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John Snyder & George Silberschatz

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EMPIRICAL PAPER

The Patient's Experience of Attunement and Responsiveness Scale

JOHN SNYDER¹ & GEORGE SILBERSCHATZ²

¹San Francisco Psychotherapy Research Group, Clinic and Training Center, San Francisco, CA, USA & ²Department of Psychiatry, University of California, Oakland, CA, USA

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Abstract

Objective: This study sought to test the correlation between the patient's experience of attunement and responsiveness, and treatment outcome. **Method:** Utilizing a new measure—the Patient's Experience of Attunement and Responsiveness (PEAR) Scale—we asked both patients and therapists to rate their experience of a therapy session immediately after that session. Scores on the PEAR Scale were then correlated with two measures of treatment outcome. We obtained 405 total PEAR Scale administrations from 38 patient–therapist dyads across multiple sessions. **Results:** Exploratory factor analyses revealed a three-factor structure for the patient version of the scale and a two-factor structure for the therapist version. Patient ratings on the PEAR Scale were significantly correlated with OQ-45 and a 1-item measure of global outcome measured for the concurrent session. **Conclusion:** These findings suggest attunement during a therapy session may be an important predictor of concurrent session outcome.

Keywords: alliance; attachment; outcome research; process research

Research on the therapeutic alliance attests to the notion that the patient's experience in relation to the therapist during therapy sessions is a critical component of the therapeutic process, and a predictor of treatment outcomes (Bordin, 1979; Flückiger, Del Re, Wampold, Symonds, & Horvath, 2012; Hatcher & Barends, 2006; Horvath, 2006; Horvath, Del Re, Flückiger, & Symonds, 2011; Wampold & Budge, 2012). This has been shown to be the case even when temporal precedence between alliance and symptoms is taken into account (Falkenström, Granström, & Holmqvist, 2013; Zilcha-Mano, Dinger, McCarthy, & Barber, 2014; Zilcha-Mano & Errázuriz, 2015). While it is clear that the therapeutic alliance predicts treatment outcomes, there is less empirical literature examining exactly *how* the therapist's attitudes and behaviours affect the therapeutic alliance, thereby influencing treatment outcomes (Silberschatz, 2005; Silberschatz & Curtis, 1993). Hatcher (2015) has noted that no research has been conducted that addresses the way skilled therapists make nuanced and appropriate choices about how

and when to express important alliance-related constructs such as empathy. It has been suggested that the lack of research in these areas is due to the limitations of operationally defining the therapeutic experience, and in particular the difficulty of empirically measuring how therapist behaviours impact the therapeutic alliance (Horvath, 2006; Silberschatz & Curtis, 1993). Gelso (2014) has suggested that further "... development and testing of additional models that unpack the global concept of the therapeutic relationship would be useful" (p.117). What kinds of therapist attitudes and behaviours contribute to a strong alliance, which in turn presumably leads to better outcomes? In the current study, we propose a new measurement scale the "Patient's Experience of Attunement and Responsiveness (PEAR)" as one possible way to begin to address this question. We have chosen attunement and responsiveness as our focus because we believe these two constructs when taken together, address the way skilled therapists make decisions about how and when to intervene during sessions.

Correspondence concerning this article should be addressed to John Snyder, San Francisco Psychotherapy Research Group, Clinic and Training Center, 9 Funston Ave., San Francisco, CA 94129, USA. Email: jdsnyder22@gmail.com

Attunement and Responsiveness

The construct of “attunement” was initially studied by infant researchers such as Stern, Hofer, Haft, & Dore (1984) and Tronick et al. (1978) who examined the way mothers “attune” to their infants, and the consequences of “missattunement.” Attunement was later elaborated on with regards to how it pertains to psychotherapy by Erksine (1998). We include the construct of “responsiveness” in our scale because we wish to emphasize the importance of the therapist’s responsiveness to a patient’s therapeutic needs. Hatcher (2015) has argued that responsiveness is an important but understudied aspect of interpersonal skills, which are undoubtedly crucial to interactions with patients. He defines *appropriate responsiveness* as, “...the therapist’s ability to achieve optimal benefit for the client by adjusting responses to the current state of the client and the interaction” (p. 747). The term “appropriate responsiveness” implies that there is also “inappropriate responsiveness.” From our perspective, in order for a therapist to be appropriately responsive, the therapist must be *attuned* to the current state of the client, and thus we prefer/propose the term “attuned responsiveness.”

Prior to Hatcher, Weiss (1993, 2002) posited that patients present in therapy with very specific problems, needs, and goals and require therapists to respond to them in case-specific ways. According to Weiss, when therapists are accurately attuned and responsive to a patient’s particular needs, the patient will immediately feel less anxious, be more emboldened, and make movements towards therapeutic goals (for a review of supporting research, see Silberschatz, 2005). A lack of attuned responsiveness on the part of the therapist, likely leads to an incorrect or unhelpful intervention because the therapist is either focusing on the wrong experiences of the patient or misperceiving the patient’s experience.

