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MANUSCRIPT DETAILS

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ABSTRACT:

Relational dynamics between patients and staff in forensic settings can be complicated and demanding for both sides. Reflective Practice Groups (RPGs) bring clinicians together to reflect on these dynamics. To date, evaluation of RPGs has lacked quantitative focus and a suitable quantitative tool. Therefore, a self-report tool was designed. This project aimed to pilot The Relational Aspects of CarE (TRACE) scale with clinicians in a high-secure hospital and investigate its psychometric properties.

A multi-professional sample of 80 clinicians were recruited, completing TRACE and Attitudes to Personality Disorder Questionnaire (APDQ). Exploratory factor analysis (EFA) determined factor structure and internal consistency of TRACE. A subset was selected to measure test-retest reliability. TRACE was cross-validated against the APDQ.

EFA found five factors underlying the 20 TRACE items: â€œawareness of common responsesâ€ â€œdiscussing and normalising feelingsâ€; â€œutilising feelingsâ€; â€œwish to careâ€; â€œawareness of complicated affectsâ€. This factor-structure is complex, but items clustered logically to key areas originally used to generate items. Internal consistency (Î±=0.66, 95% CI=0.55-0.76) demonstrated borderline acceptability. TRACE demonstrated good test-retest reliability (ICC=0.94, 95% CI=0.78-0.98) and face-validity. TRACE indicated a slight negative correlation with APDQ. A larger dataset is needed to substantiate these preliminary findings.

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Title

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Abstract

Purpose: Relational dynamics between patients and staff in forensic settings can be complicated and demanding for both sides. Reflective Practice Groups (RPGs) bring clinicians together to reflect on these dynamics. To date, evaluation of RPGs has lacked quantitative focus and a suitable quantitative tool. Therefore, a self-report tool was designed. This project aimed to pilot The Relational Aspects of CarE (TRACE) scale with clinicians in a high-secure hospital and investigate its psychometric properties.

Methodology: A multi-professional sample of 80 clinicians were recruited, completing TRACE and Attitudes to Personality Disorder Questionnaire (APDQ). Exploratory factor analysis (EFA) determined factor structure and internal consistency of TRACE. A subset was selected to measure test-retest reliability. TRACE was cross-validated against the APDQ.

Findings: EFA found five factors underlying the 20 TRACE items: "*awareness of common responses*" "*discussing and normalising feelings*"; "*utilising feelings*"; "*wish to care";* "*awareness of complicated affects*". This factor-structure is complex, but items clustered logically to key areas originally used to generate items. Internal consistency (α=0.66, 95% CI=0.55-0.76) demonstrated borderline acceptability. TRACE demonstrated good test-retest reliability (ICC=0.94, 95% CI=0.78-0.98) and face-validity. TRACE indicated a slight negative correlation with APDQ. A larger dataset is needed to substantiate these preliminary findings.

Practical implications: Early indications suggested TRACE was valid and reliable, suitable to measure the effectiveness of reflective practice.

Originality: The TRACE was a distinctive measure that filled a methodological gap in the literature.

Key words: Reflective practice; Staff-patient dynamics; Secure-settings; Countertransference

Introduction

The core work of staff in forensic settings is caring for patients who often have deep-rooted difficulties in their relationships with caring figures, and whose inner experiences and consequent actions may be disturbing and distressing to themselves and to their caregivers. Most patients in forensic settings have carried out aggressive acts connected to their mental states, and some continue to do so whilst in hospital. Closely linked to this, the caring relationship can become complicated in ways that interfere with treatment. These important processes may not be obvious unless time is made to stop and reflect (Craissati *et al.*, 2015; Department of Health, 2010; Fallon *et al.*, 1999; Macallister and Jacobs, 2012; NICE, 2013). These dynamics are more intense and potentially problematic when clinicians work for long periods and closely with patients (Hughes and Kerr, 2000) such as happens in forensic secure settings.

