IPT. All correlations were statistically significant. Mental state (PANSS) and global function (GAF) correlated with all ratings and confounded most patient-clinician correlations.

**Conclusion:** Working alliance and interpersonal trust can be measured reliably even in forensic settings. The extent to which they measure a mutual quality is unclear.

**Key words:** Forensic psychiatry; Working Alliance Inventory; Psychosis.

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## Introduction

Treatment in forensic mental health settings is usually court mandated and as such is perceived as more coercive than other mental health treatment settings.<sup>1</sup> Arrest leading to forensic mental health disposal is often the end of the line for a mental health career characterised by non-engagement with mental health services or rejection of treatment by the service user.<sup>2-4</sup>

Forensic mental health services themselves carry an extra degree of stigma, with the ethical problem that when compulsion is used to protect others rather than to protect the individual, it is less ethically justified<sup>5</sup> though the possibility of reducing perceived coercion through the practice of therapeutic jurisprudence is increasingly recognised.<sup>6</sup>

Therapeutic alliance is seen as a key outcome measure in mental health treatment programmes, along with symptomatic improvement and recovery, and satisfaction.<sup>7</sup> This should be true in forensic inpatient settings as well as in community mental health services, since satisfaction with treatment and services is not directly related to coercion or the lack of it<sup>8</sup> and empowerment is not necessarily in conflict with coercion.<sup>9</sup>

Non-adherence with treatment, including both non-persistence and non-compliance are common in schizophrenia.<sup>10</sup> Non-adherence may be seen as a failure of the therapeutic relationship, since the therapeutic relationship is an integral part of any treatment process in mental health,<sup>11</sup> with a moderate but consistent relationship to outcome.<sup>12</sup> Outcome and therapeutic alliance exist within a complex inter-relationship of motivation, subjective benefit and fear of side effects such as weight gain.<sup>13</sup> It has been hypothesised that increasing trust, along with tolerance of intrusion is one of the signs of readiness to move from secure hospital to the community.<sup>14</sup>

We set out to study working alliance and trust in a forensic mental health setting. This study differs from other studies in two respects. First, the most common diagnosis in this patient group is schizophrenia or other psychosis.

Second, we have studied working alliance and trust as a two way, or reciprocal process, seeking the service user's rating for their therapeutic relationship with their clinicians and the clinicians' rating of their therapeutic relationship with the service users.

We have devised versions of the Horvath-Greenberg Working Alliance Inventory (WAI)<sup>15</sup> and the Interpersonal Trust in Physician scale (ITP).<sup>16</sup> Unlike other scales developed for patient and clinician,<sup>17</sup> these versions of the WAI and ITP have exactly the same content and wording, and exactly the same number of positive and negatively rated items.

Our hypothesis was that working alliance and trust could be measured as a meaningful construct that is valid and reliable; and that therapeutic alliance is influenced by the mental state of the patient.

**Figure 1: Modified WAI\***

**Modified WAI\* – Short form (Psychiatrist or nurse rates patient)**

Instructions Below there are statements which describe some of the different ways a therapist might think or feel about his or her patient. After each statement there is a seven point scale: 1/ NEVER 2/ RARELY 3/OCCASIONALLY 4/ SOMETIMES 5/OFTEN 6/VERY OFTEN 7/ALWAYS  
If the statement describes the way you always feel (or think) circle the number 7; if it never applies to you circle the number 1. Use numbers in between to describe the variations between these extremes. Work quickly: your first impressions are the ones we would like to see. PLEASE DO NOT FORGET TO RESPOND TO EVERY ITEM. Thank you for your cooperation.

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. The patient and I agree about things we will need to do in therapy to improve his/her situation. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. What we are doing in therapy gives him/her new ways of looking at his/her problem.               | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. I believe the patient likes me.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. The patient does not understand what we are trying to accomplish in therapy.                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. The patient is confident in my ability to help him/her.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. The patient and I are working towards mutually agreed upon goals.                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. I feel that the patient appreciates me.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. We agree on what is important for the patient to work on.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. The patient and I trust one another.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. The patient and I have different ideas on what his/her problems are.                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. We have established a good understanding of the kind of changes that would be good for him/her. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. I believe the patient and I have a good working relationship.                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

\* Modified with permission, from Horvath AD, Greenberg LS. *The development and validation of the Working Alliance Inventory. J Couns Psychol* 1989; 36: 223-233.