Attunement goes beyond the multidimensional construct of empathy, which is defined as “... entailing cognitive empathy (understanding mental states, theory of mind) and affective components such as the emotional reaction to the observed experiences of others” (Dziobek et al., 2008). Attunement can be distinguished from empathy in that attunement is a *process* that includes two parts: (1) the ability to connect with another person’s experience/sensations (i.e., cognitive and affective empathy); and (2) the communication of that connection to the other person (Erksine, 1998). The attuned therapist perceives the patient’s experience accurately and responds to the patient in such a way that the patient has the experience of the therapist “really getting” what is going on for him or her. As

Hatcher (2015) has posited, in psychotherapy the therapist’s goal, which is to help the patient, “relies on the therapist’s responsive interventions that are shaped by the therapist’s perception of the client and their interaction” (p. 748). Attuned responsiveness then involves “knowing what to do when.”

Historical conceptions of attunement have roots in Bowlby’s attachment theory and subsequent research on early attachment (McCluskey, Hooper, & Bingley Miller, 1999). Such theories posit that much psychopathology is largely the result of early painful attachment experiences. Infant researchers such as Tronick et al. (1978), Stern et al. (1984), and Papousek and Papousek (1979) initially studied the role of attunement and missattunement in early attachment experiences. In his research, Stern described instances of missattunement that involved a lack of awareness on the part of the mother of the infant’s inner state or affect. He observed that such missattunement is extremely painful for the infant and often results in visible distress such as crying and the loss of bodily control. Tronick et al. (1978) conducted a variety of “still face” research studies whereby infants became extremely visibly distressed when their caregivers, who had previously been responsive and attuned, were now instructed to sit in front of their infants while maintaining still, completely expressionless faces (misattunement). More than 80 empirical studies utilizing the Still Face paradigm have shown the clearly detrimental effects of non-attunement (Mesman et al., 2009).

Attachment in psychotherapy: the role of attunement and responsiveness. Research has shown that attachment styles within the context of psychotherapy are measurable and related to treatment outcome (Meyer & Pilkonis, 2001; Talia et al., 2014). It is important to understand early attachment patterns in order to understand current attachment because, as people mature, they develop a set of mental representations based on how their attachment-seeking behaviours have been responded (attuned) to by past attachment figures (McCluskey et al., 1999). This focus on the role of developmental antecedents in the development of psychopathology is also in line with current cognitive behavioural conceptions of cognitive schemas and core beliefs (Riso, Maddux, & Santorelli, 2007; Riso & McBride, 2007). In psychotherapy, patients often enact painful attachment behaviours that may be the result of earlier unmet care-seeking needs. Therapists must be empathically attuned and responsive to patients’ attachment behaviours in order to adequately respond to patients’ attachment needs (Wallin, 2007). Failure on the part of the therapist to

appropriately attune and respond “... will result in the [maladaptive] attachment behavior failing to shut down” (McCluskey et al., 1999, p. 81). In other words, the maladaptive attachment behaviour, which represents an archaic and currently pathogenic way of relating to self, others, and the world will continue as the patient’s default mode of relating until the therapist recognizes (attunes) and responds empathically to the unmet attachment need that this behaviour was originally designed to achieve. A recent study of helpful and hindering events in psychotherapy found that “... the events that therapists most frequently reported as detrimental were those when they failed to be attuned to their clients’ needs” (Castonguay et al., 2010, p. 341). Attunement and responsiveness creates a sense of psychological safety within the therapeutic relationship that permits the patient to recall and endure previously warded off painful memories and experiences thereby allowing for fuller understanding of these events as well as the opportunity to work through them (Silberschatz, 2005; Weiss, 1993).

While the above discussion may appear to lend itself exclusively to a broad psychodynamic approach, we view the patient’s experience of attunement and responsiveness as a transtheoretical concept that exists across all treatment modalities. For instance, cognitive behavioural therapists agree that the therapeutic alliance is critical to therapy and have suggested that the therapeutic relationship reflects interpersonal schemas, early attachment problems, emotional processing, and inadequate validation experiences (Leahy, 2008). Regardless of whether we describe how a particular patient relates to his/herself and the world using the psychodynamic term “internal working models” or the cognitive term “interpersonal schemas” the important question remains: *How does the therapist work with this particular patient to enhance the therapeutic alliance leading to enhanced treatment outcomes?* Or as Hatcher puts it, *how does the therapist decide what to do and when?* One possible answer, and the focus of the current study, is through attunement and responsiveness.