Examples of common and expected staff feelings in relation to clinical work in forensic settings include anxiety, frustration, helplessness, and the urge to placate (Craissati *et al.*, 2015). A clinician's own emotions in connection to a patient ("countertransference"), if adequately reflected on, can provide very useful information about the patient and their interactions with others (Adshead and Sarkar, 2012; Moore, 2012). It is therefore clinically useful to be aware of these countertransference feelings. As described by Adshead and Sarkar (2012), when someone has a strong emotion, this may be picked up by those around them who then experience something similar. Furthermore, how clinicians feel and respond when with a patient can help with understanding the kinds of relationships the patient forms with others outside of the current healthcare setting, and predicts the patterns of responses the patient may elicit – this can be useful in predicting and managing relational difficulties (Gabbard, 2010). To create a safe and well-functioning team, it is therefore essential that staff have ability in three key interpersonal areas: *awareness* of their emotional responses to work; *recognition* that these are normal; and a capacity *to reflect on and process* their responses within appropriate settings (Thorndycraft & McCabe 2008; Johnston & Paley 2013).

As described in Patrick *et al.* (2018, p9), if clinicians are not aware of their feelings in relation to clinical work or do not make time to reflect on these, sometimes these feelings can lead to actions that "hinder attempts to form consistent and long-term relationships with their patients". Clinicians have the potential to act on countertransference feelings in unhelpful ways. Unprocessed feelings can lead clinicians to inadvertently assume more punitive, restrictive ways of practicing which can in turn re-traumatise the patient and exacerbate their distress. This is problematic for obvious reasons, not least because forensic patients are a group among whom trauma is highly prevalent.

Through interpersonal pressures, that neither party may be aware of exerting, a patient's past experience of troubling relationships can end up being repeated with their current clinicians (Gabbard, 2010). This process can be fundamental to the maintenance of patients' difficulties. For example, in emotionally demanding encounters, such as working long-term with a patient who is repeatedly aggressive, a clinician's capacity to remain reflective is challenged. Unless

a clinician can register and process feelings of dislike and anxiety that may be experienced in such a situation, the clinician may without realising it act on those feelings and assume a judgmental and harsh stance towards the patient that can cause an escalation in the patient's violence (Bateman et al., 2013). Clinicians' attitudes towards their countertransference feelings are therefore important, and are also linked to how clinicians feel about themselves.

If clinicians believe that having emotions in response to clinical work is somehow unprofessional or 'weak', this can lead to staff becoming anxious when they do experience feelings and to feel they are somehow failing (McWilliams, 2011). If staff avoid reflecting on their countertransference feelings this can contribute to low morale, stress and burnout (Hughes and Kerr, 2000). This may be relevant in the high sickness absence that is common in forensic settings. If, instead, clinicians can view having a range of feelings as simply part of clinical work, this allows staff to make use of appropriate settings where these responses can be articulated and processed, such as multi-disciplinary Reflective Practice Groups (RPGs).

This paper follows the Patrick et al. (2018) definition of Reflective Practice Groups, summarised as follows. RPGs are led by an appropriately trained external facilitator and bring the whole clinical team together in a supportive and non-judgmental setting. Within this setting the task is to reflect on and process staff-patient, team and organisational dynamics, in order to sustain good caring relationships with patients and to reduce the stresses of the work for staff (Patrick *et al.*, 2018). RPGs try and help the staff team to register their responses to patients, explore the meaning of these in terms of the interpersonal dynamics, consider the potential for unhelpful responses and explore helpful ones (Johnston and Paley, 2013; McAvoy, 2012; Thorndycraft and McCabe, 2008). There is a convergence in guidelines that well-functioning RPGs for the multidisciplinary team, that are embedded into ward culture, are essential for the safe and sustainable running of forensic hospitals (Craissati *et al.*, 2015; RCPsych CCQI, 2012; Russell *et al.*, 2018).

The authors acknowledge that there are a range of group-based reflective practices that take place in clinical settings. These include sessions based on the concept of 'reflective learning' as exemplified by Kolb's learning cycle; critical incident reviews; reflective sessions run by a psychologist based on the ward; or sessions using a valued-based approach. The context of reflective practice in which the present tool has been developed is RPGs more orientated to underlying dynamics. These groups incorporate the idea of 'reflective leaning' whilst having a particular focus on processing and containing relational dynamics and accompanying feelings. For reasons outlined in the introduction, this set-up and focus for RPGs is particularly relevant in the forensic setting, given the long-term nature of relationships between clinicians and patients, and the kinds of disturbance and difficulties inherent in the work.