Date \_\_\_\_\_ Patient's Code \_\_\_\_\_

**Modified WAI\* – Short form (Patient rates Consultant/Nurse version)**

Consultant psychiatrist/Primary Nurse Code \_\_\_\_\_

Instructions Below there are statements which describe some of the different ways a therapist might think or feel about his or her patient. After each statement there is a seven point scale: 1/ NEVER 2/ RARELY 3/OCCASIONALLY 4/ SOMETIMES 5/OFTEN 6/VERY OFTEN 7/ALWAYS  
If the statement describes the way you always feel (or think) circle the number 7; if it never applies to you circle the number 1. Use numbers in between to describe the variations between these extremes. Work quickly: your first impressions are the ones we would like to see. PLEASE DO NOT FORGET TO RESPOND TO EVERY ITEM. Thank you for your cooperation.

- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 1. The Consultant psychiatrist/Nurse and I agree about things we will need to do in therapy to improve my situation. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. What I am doing in therapy gives me new ways of looking at my problem.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. I believe the Consultant psychiatrist /Nurse likes me.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. The Consultant psychiatrist /Nurse does not understand what I am trying to accomplish in therapy.                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. I am confident in the Consultant psychiatrist /Nurse's ability to help me.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. The Consultant psychiatrist /Nurse and I are working towards mutually agreed upon goals.                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. I feel that the Consultant psychiatrist /Nurse appreciates me.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. We agree on what is important for me to work on.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. The Consultant psychiatrist /Nurse and I trust one another.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. The Consultant psychiatrist /Nurse and I have different ideas on what my problems are.                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. We have established a good understanding of the kind of changes that would be good for me.                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. I believe the Consultant psychiatrist / Nurse and I have a good working relationship                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

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**Method**

**Setting**

The Central Mental Hospital is the only forensic mental health facility in Ireland. At the time of this study (April 2008) it had 83 beds (eight female) and admitted only patients who were formally detained under mental health legislation, the majority under Criminal Law (Insanity) legislation or on transfer from remand and sentenced prisons. The Central Mental Hospital was divided into seven units, organised into three clusters (acute/high secure, medium term medium secure and rehabilitation/recovery). There were six consultant led multidisciplinary teams, two for the acute cluster, three for the medium cluster and one for the rehabilitation and recovery cluster.

**Sample**

All participants were given an explanation of the project and assured of confidentiality. They were then asked to give signed voluntary consent. Those who consented were asked to complete the WAI and ITP, first concerning their assessment of their therapeutic relationship with their consultant psychiatrist, then with their primary nurse. The consultant psychiatrist and primary nurse also made ratings of their therapeutic relationship with the patient. All three (patient, psychiatrist and nurse) were blind to the ratings of the others, as was the researcher who facilitated the completion of the self-report tools.

All 83 were rated by their consultant and primary nurse for the WAI and ITP. The GAF and PANSS were completed by

**Figure 2: Modified Interpersonal Trust**

**Interpersonal Trust in a Physician (Patient rates psychiatrist or nurse)**

10 items, scored 5-1, for Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree. Negatively worded items (2,3,8) are reverse scored. In a national sample of 959 adults with established primary care relationships (including non-physicians), alpha = 0.93, mean = 40.8 (77.0 on a scale of 100), SD = 6.2 (15.5)

1. [Your doctor/nurse] will do whatever it takes to get you all the care you need.	1	2	3	4	5
2. Sometimes [your doctor/ nurse] cares more about what is convenient for [him/her] than about your medical needs.	1	2	3	4	5
3. [Your doctor/ nurse] 's medical skills are not as good as they should be.	1	2	3	4	5
4. [Your doctor/ nurse] is extremely thorough and careful.	1	2	3	4	5
5. You completely trust [your doctor/s/ nurse's] decisions about which medical treatments are best for you.	1	2	3	4	5
6. [Your doctor/ nurse] is totally honest in telling you about all of the different treatment options available for your condition.	1	2	3	4	5
7. [Your doctor/ nurse] only thinks about what is best for you.	1	2	3	4	5
8. Sometimes [your doctor/ nurse] does not pay full attention to what you are trying to tell [him/her].	1	2	3	4	5
9. You have no worries about putting your life in [your doctor/nurse]'s hands.	1	2	3	4	5
10. All in all, you have complete trust in [your doctor/ nurse].	1	2	3	4	5

Hall MA, Zheng B, Dugan E, Kidd KE, Mishra A, Balkrishnan R, Camacho F. Measuring Patients' Trust in Their Primary Care Providers. *Med Care Res Rev* 2002 Sep; 59(3): 293-318.