Method

The Patient’s Experience of Attunement and Responsiveness (PEAR) Scale

The PEAR Scale was developed by Silberschatz (2009) as a self-report measure designed to assess the patient’s experience of the therapist’s degree of attunement and responsiveness during a therapy session. The items that comprise the scales are based on previous studies conducted by the San Francisco Psychotherapy Research Group in

which clients rated their therapy experiences overall at the end of the treatment (Silberschatz, in press; Silberschatz, Curtis, Sampson, & Weiss, 1991). Items were also generated based on a study in which psychoanalytic therapists retrospectively rated statements of the types of experiences they found most helpful during their own treatments (Bush & Meehan, 2011). Items that were correlated with outcome were retained for this preliminary version of the scale. Examples include the patient getting “help to talk about what was really important or troubling” or having an “honest person-to-person relationship with the therapist” (Silberschatz, in press) and interventions that enabled the patient to see his/her “motives and behaviors in a more positive light” (Bush & Meehan, 2011). The PEAR Scale has a patient version (PEAR-p) and a therapist version (PEAR-t), each containing 30 statements. Items on the PEAR-p and PEAR-t are similar with some wording changes so as to apply to either patient or therapist. For example, PEAR-p item 8: “What my therapist did and said was helpful today,” PEAR-t item 8: “What I did and said was helpful to my patient today.” Participants rate each item on a Likert scale that ranges from 0 to 3 with a rating of 0 = *not at all*, 1 = *slightly*, 2 = *moderately*, and 3 = *very much*. These responses are then summed to achieve a total attunement and responsiveness score.

In addition to the attunement items, both versions of the PEAR Scale also include a single-item Measure of Global Outcome (MGO-p and MGO-t, for patient and therapist versions respectively): “How well do you feel that you are doing psychologically and emotionally today?” (MGO-p), and “How well do you feel that your patient is doing psychologically and emotionally today?” (MGO-t). Responses range from -3 to 3 with a rating of -3 = *Very Poorly*, 0 = *OK*, and 3 = *Exceptional*. In an earlier pilot study, Snyder (2012) found that patient ratings (MGO-p) correlated significantly with concurrent session OQ-45 ratings.

Participants and Procedure

Thirty-eight patient–therapist dyads participated in the study. The sample was comprised of 21 female and 17 male patients between the ages of 18 and 50. There were 16 therapists (10 female and 6 male) between the ages of 26 and 50. Dyads participated for a minimum of one session and a maximum of 30 sessions ($M = 6$). Dyads entered into the study at different points in the course of therapy, ranging from session 1 to session 27. The mean number of therapy sessions a dyad had been meeting before they entered the study was 12 sessions. Patients presented with a variety of mental

health issues and diagnoses including: relationship concerns, substance abuse, anxiety, depression, adjustment disorder, bipolar disorder, etc. Exclusion criteria included: age younger than 18, severe suicidality, severe substance abuse disorders, and severe psychotic disorders. Participants were recruited from the San Francisco Psychotherapy Clinic and Training Center, a low-cost outpatient psychotherapy clinic. Patients learned of the study either from their therapist or through flyers posted in clinic waiting rooms and they provided informed consent to participate in the study.

Therapists and treatments. All 16 therapists participated with at least one patient and several therapists participated with more than one patient. The therapists were advanced pre- and post-graduate trainees, supervised by a licensed mental health professional. The treatment approach of the therapists was control-mastery theory, which is an integrated cognitive-relational psychodynamic theory (Silberschatz, 2005; Weiss, 2002).

Assessment of outcome. The Outcome Questionnaire (OQ-45.2; Lambert et al., 1996) was used as the primary measure of concurrent treatment outcomes. Patients filled this out following each session. The OQ-45 is a psychometrically sound measure with internal consistency reported to be .93 and test-retest reliability reported to be .84 (Lambert et al., 1996). The OQ-45 was chosen because it measures psychological functioning across three domains: symptomatic distress or discomfort, interpersonal functioning, and social role. Responses can be aggregated to obtain a total score, with higher scores reflecting greater distress. An additional measure of concurrent treatment outcome known as the MGO was also included. We created this simple, one-item question that asked patients and therapists to rate how well the patient is doing psychologically and emotionally today. The MGO has not been previously validated so no official psychometric information is available at this time. However, in a previous pilot study Snyder (2012) found patient ratings on the MGO were significantly correlated with ratings on the OQ-45 [$r = -0.316$, $n = 83$, $p = .004$]. Patients and therapists completed the MGO at the end of each therapy session.

Assessment of attunement and responsiveness. Therapists and patients completed the PEAR Scale (therapist or patient version) independently following each session. Therapists completed the forms in their office and patients completed their forms in the waiting area

immediately after the therapy session. All forms were placed, by the rater, into a lock box located in the waiting area.

Results

Overall, we obtained 405 PEAR-p Scale administrations, 313 PEAR-t Scale administrations, and 370 OQ-45 administrations. There are several possible reasons for the different number of administrations between these measures. For instance, patients completing a PEAR-p form occasionally neglected to complete the attached OQ-45 form. This could have been due to the patient not seeing the OQ-45 (which was stapled as a second page to the PEAR-p form), or the patient needing to leave the clinic for some reason prior to completing the attached OQ-45. Likewise, the lower number of PEAR-t administrations was due to therapists neglecting to complete forms for various reasons ranging from feeling too busy, needing to deal with a crisis, or simply forgetting. These missing data resulted in different sample sizes depending on what measures were being compared.