The effect of RPGs is an area that requires further study and better quantitative research (Patrick *et al.*, 2018). To allow forensic settings to quantitatively assess the effects of RPGs, it would be useful to have a straightforward self-report tool designed for general clinicians that pertains to the three key interpersonal dynamics described earlier (i.e. awareness of countertransference feelings, recognition that a range of feelings are normal, ability to

process and reflect on countertransference). These interpersonal factors are suggested to underlie and influence other more distal 'visible' features and outcomes in a clinical system such as staff stress, frequency of enactments and boundary transgressions. However, changes in these harder outcomes may take longer to emerge in response to any intervention and are sensitive to the particular needs of the patient group currently under a service's care. It would therefore be useful to have a tool that taps into these underlying interpersonal dynamics.

A literature search was carried out to source and review existing self-report tools for forensic settings that probe the three key interpersonal areas. Results revealed that whilst there were several existing tools that measured related concepts such as staff burnout (Maslach and Jackson, 1981), ward climate (Schalast *et al.*, 2008), attitudes towards people with significant relational difficulties (Bowers and Allan, 2006), Reflective Functioning (Fonagy *et al.*, 2016), and mentalization (Hausberg *et al.*, 2012), there was no measure that addressed awareness of staff-patient interpersonal dynamics in forensic settings and the ability to reflect on and process these.

A systematic review of countertransference measures found 25 questionnaires that measured staff emotional responses to patients (Machado *et al.*, 2014). However, none were suited to the identified task. All measures addressed staff responses to one single patient, usually in the context of individual therapy, whereas this study sought a questionnaire that measured general clinicians' responses to the group of patients they work with. No questionnaires captured attitudes towards the concept of countertransference itself.

A systematic review (Catty *et al.*, 2007) found measures that assessed the degree of rapport between patients and clinicians and sense of trust, but no measures that pertained to the key interpersonal aspects under consideration here. The need was therefore identified to develop a new questionnaire to measure clinicians' awareness of key staff-patient dynamics and emotions in forensic settings, and their ability to reflect on these.

Aim

The primary aim was to pilot test a new scale, The Relational Aspects of CarE (TRACE) scale, with clinical staff in a high secure hospital. The secondary aim was to cross validate TRACE against an existing validated tool, Attitudes to Personality Disorder Questionnaire (APDQ) (Bowers and Allan, 2006).

The objectives were to: determine the underlying psychometric structure of TRACE; undertake test-retest reliability; test the scoring system of TRACE and explore convergent validity. We hypothesised that the TRACE would have good internal reliability and positively correlate with APDQ scores.

Method

Questionnaire Development. A number of sources were considered when developing questionnaire items. This included existing literature about staff countertransference (Evans, 2016; Hughes and Kerr, 2000; Machado *et al.*, 2014), the dynamics of forensic institutions (Adshead, 2002; Macallister and Jacobs, 2012; Ruszczynski, 2008; Yakeley and Adshead,

2013), and RPGs (Johnston and Paley, 2013; McAvoy, 2012; Thorndycraft and McCabe, 2008). Items were also informed by discussions with clinicians working in this field, including the Scottish Forensic Matrix working group looking at RPGs, and personal clinical experience of the first author of recurring themes that emerge in RPGs in clinicians in forensic settings.

From the above, five areas were identified:

1. Personal awareness of common clinician emotional responses to patients (awareness of "countertransference")
2. Recognition that having such feelings is a normal aspect of clinical practice
3. Ability and opportunity to discuss such responses
4. Ability to utilise countertransference to help make sense of interpersonal dynamics
5. Personal awareness of the risk of counterproductive enactments that may emerge from unprocessed or unrecognised feelings about patients.

Items were drafted by the first author to directly probe these areas. In January 2017 a first draft with 27-items was sent to seven clinicians with expertise in this area for feedback. The clinicians were asked if items addressed the main areas of interest, if areas had been omitted, and for suggestions to improve the wording. In addition, the questionnaire was sent to two forensic nurses for feedback. This process improved the clarity of wording of questions, some ambiguous or redundant items were removed, and an additional question was added about the ability to express difference of opinions.