**Interpersonal Trust in a Patient (psychiatrist or nurse rates patient)**

10 items, scored 5-1, for Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree. Negatively worded items (2, 3, 8) are reverse scored.

1. [Your patient] will do whatever it takes to benefit from all the care he/she needs.	1	2	3	4	5
2. Sometimes [your patient] cares more about what is convenient for [him/her] than about his/her medical needs.	1	2	3	4	5
3. [Your patient]'s general and mental health knowledge and motivation is not as good as it should be.	1	2	3	4	5
4. [Your patient] is extremely thorough and careful regarding their treatments. eg. fully complies with medication, attends all group and individual activities on offer.	1	2	3	4	5
5. You completely trust [your patient's] decisions about which medical treatments are best for him or her.	1	2	3	4	5
6. [Your patient] is totally honest in telling you about their preferences and intentions regarding all of the different treatment options available for their condition.	1	2	3	4	5
7. [Your patient] only thinks about what is best for his or her health, eg. in relation to substance misuse or side effects.	1	2	3	4	5
8. Sometimes [your patient] does not pay full attention to what you are trying to tell [him/her].	1	2	3	4	5
9. You have no worries about putting your reputation in [your patient]'s hands e.g. as part of a 360 degree review, where patients rate their clinicians.	1	2	3	4	5
10. All in all, you have complete trust in [your patient].	1	2	3	4	5

Hall MA, Zheng B, Dugan E, Kidd KE, Mishra A, Balkrishnan R, Camacho F. Measuring Patients' Trust in Their Primary Care Providers. *Med Care Res Rev* 2002 Sep; 59(3): 293-318.

psychology assistants who were blind to the ratings of WAI and ITP, as part of the routine measurement of outcomes in April 2008. A total of 81 of 83 patients (98%) completed the assessments of WAI and ITP concerning their consultant psychiatrist and primary nurse (six females of eight, 75%). The mean age was 46.6 years (SD 12.4), mean time since admission was 7.3 years, (SD 10.2). Diagnoses were schizophrenia 58(70%), bipolar affective disorder 5(6%), psychotic depression 4(5%), schizoaffective disorder 5(6%), paranoid psychosis 6(7%), other 5(6%).

**Tools**

The Working Alliance Inventory (short version)<sup>15</sup> is a 12 item self-report questionnaire designed to be completed by patients concerning an individual clinician. Each item is rated on a seven point scale from 'never' to 'always', so that '4' ('sometimes') may be taken as a neutral or non-committal rating.

We have drafted modifications so that the tool can also be completed by the treating clinicians (not just by doctors) concerning the patient using exactly the same wording and exactly the same number of positively and negatively rated items (See Figure 1). The WAI can be subdivided into three sub-scales, 'Goal' (items 4, 6, 10 and 11), 'Task' (items 1, 2, 8 and 12) and 'Bond' (items 3, 5, 7 and 9).<sup>18,19</sup>

The Interpersonal Trust in a Physician scale<sup>16</sup> is a 10 item self report questionnaire designed to be completed by patients about their physicians. Each item is rated 1-5 from

'strongly disagree' to 'strongly agree', with '3' representing 'neutral'. We have drafted modifications so that the tool can also be completed by the patient concerning their primary nurse and by the treating clinicians (consultant psychiatrist and primary nurse) regarding the patient using exactly the same wording and the same number of positively and negatively rated items (See Figure 2).

The Global Assessment of Function (GAF)<sup>20</sup> and the Positive and Negative Symptom Scale (PANSS)<sup>21</sup> were separately administered by assistant psychologists trained in the use of those instruments and blind to the WAI and IPT results. These were obtained in April 2008 for all patients as part of their routine clinical assessments. 'Remission status' was based on serial assessments of mental state using the PANSS in accordance with the criteria of Andreason et al.<sup>22</sup>

**Statistics**

All data was entered in SPSS-16. Non-parametric Spearman rank correlations were calculated. For comparisons of patient groups, one way analysis of variance (ANOVA) was used. Paired t-tests were used where relevant and partial correlations were calculated where relevant.