Exploratory factor analysis

We were interested in exploring the possible underlying factor structure of our scale. Accordingly, an exploratory factor analysis (EFA) was conducted with Mplus Version 7 (Muthen & Muthen, 1998–2014) to identify items that might be used to create subscales. Analyses were carried out separately for items for patients and therapists because the tasks required by the two inventories differed. Patients described the attunement during the session that they experienced from their therapists, whereas therapists described the attunement of their patients. We did not expect the way patients and therapists described each other would necessarily be the same.

Traditional methods of analysis for EFA assume that each respondent provides only one set of responses. In the present study, patients provided descriptions of their therapists from once to many times following their sessions, and therapists described multiple patients. The number of assessments differed both for patients and for therapists. This feature of the data collection introduces dependency among responses. Multiple assessments for a patient's description of the therapist are certain to be correlated among the assessments, and therapists' descriptions of the same patient on multiple occasions would likewise be correlated across the assessments. This dependency would certainly bias estimates of the covariance structure and factor

loadings if it were not taken into account in the analysis. Therefore, the dependency among responses was accommodated in these analyses by clustering the response sets by patients and therapists. The data had three levels of clustering: multiple sets of responses by the same patient over time at level one, multiple patients at level two, and multiple therapists at level three. The number of therapists was too small (16 therapists) to treat therapists as a clustering variable at a third level and obtain unbiased estimates (Maas & Hox, 2005). Consequently, a clustering identification was created by combining therapist/patient IDs into a single variable (38 patients; each patient was seen by a single therapist). Note that the hierarchical structure of the data was not considered to be a defining characteristic of the factor structure, so the use of the clustering variable was simply to control for the dependency of responses within patients, within therapists (cf., Vittinghoff, Glidden, Shiboski, & McCulloch, 2012).

Response distributions and communalities.

An inspection of the response distributions for patients revealed that they were highly left-skewed. (Patients tended to rate their therapists at the high, or favourable end of the scale.) This level of asymmetry precluded the use of a method that assumes multivariate normality. Therefore, the EFA of the patient data was carried out with maximum likelihood estimation and a robust estimation that provides unbiased estimates due to non-normality and dependency in the data not already accounted for by the estimation technique (Muthen & Muthen, 1998–2014). Therefore, the use of the clustering variable to control dependency among the item responses by patients using robust maximum likelihood estimation was expected to produce unbiased and reliable estimates of the exploratory factor structure.

The distributions of some items on the patient scale were so severely left-skewed that they were dropped from the analysis. Items with 90% or more of the responses in the highest category were dropped to prevent estimation problems. Seven items were excluded based on this limitation. In addition, three items were dropped from the analysis due to low communality, meaning that they had low associations with the other items in the factor structure. Twenty remaining items were examined for the EFA of the patient data.

Although item distributions of the therapists' descriptions of the patients were relatively symmetric, estimation was also carried out with robust maximum likelihood. Again, the use of this estimation technique, combined with the use of the clustering variable, was expected to produce unbiased and reliable

estimates of the EFA factor structure given dependency among responses. Only one item was dropped from the analysis of the therapist data based on our "90%" rule, indicating both non-normality of the item and low variance available for the analysis. However, five items were dropped due to strong cross-loadings on two or more factors, and two items were dropped due to low communalities. Twenty-two items were retained for the EFA of the therapist data.

The EFA for both sets of data was carried out by estimating up to three factors, because neither data set produced eigenvalues greater than one for more than three factors and the scree plots showed that more than three factors could not be supported. Further, GEOMIN oblique rotation was employed to obtain simple structure for the factors. Oblique rotation was selected because the underlying factors are certain to be correlated in the population and the use of an orthogonal rotation would ignore this expectation and produce biased results of the estimated factor structure (Muthen & Muthen, 1998–2014). A decision whether to retain three or only two factors was based on the size of the Bayesian Information Criterion (BIC; the model with the smaller BIC is preferred), the item loadings, and the item content (clinical meaning of the set of items that defined the factor). Analysis of the patient data produced three factors with three or more loadings greater than .40 and no items that had high (>.40) cross-loadings (see Table I). Each factor was "defined" by at least three items with loadings $\geq .40$. The therapist data produced two factors with similar constraints (see Table II).

A group of 10 psychotherapists was formed to discuss the appropriate theoretical category and name for each EFA identified factor for both the patient and the therapist versions of the scale. Based on this discussion group's findings the Patient version's three-factor structure was conceptualized and named accordingly (Tables III and IV):

(Patient Factor 1): *Perceived Helpfulness*—The majority of items falling into this factor pertained to the patient's impression that the therapist *did or provided* something (e.g. Item 1: "My therapist provided valuable insight ...") in areas where the patient was wanting help.

(Patient Factor 2): *Felt empathy*—The majority of items falling into this factor pertained to the patient's impression that the therapist *perceived* how/where the patient is emotionally and psychologically (e.g. Item 19: "My therapist had accurate empathy for my needs and feelings today").