In August 2017, the refined draft was sent again to four of the above clinicians to pilot test completing the measure and give additional feedback as to whether any items were ambiguous or hard to answer. This second round of feedback resulted in minor changes to improve clarity of the wording and the layout of the questionnaire. The resulting version tested in this paper had 20-items. This was tested in a cross-sectional study over the course of one year.

Materials

The Relational Aspects of CarE scale (TRACE) (Polnay and Walker, unpublished); the TRACE scale measured staff awareness of interpersonal dynamics and other key related areas of importance in a reflective practitioner. The 20-item questionnaire was short and concise to facilitate staff engagement. The first 10 items were rated on a 5-point frequency scale; the last 10 items had a 5-point scale based on degree of agreement.

There were items pertaining to the five areas identified in the section on questionnaire development. For example: "When working with a/some patient(s) I am aware of feeling anxious" (awareness of common countertransference feelings); "Having emotional responses to patients is weak" (recognition that feelings about patients is a normal part of the work); "I feel comfortable talking to colleagues about feelings to do with work" (ability to discuss countertransference); "How I feel when I'm with a patient can tell me something useful about the patient's state of mind" (utilising countertransference to help clinical work); "When

working with a/some patient(s) I notice myself responding in a harsh way" (awareness of the potential for unhelpful enactments).

Questions were scored so that higher scores indicated more reflective responses, with some questions having the scale reversed to allow this. For frequency items, the authors used a ceiling on the scoring (i.e. 1,2,3,4,4) to acknowledge there is a range of frequency of being aware of feelings that could be considered as indicating a reflective practitioner.

The Attitude to Personality Disorder Questionnaire (APDQ) (Bowers and Allan, 2006); this aims to measure the attitudes of psychiatric staff towards patients with significant relational difficulties. Results from an exploratory survey revealed that the scale had a robust structure, good psychometric properties, and was useful for outcome studies and audits of staff attitude (Bowers and Allan, 2006).

The APDQ is a 37 item, 6-point Likert frequency scale. Factor analysis of the feelings aroused in nurses by patients demonstrated an underlying structure consisting of "enjoyment", "security", acceptance", "sense of purpose" and "enthusiasm". The APDQ was selected to assess convergent validity with the TRACE since it addresses a related concept. The authors of the present paper acknowledge that the APDQ was concerned with staff responses towards a more narrowly defined patient group, as compared to the TRACE, which was not diagnostic specific. However, overall the APDQ was felt to be useful as a comparator as the essence of the APDQ pertained to staff responses and attitudes to working with patients where there were complicated relational dynamics.

Participants

Participants were included if they were clinical staff working in direct contact with patients, either in the wards or the Patient Activity Centre. All worked in a 140-bed high-secure Psychiatric Hospital caring for male patients. Participants could be any discipline, gender or grade of staff.

Five of the clinicians who assisted with early drafts of the questionnaire worked within the hospital where the study took place. These five staff were excluded from participating in this phase of the study, as were clinicians who had worked for less than 6-months at the hospital or were absent on long term sick-leave.

A letter was sent to all potential staff inviting participation. The second author identified the potential list of staff in collaboration with the hospital General Manager. The study was advertised in the hospital newsletter with contact details for further information. In addition, Lead Nurses and Heads of Professions were approached and advised of the project plan. If participants agreed to take part they contacted the Research Assistant (the third author) and were issued with an information letter and a consent form. They were given seven days to consider their participation. Following this seven-day period they were approached by the Research Assistant (RA) at a time and place (within the hospital) convenient to the participant; the RA gained written consent and distributed the questionnaires (TRACE, APDQ) in paper form. Participants were asked to complete the questionnaires within one

week and then place the completed questionnaires in a sealed container (e.g. small box), held within each ward area. The instructions on the TRACE questionnaire read: "Below is a list of statements about relational aspects of working with patients. For each item please choose a box to indicate which answer applies best to you." The questionnaires each had a unique identifier attached. The RA returned after the period of one week to collect all questionnaires, which were in turn stored in the Principal Investigator's office in a locked cabinet. Responses were entered into Statistical Package for Social Sciences (SPSS; IBM 2017) by the RA and held on a password protected computer. Ten percent of the sample were purposively selected (by the RA) to complete the TRACE on a second occasion, two weeks later, to allow assessment of test-retest reliability.