**Results**

**Validity**

*WAI and ITP: internal consistency*

Preliminary factor analysis for each scale yielded a single large factor accounting for at least 55% of the variance,

**Table 1: Spearman rank correlations**

Spearman rank correlations between ratings of working alliance and interpersonal trust v global assessment of function (GAF) and the Positive and Negative Symptoms Scale (PANSS) total score, positive symptoms sub-scale, negative symptoms sub-scale and general symptoms sub-scale. Correlation is significant at the 0.05 level (two-tailed) = a; correlation is significant at the 0.01 level (two-tailed) = b and at the 0.001 level c. All correlations are for 81 pairs of observations concerning patient ratings and 83 pairs of ratings concerning clinician ratings.

	GAF	PANSS total	PANSS positive	PANSS negative	PANSS general
<b>WAI</b>					
Patient rates psychiatrist	0.306 <sup>b</sup>	-0.373 <sup>c</sup>	-0.308 <sup>b</sup>	-0.283 <sup>b</sup>	-0.364 <sup>c</sup>
Patient rates nurse	0.238 <sup>a</sup>	-0.308 <sup>b</sup>	-0.250 <sup>a</sup>	-0.189	-0.290 <sup>b</sup>
Psychiatrist rates patient	0.428 <sup>c</sup>	-0.447 <sup>c</sup>	-0.443 <sup>c</sup>	-0.375 <sup>c</sup>	-0.370 <sup>c</sup>
Nurse rates patient	0.390 <sup>c</sup>	-0.328 <sup>b</sup>	-0.446 <sup>c</sup>	-0.192	-0.202
<b>ITP</b>					
Patient rates psychiatrist	0.391 <sup>c</sup>	-0.533 <sup>c</sup>	-0.423 <sup>c</sup>	-0.441 <sup>c</sup>	-0.486 <sup>c</sup>
Patient rates nurse	0.317 <sup>b</sup>	-0.336 <sup>b</sup>	-0.284 <sup>b</sup>	-0.235 <sup>a</sup>	-0.276 <sup>a</sup>
Psychiatrist rates patient	0.378 <sup>c</sup>	-0.391 <sup>c</sup>	-0.400 <sup>c</sup>	-0.320 <sup>b</sup>	-0.339 <sup>b</sup>
Nurse rates patient	0.438 <sup>c</sup>	-0.325 <sup>b</sup>	-0.404 <sup>c</sup>	-0.249 <sup>a</sup>	-0.238 <sup>a</sup>

whether examining ratings by patients or clinicians. All items loaded strongly positively on this factor. Where a second factor could be discerned, it accounted for less than 10% of the variance and did not have consistent content when comparing patient or clinician ratings.

Cronbach's alpha statistic is a measure of internal consistency, the degree to which all the items of a scale inter-correlate and measure the same thing.

For the WAI, Cronbach's alpha statistic was 0.926 when patients rated their working alliance with their primary nurse and 0.926 also when patients rated their working alliance with their consultant psychiatrist. For consultant psychiatrists rating their working alliance with their patients Cronbach's alpha statistic was 0.971, and for primary nurses rating working alliance with their patients alpha was 0.936. For patients rating working alliance with consultants and for nurses rating working alliance with patients, omitting item 4 increased alpha from 0.926 to 0.928 and from 0.936 to 0.938 respectively, changes that were judged to be of no useful significance.

For the ITP, when patients rated their interpersonal trust in their primary nurse Cronbach's alpha statistic for internal consistency was 0.872 and when patients rated their interpersonal trust in their consultant psychiatrist Cronbach's alpha statistic was 0.903. When consultant psychiatrists rated their interpersonal trust in their patients alpha was 0.890 and