(Patient Factor 3): *Sensed Accomplishments*—The majority of items falling into this factor pertained to the patient's impression that he/she was able to achieve certain emotional tasks and how the patient

Table I. PEAR-p subscales, factor loadings. Bold values indicate item belongs to that factor.

	Factor loadings		
	1 Perceived helpfulness	2 Felt empathy	3 Sensed accomplishment
1. My therapist provided valuable insight and helped me achieve greater self-understanding today	.626	.031	.205
2. I felt able to take the lead in bringing up whatever I wished to talk about today	-.028	.254	.408
3. My therapist seemed to enjoy working with me today	-.010	.666	.121
4. I got help in being able to talk about what was really important or troubling to me today	.138	.212	.521
5. My therapist's comments enabled me to see my motives and behaviours in a more positive light today	.833	-.020	.004
6. I made progress in dealing with the problems for which I sought therapy today	.431	-.008	.510
7. My therapist understood me (i.e., my thoughts, feelings, goals) today	.184	.628	.086
8. What my therapist did and said was helpful today	.485	.275	.208
9. My therapist seemed comfortable with all of my reactions today	.001	.707	.149
10. I felt relief from the tension I was experiencing today	.169	.204	.495
11. My therapist acknowledged my strengths and my progress today	.513	.324	-.081
12. I was able to experience my feelings deeply, to feel moved today	.180	-.027	.574
13. I felt accepted by my therapist today	.020	.687	-.071
14. I felt reassured and encouraged about how I am doing today	.387	.491	-.011
15. I was able to feel my feelings, to be who I really am today	-.002	.162	.673
16. I felt that my therapist really cared about me today	.108	.786	-.018
17. I got ideas for new or better way for dealing with people today	.652	-.044	.128
18. I felt a sense of having an honest person-to-person relationship with my therapist today	-.041	.637	.212
19. My therapist had accurate empathy for my needs and feelings today	.048	.815	.021
20. I made progress in developing better self-control over my moods and behaviour today	.650	.017	.189

is feeling about him/herself (e.g. Item 15: I was able to feel my feelings, and be who I really am today”).

The same process was undertaken to address the Therapist version's two-factor structure with the following results:

(Therapist Factor 1): *Therapist Helpfulness*—The majority of items falling into this category pertained to the therapist's impression that the patient found him/her helpful (e.g. Item 1: “I was able to provide valuable insight ...”).

(Therapist Factor 2): *Safe-Accepted*—The majority of items falling into this category pertained to the therapist's impression that the patient felt safe and accepted by the therapist (e.g. Item 17: “My client felt accepted by me today”).

Composite scale reliabilities. Following the definition of the factors based on the EFA, factor-based scales were computed for the client and therapist factors. In addition, a total scale score was computed using the items retained in the EFA. Scores were computed as means of the items in each factor-based scale, so that the scores would be interpretable with the Likert-item anchors across scales. Total scale and subscale reliabilities were computed as composite reliabilities with latent variable models for each subscale, following Raykov

(2004, 2007). The Patient version of the PEARS demonstrated good reliability with coefficient $\omega = .94$ (see Table V for complete patient scale factor reliability estimates) as did the Therapist version with coefficient $\omega = .96$ (see Table VI for complete therapist scale factor reliability estimates). Composite reliability estimates via latent variable models have been shown to be superior to Cronbach's α (Dunn, Baguley, & Brunnsden, 2014; McDonald, 1999). Further, the use of latent variable models for composite reliability estimation can accommodate data with correlated observations.

Estimation of correlations and tests of covariance. Estimation of the correlations of the factor-based attunement scales and the concurrent outcome assessment scores was also carried out with Mplus, treating the therapist/client ID combination as a clustering variable as for the EFA models. Tests of the covariances of each factor-based attunement scale and the total scale score for clients and therapists with the validation measures (OQ-45 and MGO) were obtained separately for clients and therapists. It should be noted that the correlation is merely a standardized measure of the covariance. In latent variable models, tests of the covariance are superior to tests of correlations, because they are not affected by an inappropriate rescaling of the measures as standardized scores with means of zero and standard deviations of one.

Table II. PEAR-t subscales, factor loadings.

	Factor loadings	
	1 Therapist helpfulness	2 Safe accepted
1. I was able to provide valuable insight to my client that resulted in him/her achieving greater self-understanding today.	.813	-.025
2. My client was able to take the lead in bringing up whatever he/she wished to talk about today	.239	.449
3. I was able to help my client talk about what was really important or troubling to him/her today	.656	.202
4. My comments enabled my client to see his/her motives and behaviours in a more positive light today	.772	.130
5. My client felt respected by me today.	.234	.629
6. My client made progress in dealing with the problems for which he/she sought therapy today	.931	-.119
7. My client felt critical of me today	-.120	.704
8. What I did and said was helpful to my client today	.816	.093
9. I was comfortable with all of my client's reactions today	.032	.490
10. My client felt relief from the tension he/she was experiencing today	.791	.114
11. My client felt safe with me today	.205	.580
12. My client felt misunderstood by me today	.084	.566
13. I felt attached to my client today	.361	.462
14. I acknowledged my client's strengths and progress today	.607	.156
15. My client was able to experience his/her feelings deeply, to feel deeply moved today	.549	.230
16. My client felt criticized or blamed by me today	-.217	.820
17. My client felt accepted by me today	.284	.622
18. My client felt reassured and encouraged by me today	.695	.227
19. My client was able to feel his/her feelings, to be who he/she really is today	.538	.282
20. I provided my client with new or better ways of dealing with people today	.862	-.034
21. My client made progress in developing better self-control over his/her moods and behaviour today	.912	-.086
22. My client seemed unsure about how I felt about him/her today	-.002	.802