Research approvals

In the UK there was no need to apply for approval from the Integrated Research Application System (IRAS) because it was a study involving staff only. The study did not involve any active intervention as such. Rather it involved staff completing brief Likert-style questionnaires, the content of which, whilst it could be envisaged might be thought-provoking, was not be expected to cause distress or harm. Ethical responsibility was discharged to the local research committee which gave approval for the project.

Statistical analysis

Power calculations were not undertaken because this was a preliminary investigation of the questionnaire and number of participants could not be accurately predicted. A data analysis plan was created to analyse the results generated from TRACE and APDQ questionnaires. Data from the front sheet of TRACE were analysed first using descriptive statistics, to generate information on the characteristics of the participants. TRACE was then subject to a battery of tests, firstly to establish its factor structure, using exploratory factor analysis. Checks for internal consistency were then conducted on TRACE and finally convergent validity of TRACE and APDQ was assessed and a ten percent sample were selected to measure test-retest reliability.

Results

Eighty participants completed the two questionnaires. Demographic details indicated the majority of the sample was female (n= 57, 71%) and average age was 39 years (median = 39, range 23-65). Participants had worked in mental health for an average of 15 years and within the hospital for an average of 10 years (median = 10, range = 1-29). Across all participants, 63 people had attended at least one RPG in the last year, and 17 had not.

Descriptive statistics identified total scores of: TRACE (n=80, m=58, sd=6, range 44-80) and APDQ (n=79, m= 144, sd = 23, range 91-197). Prior to further analyses all scores were checked for normal distribution, using Kolmogorov-Smirnov and Shapiro-Wilk tests (Brace *et al.*, 2009; Coolican, 2009; Field, 2005). TRACE score for Skewness was .37, p>.01 and Kurtosis 1.7, p >.01; APDQ score for Skewness was -.05, p>.01, and Kurtosis -.21, p>.01. This indicates data were normally distributed and thus subject to parametric data analysis.

Exploratory factor analysis was undertaken with TRACE data. The amount of variance within the data that could be explained by factors was tested using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. As a measure of factorability: a KMO value of .5 is poor; .6 is acceptable; a value closer to 1 is better (Kline, 2002). The KMO value for the mean of individual values is .7 for TRACE, df 190, Bartlett's Test of Sphericity Approx.Chi-square is 495.136, $p<0.01$ (Bartlett, 1950).

Table I here

Table I summarises the total variance explained by the solution to the factor analysis. The left most third of the table contains the initial eigenvalues for all possible components. The components are ranked in order of how much variance each accounts for. For each component, the total variance that it explains on its own (its eigenvalue) is followed by the variance that it explains expressed as a percentage of all the variance, then by the cumulative percentage. The middle third of the table contains information for those components with eigenvalue >1.0: there are 5 such components. The right most third of the table shows the values for the extracted components after rotation has been carried out.

Table II here

In Table II the highlighted text indicates the variables that loaded most strongly on each factor. The data were analysed by means of a principal component analysis with varimax / orthogonal rotation (Dugard *et al.*, 2010).The various indicators of factorability were good, and the residuals indicate that the solution was a good one. Five components with an eigenfactor of greater than 1.0 were found. The components can be thought of as representing the following: component 1 – awareness of common responses; component 2 – normalising and discussing feelings; component 3 – utilising feelings; component 4 – wish to care; component 5 – awareness of complicated affects. The components and the variables that load on them are shown in Table III.

Table III here

Intra–rater reliability. Eight (10%) purposively selected participants completed the TRACE on two occasions, 2-weeks apart. Intra-rater reliability was carried out using Intra Class Correlation (ICC) because there were more than two raters using continuous data. The average measure Intraclass Correlation (ICC) score was .94, with a 95% confidence interval from .78-.98 ($F = 17.4$, $p<.001$). Above .92 (as is the case here) indicates excellent agreement (Fleis, 1999; Portney and Watkins, 2000).

Internal consistency of TRACE at Time 1. Cronbach's Alpha for the scale is .66. As a rule of thumb, a scale should have a minimum Cronbach's alpha of .7; .6 is considered to have borderline acceptability (Field, 2005).

Face validity was checked at an early stage, with experts in the field looking at the items in the questionnaire and agreeing that the test was a valid measure of the concept being measured. Raters were asked to review all of the questionnaire items for readability, clarity

and comprehensiveness and to consider whether items addressed the key concepts as listed in the methods section 'development of the questionnaire'.