**Table 2: Paired differences (81 pairs) in ratings of working alliance (WAI) and interpersonal trust (ITP)**

	Mean (SD)	Mean (SD)	Mean Difference (SEM)	Paired t-test P
<b>Patient rates nurse</b>				
WAI, n = 81	61.0 (14.9)	55.7 (13.6)	5.3 (16.1)	0.004
ITP, n = 81	37.8 (5.7)	30.0 (7.2)	7.8 (8.0)	0.001
<b>Psychiatrist rates patient</b>				
WAI, n = 81	58.8 (16.3)	50.7 (16.3)	8.1 (17.9)	0.001
ITP, n = 81	38.2 (7.0)	26.3 (8.4)	11.9 (9.4)	0.001
<b>Patient rates psychiatrist</b>				
WAI, n = 81	61.0 (14.9)	58.8 (16.3)	2.3 (12.5)	NS
ITP, n = 81	37.8 (5.7)	38.2 (7.0)	-0.4 (5.4)	NS
<b>Nurse rates patient</b>				
WAI, n = 83	55.6 (13.6)	58.8 (16.3)	4.8 (16.9)	0.011
ITP, n = 83	29.9 (7.3)	26.4 (8.8)	-3.5 (8.3)	0.001

when primary nurses rated interpersonal trust in their patients alpha was 0.826. Omitting item 7 increased the nurse rating from 0.890 to 0.916 and the consultant psychiatrist rating from 0.826 to 0.891. Again, this was judged to be a negligible enhancement.

For a combined scale of 22 items, patient rating of their therapeutic relationship with the primary nurse had Cronbach's alpha of 0.930, patient's rating of therapeutic relationship with their consultant psychiatrist had alpha = 0.936, the consultant's rating of the therapeutic relationship with the patient had alpha = 0.960 and the primary nurse's rating of therapeutic relationship with the patient had alpha = 0.944.

For the combined scale, factor analysis again yielded one consistent factor positively loading for all items and accounting for over 40% of the variance, and did not reveal any other factors that were consistent.

*Test re-test reliability*

The patients, doctors and nurses were asked to complete ratings at baseline and on average 169 days later. Patients ratings correlated between +0.53 and +0.67 (Spearman rank correlation coefficient). Psychiatrists correlated with themselves +0.57 to +0.84, and nurses correlated with themselves +0.41 to +0.48.

*Cross correlation*

The WAI and the ITP correlated significantly with each other. For 81 patient ratings of working alliance and interpersonal trust in their nurses, r = 0.674, p < 0.001, for 81 patient ratings of working alliance and interpersonal trust in their consultants, r = 0.674, p < 0.001. For 83 consultant ratings of working alliance and interpersonal trust in their

**Table 3: Cross sectional mean working alliance (WAI) and interpersonal trust (ITP) scores**

Cross sectional mean (SD) Working Alliance (WAI) and Interpersonal Trust (ITP) scores according to the stages along the pathway through care					
	Cluster I	Cluster II	Cluster III	All	Anova F/p
	Acute / high secure wards	Medium term medium secure wards	Pre discharge wards		
<b>WAI</b>					
<b>N</b>	<b>21</b>	<b>32</b>	<b>28</b>	<b>81</b>	
Patient rates nurse	54.3 (17.9)	60.3 (12.2)	66.9 (13.3)	61.0 (14.9)	4.7/0.012
Patient rates psychiatrist	55.1 (15.3)	56.5 (15.6)	64.2 (17.1)	58.8 (16.3)	2.5/NS
<b>N</b>	<b>22</b>	<b>33</b>	<b>28</b>	<b>83</b>	
Psychiatrist rates patient	43.1 (13.9)	51.4 (19.6)	56.1 (12.5)	50.8 (16.6)	4.2/0.019
Nurse rates patient	49.9 (11.9)	60.1 (13.1)	54.7 (14.1)	55.6 (13.6)	4.0/0.02
<b>ITP</b>					
<b>N</b>	<b>21</b>	<b>32</b>	<b>28</b>	<b>81</b>	
Patient rates nurse	34.4 (6.4)	37.8 (5.1)	40.5 (4.4)	37.8 (5.7)	8.1/0.001
Patient rates psychiatrist	35.4 (7.1)	37.3 (7.5)	41.4 (5.3)	38.2 (7.0)	5.3/0.007
<b>N</b>	<b>22</b>	<b>33</b>	<b>28</b>	<b>83</b>	
Psychiatrist rates patient	21.7 (6.7)	26.2 (9.8)	30.1 (7.2)	26.4 (8.7)	6.5/0.002
Nurse rates patient	27.6 (7.4)	30.2 (7.3)	31.3 (7.1)	29.9 (7.3)	1.6/NS

patients,  $r = 0.731$ ,  $p < 0.001$  and for 83 nurse ratings of working alliance and interpersonal trust in patients  $r = 0.759$ ,  $p < 0.001$ .