In addition, results using covariances are more likely to generalize to other samples; (cf. Kline, 2011; Raykov & Marcoulides, 2006). Therefore, the size of the correlations provide validity estimates of the attunement scores with the outcome measures, and tests of their covariances provide tests of the null hypothesis that the associations are zero. All tests are evaluated for significance at $\alpha = .05$, two-sided.

The possible obtainable score on the revised 20-item PEAR-p Scale ranged from 0-non-attunement to 60-high attunement ($M = 53.6, SD = 7.2$). The possible obtainable score on the revised 22-item PEAR-t Scale ranged from 0-non-attunement to 66-high attunement ($M = 53.5, SD = 11.6$).

Results (presented in Table III) demonstrated a significant, negative correlation between the total attunement score obtained on the PEAR-p Scale and the patient's total obtained score on the OQ-45 [$r = -.215, p = .003$] with higher patient ratings of attunement associated with a decrease in total OQ-45 scores, (i.e., decreased psychological distress). Results also showed a significant correlation between the PEAR-p Scale and the MGO-p [$r = .386, p = .000$] indicating that higher ratings of attunement were associated with enhanced patient rated psychological and emotional functioning on our MGO-p.

Patient Factor 2-Felt Empathy and Patient Factor 3-Sensed Accomplishments on the PEAR-p Scale

Table III. Correlations between PEAR-p and OQ-45, and patient rated MGO-p.

Category	OQ-45	MGO-p
PEAR-p total	-0.215*	0.386*
Perceived helpfulness (Factor 1)	-0.136	0.337*
Felt empathy (Factor 2)	-0.143*	0.259*
Sensed accomplishment (Factor 3)	-0.233*	0.321*

Notes: PEAR-p: Patient's Experience of Attunement and Responsiveness—patient version. OQ-45: Outcome Questionnaire 45. MGO-p: Measure of Global Outcome-patient version.

*Correlation is significant at the 0.01 level (2-tailed).

Table IV. Correlations between PEAR-therapist version OQ-45 and patient rated MGO-p.

Category	OQ-45	MGO-p
PEAR-t total	-0.063	0.239
Therapist helpfulness (Factor 1)	-0.068	0.195
Safe-accepted (Factor 2)	-0.037	0.242*

Notes: PEAR-t: Patient's Experience of Attunement and Responsiveness—therapist version. OQ-45: Outcome Questionnaire 45. MGO-p: Measure of Global Outcome-patient version.

*Correlation is significant at the 0.05 level (2-tailed).

Table V. Reliability (ω) for PEAR-patient version.

Factor reliability	Est.	SE	Est./SE
Perceived helpfulness (Factor 1)	0.872	0.021	41.745
Felt empathy (Factor 2)	0.916	0.012	79.452
Sensed accomplishment (Factor 3)	0.845	0.022	38.299
Total PEAR-patient	0.936	0.012	76.002

Table VI. Reliability (ω) for therapist version PEAR.

Factor Reliability	Est.	SE	Est./SE
Therapist helpfulness (Factor 1)	0.955	0.009	103.425
Safe/accepted (Factor 2)	0.887	0.023	38.110
Total PEAR-therapist	0.954	0.006	147.417

demonstrated significant inverse correlations with the OQ-45, [$r = -.143, p = .000$], [$r = -.233, p = .000$], respectively, indicating that higher attunement is related to lower symptom endorsement. Felt Empathy and Sensed Accomplishment were also correlated with the MGO-p [$r = .259, p = .006$], [$r = .321, p = .006$], respectively, indicating that each of these subscales is related to higher assessment of psychological functioning. Although Patient Factor 1-*Perceived Helpfulness* on the PEAR-p Scale was not significantly correlated with the OQ-45, it was significantly correlated with the MGO-p [$r = .337, p = .000$], indicating that the patient's impression of the therapist as helpful is correlated with an enhanced overall sense of well-being.

Results indicated the therapist version of the PEAR Scale not was significantly correlated with the OQ-45. Only therapist Factor 2- *Safe and Accepted*, was correlated with the patient rated MGO-p [$r = .242, p = .039$] indicating that the therapist's impression that the patient felt safe and accepted is correlated with an enhance overall sense of well-being. Patient and Therapist versions of the PEAR scale were also not significantly correlated.

Finally, results indicated that the OQ-45 was significantly and strongly inversely correlated with concurrent patient rated MGO-p [$r = -.505, p = .000$] indicating that higher ratings of emotional and psychological well-being were associated with decreased levels of symptom endorsement. This strong correlation suggests that while the OQ-45 and the MGO-p may not be measuring the exact same construct, they may still be measuring a similar or closely related outcome construct.

Discussion

Our findings indicate that the PEAR-p Scale is correlated with concurrent symptomatic outcomes as well as with patients' overall sense of psychological and emotional well-being. These moderate correlations are consistent with both early and later findings on the Working Alliance Inventory (WAI). For example, Horvath and Greenberg (1989) found the correlation between the WAI and treatment outcome to be [$r = .29$], while other reviews have reported the WAI and treatment outcome correlation to be [$r = .24$] (Martin, Garske, & Davis, 2000). Other process measures have yielded similar results including the Pennsylvania (Penn) Scale [$r = .29$] (Luborsky, Crits-Cristoph, Alexander, Margolis, & Cohen); and the Vanderbilt Helping Scales [$r = .25$] (Marin et al., 2000). The PEAR scale demonstrated higher correlations with treatment outcome than the California Therapeutic Alliance Rating Scale [$r = .17$] (Martin et al., 2000; Safran & Wallner, 1991). These findings suggest the PEAR Scale is likely at least comparable to established process measures. Overall, the therapist version of the PEAR Scale was not significantly correlated with treatment outcome, with the exception of PEAR-therapist Factor 2-*Safe and Accepted*, which appears to measure the therapists impression that the patient felt safe with, and accepted by, the therapist. These findings too, are consistent with previous literature on patients' ratings of the therapeutic alliance (Horvath, 2006; Lambert, 1991), as well as a previous pilot study utilizing the PEAR (Snyder, 2012).

We hypothesize that the PEAR may represent a specific and clinically important sub-component or perhaps pre-requisite experience necessary to create a strong therapeutic alliance. By breaking the alliance down in this way, we are working further towards unpacking the global concept of the therapeutic alliance as Gelso (2014) has suggested. Consequently, a logical next step is to compare the PEAR with other measures of the alliance such as the WAI (Horvath and Greenberg, 1989) to determine the degree of convergent and divergent validity, and to investigate if the PEAR can in fact reliably predict the strength of the WAI.

Our preliminary findings from the EFA on the patient version of the PEAR suggest the patient's experience of attunement and responsiveness may be comprised of three distinct factors that assess the patient's perceptions of: (1) the therapist's helpful actions during a session, (2) the therapist's empathy and caring during a session, and (3) the patient's sensed accomplishments during a therapy session.

Based on this three-factor structure revealed by our EFA, we propose to conceptualize the construct of

the patient's experience of attunement and responsiveness as an interactional process that necessarily includes patient and therapist, and is comprised of the following three patient experiential factors: **Factor 1—Perceived helpfulness** (therapist actions/contributions: active-listening, providing insight, helpfulness in the areas where patient is needing/wanting it); **Factor 2—Felt empathy** (therapist's ability to perceive how/where the patient is emotionally/psychologically); and **Factor 3—Sensed accomplishments** (patient's ability to receive/perceive the therapist's actions as empathic—that is, does patient *experience* therapist as: listening, being helpful in areas the patient desires, such that the patient perceives progress on problems he/she wishes to address). An important possibility to consider about the “sensed accomplishment” factor is that a *sense* of progress, which may tend to be considered a form of outcome, may also actually be a part of attunement and responsiveness. This is an interesting consideration because up until this point, process and outcome appear to have been considered to be distinct, with process thought to predict outcome. This brings up an interesting question about what makes people feel better in therapy (and in life). Is it the reduction of a symptom such as less crying spells, or better sleep, reduced headaches, or more sex as measured by the OQ-45 or is it a sense of progress and movement during therapy as captured by process measures? Other alliance measures such as the WAI also contain items that appear to tap a sense of progress, that is, “I feel the things I did in therapy helped me to accomplish the changes that I wanted” (Horvath and Greenberg, 1989). It may be the case that the process of therapy itself is rewarding and contributes to a sense of overall well-being. In other words, it may not enough for the therapist to perceive and connect with the patient's experience (therapist empathy) and then act in such a way that presumably transmits that connection (therapist actions); there must also be a receiver who perceives this transmission as helpful and productive (felt accomplishment) in order for an experience of attunement and responsiveness to occur.

A real world example, demonstrating a three-factor approach to understanding attunement may be useful. One might imagine a scenario involving a therapist's interaction with a patient who has a diagnosis on the Autism spectrum, and who is currently upset about something. The therapist may be able to recognize and connect with the distress that the patient is feeling (Factor 2: Felt Empathy), and the therapist may even act in ways that *should* communicate that connection (Factor 1: Perceived Helpfulness). However, this particular patient may have great difficulty perceiving/receiving these

transmissions as helpful and productive (Factor 3: *Sensed Accomplishments*) thus leading to a failure of attunement and responsiveness. This could also be the case in patients with severe personality pathology whose rigid interpersonal structures make it challenging for them to perceive others in flexible ways, in turn making it difficult for others, including therapists, to relate to them. In both examples, it is the therapeutic task of the therapist to find a way to attune and respond to the patient, which means responding to the patient in a way that the patient can accept and receive as helpful and productive.