#### Length of stay

Those patients who had been longest in the hospital tended to rate their nurses more positively though the correlations were weak. The same did not hold true for patients rating consultants. Correlations with length of stay for patients rating nurses WAI Spearman  $r = +0.221$  ( $p = 0.047$ ), ITP  $r = +0.276$  ( $p = 0.013$ ); Correlations with length of stay for patients rating consultants WAI  $r = +0.100$  (NS), ITP  $r = +0.143$  (NS). Clinicians did not significantly vary their ratings according to length of stay except for consultants using the ITP  $r = +0.260$ ,  $p = 0.019$ .

#### Sensitivity to mental state

Table 1 shows that there is a significant correlation between working alliance and the GAF and PANSS scales, and similar significant correlations between interpersonal

trust and the GAF and PANSS scales. Consultant psychiatrists appear consistently more influenced by these measures of mental state than patients, though all ratings are to some extent significantly influenced by measures of mental state and global function.

#### Differences between patients and clinicians

Table 2 shows that patients rated nurses higher than nurses rated patients. Patients also rated consultants higher than consultants rated patients. There was no statistical difference between patients rating of their therapeutic rapport with nurses and doctors. Nurses rated their patients higher than consultants rated the same patients.

#### Criterion validity

##### Stratification

Ratings of psychopathology stratified significantly across the three clusters, from acute/high secure ( $n = 22$ ) through medium term/medium secure ( $n = 33$ ) to low secure/rehabilitation and recovery ( $n = 28$ ). GAF (univariate analysis of variance,  $F = 8.5$ ,  $p < 0.001$ ), PANSS positive ( $F = 7.1$ ,  $p = 0.001$ ), PANSS negative ( $F = 3.9$ ,  $p = 0.024$ ), PANSS general ( $F = 8.3$ ,  $p = 0.001$ ), PANSS total score ( $F = 8.8$ ,  $p < 0.001$ ).

Table 3 shows that the mean scores for each rating were significantly different across the three functional clusters of wards that make up the hospital. For the WAI, patient rating of nurses and consultant rating of patient stratified significantly, with ratings lowest in the acute and high secure wards, highest in the pre-discharge areas. For the ITP, Patient ratings of consultants and of nurses improved significantly across the clusters as did consultant ratings of patients.

#### Correlation between patient and clinician

Table 4 shows that the consultant psychiatrist's rating of working alliance with the patient correlated with the patient rating of working alliance with the consultant psychiatrist, and primary nurse's rating of working alliance with the patient correlated with the patient's rating of working alliance with the nurse, suggesting a modest degree of systematic agreement between patients and clinicians.

The consultant psychiatrist rating of interpersonal trust in the patient correlated with the patient rating of interpersonal trust with the consultant psychiatrist and primary nurses rating of interpersonal trust with the patient correlated with the patients' rating of interpersonal trust in the primary nurse, suggesting weak correlation about this construct.

Global function (GAF) and mental state abnormalities (PANSS total score) had confounding effects on these correlations, with the WAI correlations persisting though weakened when confounding variables are taken into account.

#### Halo effects

The patients' ratings of working alliance with their consultant psychiatrist correlated with their rating of working alliance with their primary nurse, suggesting a strong halo effect. Consultant psychiatrists correlated with primary nurses ratings of their working alliances with their patients suggesting a moderate degree of consensus amongst clinicians.

For the interpersonal trust scales, the patients' rating of interpersonal trust in their consultant psychiatrist correlated

Table 4: Correlation of working alliance (WAI) and interpersonal trust (ITP) ratings

Correlation of working alliance (WAI) and interpersonal trust (ITP) ratings for patient-clinician pairs, clinician pairs and patient ratings of clinicians, with partial correlations for potential confounding variables global function (GAF) and PANSS total score. Note that for simple correlations, n = 81 pairs. For partial correlations, n varies.