Viewing attunement in this way suggests to us that the construct is a continuous, reciprocal, and interactive process between two individuals whereby therapists rely on accurate empathy to guide their therapeutic actions, which are then perceived and experienced by patients. The *patient's sensed accomplishment* is in turn, then perceived accurately by the therapist (*empathy*), leading to more *perceived helpful actions* that are in turn experienced by patients (a further *accomplishment*) in a continuous and ongoing process. Our results suggest that this overall patient experience of attunement and responsiveness is correlated with the concurrent session treatment outcome. Weiss (1993, 2002) has posited that the patients repeated experience of this sort leads to the disconfirmation of pathogenic beliefs and enhanced feelings of safety and well-being. It is too early at this point in our research to definitively argue that attunement does in fact work this way; however, the preliminary findings leading us to this assertion provide a starting point and a theory to guide further research.

The finding that PEAR-p Factor 3 (patient's accomplishments) was most strongly correlated with both measures of treatment outcome may have something to do with a logical connection between the patient's sense of *progressing* and more specific measures of outcome.

As noted above, the PEAR Scale may well be a more specific sub-component of the therapeutic alliance. Thus, the next step in our research will be to test it alongside an established measure of the alliance such as the WAI to determine the degree of convergence between the two scales and to test whether the PEAR Scale predicts the alliance and subsequent treatment outcome. Furthermore, we intend to use and evaluate the PEAR as a feedback instrument whereby therapists are shown their patient's PEAR-p ratings following therapy sessions. Providing therapists with feedback regarding their patients' experience of attunement and responsiveness could be utilized to guide therapists to make certain adjustments in subsequent sessions. This may be

particularly helpful for patients who have difficulty expressing disappointment or unhappiness with therapy. Indeed, Samstag, Batchelder, Muran, Safran, and Winston (1998) have pointed out that patients may be reluctant to voice dissatisfaction directly to the therapist in sessions, even though the exploration of such negative feelings might be very therapeutic. There is already a growing, and more recent body of literature demonstrating that regular measure-based feedback helps therapists identify ruptures in therapy sessions (Safran, Muran, & Eubanks-Carter, 2011), increases patient retention, and enhances treatment outcomes (see Berking, Orth, & Lutz, 2006; Lambert et al., 2001). Similar findings using the PEAR Scale would further support the importance of attunement in psychotherapy and point to the usefulness in training psychotherapists how to optimize their levels of attunement and responsiveness.

One final comment on the therapist version of the scale is warranted. Other than the Therapist Factor 2- Safe and Accepted correlation with the patient rated MGO-p, the therapist version of the PEAR Scale was not correlated with treatment outcome. This is consistent with literature that has found therapist ratings of the alliance to be weakly or not at all related to treatment outcome. However, this does not mean that the PEAR-t Scale is not useful. Indeed, the therapist version of the PEAR Scale might be used to examine those aspects of attunement and responsiveness that therapists pay attention to, as well as perceive differently than patients. This information could conceivably then be used to identify how and where errors in clinical judgment occur, which in turn could help therapists make clinical adjustments. Once again, this would involve utilizing the PEAR Scale as an immediate post-session feedback tool.

Limitations of the Study

Our study was limited by several factors. For instance, some therapists participated with just one patient, while others participated with several patients. Further, patient-therapist dyads entered the study at varying points during the course of therapy. For example, some dyads entered the study after their second session, while some dyads entered the study after having been in therapy for several months. This is significant because in a review on participants' perceptions of the therapeutic alliance over the course of therapy, Bachelor and Salamé (2000) pointed out that research is mixed with regards to the way in which the alliance develops and changes over the course of therapy. For instance, some studies have found a U-shaped pattern, where

the alliance starts out better, then dips towards the middle course of therapy, before rising again at the later stages (Gelso & Carter, 1994; Horvath & Marx, 1991). Greenberg (1994) however, has posited that in successful therapies, the alliance either rises or holds over time. In any case, the PEAR Scale needs to be tested with patients who are at similar stages in treatment to determine, what if any, pattern exists over the course of therapy with regards to attunement. Data collection with the PEAR is ongoing and as the research continues, an increasing number of participants will be recruited at the beginning stages of therapy allowing us to compare more similar participants.

In conclusion, the PEAR Scale is a promising scale that offers a way to measure the clinically relevant construct of the patient's experience of attunement and responsiveness. By linking the patient's experience of attunement and responsiveness to therapeutic outcome, the PEAR Scale offers a glimpse into the process of therapy. A better understanding of the process of psychotherapy is crucial to understanding what sorts of patient experiences lead to enhanced treatment outcomes. This knowledge can in turn be used to guide therapist behaviours in an effort to maximize those experiences most highly correlated with positive treatment outcomes.

Disclosure statement

No potential conflict of interest was reported by the authors.

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