	Pearson correlation coefficient n=81		Partial correlation, controlling for GAF	Partial correlation, controlling for PANSS total	Partial correlation, controlling for GAF and PANSS total
<b>Concordance effect – patient and nurse</b>					
	Patient rates nurse	Nurse rates patient	N = 77	N = 78	N = 76
WAI	0.404, p < 0.001		0.307, p = 0.006	0.309, p = 0.005	0.297, p = 0.008
ITP	0.245, p = 0.027		0.149, NS	0.157, NS	0.137, NS
<b>Concordance effect – patient and psychiatrist</b>					
	Patient rates psychiatrist	Psychiatrist rates patient	N = 77	N = 78	N = 76
WAI	0.368, p = 0.001		0.289, p = 0.01	0.275, p = 0.014	0.242, p = 0.033
ITP	0.315, p = 0.004		0.139, NS	0.151, NS	0.105, NS
<b>Halo effect – patient and clinicians</b>					
	Patient rates nurse	Patient rates psychiatrist	N = 77	N = 78	N = 76
WAI	0.707, p < 0.001		0.673, p < 0.001	0.659, p < 0.001	0.666, p < 0.001
ITP	0.688, p < 0.001		0.622, p < 0.001	0.629, p < 0.001	0.619, p < 0.001
<b>Consensus effect – psychiatrists and nurses</b>					
	Nurse rates patient	Psychiatrist rates patient	N = 79	N = 80	N = 78
WAI	0.459, p = 0.001		0.293, p = 0.008	0.300, p = 0.006	0.275, p = 0.013
ITP	0.490, p < 0.001		0.421, p < 0.001	0.428, p < 0.001	0.414, p < 0.001

with their rating of interpersonal trust in their primary nurse, again indicating a strong halo effect. Consultant psychiatrists correlated with primary nurses' rating of interpersonal trust in their patients, again suggesting a moderate degree of consensus amongst clinicians.

It is notable that these 'halo' and 'consensus' correlations are much stronger than the clinician-patient correlations (concordance), and remain strong for patients even after controlling for confounding factors.

#### WAI subscales

The correlations between the patient and clinician ratings for sub-scales was tested, because of the possibility that one of the sub-scales might correlate well, yet be obscured by the other sub-scales. The ratings by patients of the primary nurse correlated with the primary nurses' ratings of the patients ('goal' Spearman  $r = 0.342$ , 'task'  $r = 0.378$ , 'bond'  $r = 0.255$ ), all less than the correlation for the full scale ( $r = 0.404$ , Table 4). The ratings by patients of their consultant psychiatrist correlated with the consultant psychiatrists' ratings of the patients ('goal'  $r = 0.458$ , 'task'  $r = 0.306$ , 'bond'  $r = 0.264$ ) with only 'goal' exceeding the correlation for the full scale ( $r = 0.368$ , Table 4). The 'consensus' correlations of consultant psychiatrists and primary nurses when rating their patients ('goal'  $r = 0.529$ , 'task'  $r = 0.431$ , 'bond'  $r = 0.271$ ) again show only 'goal' exceeding the full scale correlation ( $r = 0.459$ ) while the 'halo effect' correlations of patient ratings of their consultant psychiatrists and

patient ratings of their primary nurses ('goal'  $r = 0.641$ , 'task'  $r = 0.691$ , 'bond'  $r = 0.683$ ) are all less than the full scale correlation ( $r = 0.707$ , Table 4). Given that the distinction between these sub scales is not supported by factor analysis or a measure of internal consistency in this group, the meaning of these small differences is doubtful.

#### Remission status

Table 5 shows that remission status had a significant effect on how the patient rated their working alliance and interpersonal trust concerning their consultant psychiatrist, though not regarding their primary nurse or doctors generally. The patient's remission status also had a significant effect on how the consultant psychiatrist rated working alliance and interpersonal trust regarding the patient, though it had no effect on how the primary nurse rated these issues.

#### Discussion

The patient's view of the working alliance is held to be more important than the clinician's view, at least in relation to the outcome of psychotherapy.<sup>23</sup> We have therefore set out to examine the extent to which working alliance can be measured in a population of patients with psychosis and for whom the working alliance has its origins in compulsory treatment imposed under mental health legislation.

It has been suggested that all outcome measures in mental health (quality of life, needs, symptoms and satisfaction) assess a single tendency towards positive or negative

appraisals.<sup>24</sup> The same authors have described a correlation between attitudes to treatment and length of hospitalisation<sup>25</sup> and between patient-rated unmet need and therapeutic alliance.<sup>25</sup>

We have shown that working alliance and interpersonal trust can be measured as dyadic functions. The correlations between patient and clinician pairs for sum scores are modest, though statistically significant. It appears that what is being measured by such a summated score is not actual working alliance or trust as a dyadic function, but rather an individual measure of attitude or appraisal. These are likely to be confounded by the correlations with measures of mental state and global functioning. There is also a significant halo effect in keeping with an effect of underlying disposition or cognitive bias.

A variety of interpretations for this data are therefore possible. The first is that patients in the most therapeutically secure wards have lowest working alliance and least interpersonal trust in their clinicians, while those who have progressed to pre-discharge units with least restrictions have the best working alliance and best interpersonal trust scores.

This cross-sectional study cannot distinguish between the alternative possibilities that therapeutic alliance improves for individuals because they progress, or that those with the best working alliance and interpersonal trust are selected to progress from acute to medium clusters and on to pre-discharge units. The confounding effects of mental state and global function add to the complexity of this analysis.

Only a prospective study can establish whether baseline working alliance or interpersonal trust influence the outcome of treatments for patients in secure settings with severe mental illnesses, and the extent to which baseline clinical status influences both the outcome and the therapeutic alliance.

A second, simple interpretation derives from *Table 5*. This suggests that those who achieve remission from their symptoms feel a positive working alliance and interpersonal trust with their treating consultant psychiatrist, while those who have not achieved a remission, not unreasonably, are more negative in their appraisals. The lack of a 'halo effect' for patients' appraisals of their primary nurse and doctors in relation to remission status supports this interpretation.

Similarly, consultant psychiatrists appear to have been very influenced in their ratings by the patient's remission status, though primary nurses were not. It is not surprising that consultant psychiatrists would believe the therapeutic relationship to be stronger with patients who are responding to treatment, for many reasons. This second interpretation is not incompatible with the first interpretation above, though, as before, a prospective study would be needed to establish cause and effect.

It is important to note that for the WAI, the maximum possible score for positive working alliance is 84 (12 X 7), with a rating of '4' (sometimes) constituting an effective watershed between positive and negative working alliance, so that an overall mean score of greater than 48 can be taken as positive 'on average'.

Similarly, for the ITP, a score of 50 represents the strongest possible positive interpersonal trust while a score of '3' ('neutral') represents a watershed between negative and positive, and an overall mean score of 30 or more can be

Table 5: 'Remission' as defined by Andreason et al<sup>22</sup>

	Not in remission	In remission	ANOVA F/p
<b>Patient rates consultant psychiatrist</b>			
	N = 58	N = 23	
WAI	56.1(16.5)	65.4(14.1)	5.6/0.02
ITP	36.9(7.0)	41.6(5.9)	7.8/0.006
<b>Patient rates primary nurse</b>			
WAI	59.1(15.1)	65.9(13.5)	3.8/NS
ITP	36.9(5.9)	39.8(4.5)	3.5/NS
<b>Patient rates doctors in general</b>			
ITP	39.8(7.6)	41.1(6.7)	0.5/NS
<b>Consultant psychiatrist rates patient</b>			
	N = 60	N = 23	
WAI	47.6(17.3)	58.8(11.6)	8.3/0.005
ITP	24.6(8.3)	30.9(8.3)	9.8/0.002
<b>Primary nurse rates patient</b>			
WAI	54.6(14.5)	57.9(10.9)	1.0/NS
ITP	29.1(7.4)	31.8(6.8)	2.2/NS

taken as positive 'on average'.

On this basis, all patients' ratings in *Tables 2, 3* and *5* are positive 'on average' (mean scores for groups) but this must disguise a more nuanced pattern of positive and negative appraisals of individual items. Similarly, the correlation coefficients reflect those pairs who agreed that the working alliance or interpersonal trust was negative as well as those pairs who agreed in rating the alliance or trust positive. The strong halo effects detected, along with confounding by measures of mental state and global function, suggest that a more nuanced and detailed mode of measurement of the working alliance is required than simple aggregated scores and correlations.

The methodological basis for measuring working alliance and interpersonal trust as aspects of dyadic relationships between patients and their clinicians appears to be weak as measured by correlation. This may however be a statistical problem, since correlation is not the same as agreement. In a subsequent paper we will examine the utility of statistical tests of agreement as measures of the dyadic process in the therapeutic alliance.

Declaration of Interest: None.

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