Convergent validity of TRACE and APDQ total scores indicated a slight negative correlation (n=80, r=-.125.; p =.271). As TRACE increased APDQ decreased. This is highlighted more clearly in the scattergram, see Figure I.

Fig I here

Discussion

Being a reflective practitioner is of central importance for forensic mental health practitioners (Craissati *et al.*, 2015). If clinicians are aware of their emotional responses and can process and make use of these, vital clinical information about the clinical interaction can be picked up. Conversely, unprocessed feelings can be stressful for the practitioner and more likely to lead to unhelpful actions towards patients including more restrictive practices or enacting boundary transgressions. The present study was carried out to develop and evaluate a self-report tool to assess clinicians' ability to reflect on key staff-patient dynamics in forensic settings, and as such provide a quantitative tool to assess the effects of multidisciplinary RPGs.

This cross-sectional study set out to investigate the properties of the TRACE and explore preliminary validity. Exploratory Factor Analysis found that five factors underlay the 20 items: "*awareness of common responses"*; "*discussing and normalising feelings*"; "*utilising feelings*"; "*wish to care";* "*awareness of complicated affects*". The fact that five components have been extracted is interesting and indicative of a complex phenomenon; to that extent, the factor analysis might support personal dynamics linked to reflective practice. Items cluster logically to key areas originally used to generate items. The first hypothesis that TRACE would have good internal reliability cannot yet been fully accepted. The second hypothesis was that TRACE would have a positive correlation with APDQ, but this can be rejected as there was a weak negative correlation. As discussed elsewhere (Polnay *et al.*, 2021; Welstead *et al.*, 2018), the APDQ is designed so that clinicians who acknowledge 'negative' feelings in relation to patients are scored as having poorer attitudes than clinicians who do not. Whereas, it is argued that being aware of a range of feelings, both 'positive' and 'negative' is helpful and normal for clinicians when working in disturbing clinical situations. This may account for the weak negative correlation observed.

The TRACE demonstrated good test-retest reliability and borderline acceptability for internal consistency. The scale has good face validity as items were informed by existing literature, personal clinical experience of recurring themes in RPGs, and experts in the field reviewed the questionnaire items at an early stage in development. These findings come within the context of the limitations described below and should be taken as preliminary. In particular, the authors note the need for further work to confirm the factor structure and determine

validity. Notwithstanding these cautions and pointers for further work, the findings suggest that TRACE holds promise in an important clinical area.

For services considering instigating RPGs and using the TRACE to evaluate them, it is important to see RPGs in the context of other key elements in a clinical system. Various linked elements are needed to create a therapeutic environment (Craissati *et al.*, 2015; Russell *et al.*, 2018). These include well-functioning multi-disciplinary RPGs but also teaching and training for all staff about relational aspects of care, covering a helpful and consistent approach to working with patients (Bateman and Krawitz, 2013). An approach to team-working that embeds a clear formulation of each patient's presentation and relational dynamics is also essential.

In the authors' experience, these elements overlap and feed into each other. For example, good teaching about relational aspects of care increases the team's understanding of the need for RPGs. In turn, a well-functioning RPG can help clinicians sustain approaches that formulation has identified as useful. Of course, RPGs are not a panacea. They cannot fix understaffing, underlying management problems (Heneghan *et al.*, 2014), and they rely for success on buy-in and leadership from managers and senior clinicians.

Strengths and limitations

There are several strengths of the study. The TRACE items were derived using a considered and empirically-driven approach, conferring face validity. Sample size requirements were met for the exploratory factor analysis and calculation of test-retest reliability. The participants recruited were from a range of professional groups, rendering the findings relevant to the mix of professionals in everyday practice.

The two necessary components of construct validity are convergent and discriminant validity. Convergent validity refers to the degree to which two measures of constructs that theoretically should be related, are in fact related. Discriminant validity shows that two measures that are not supposed to be related are in fact, unrelated. Convergent and discriminant validity are tested fully using confirmatory factor analysis, but this requires around 200 participants. The number of participants in this study (n=80) meant that only exploratory factor analysis could be undertaken. More conclusive analysis of validity requires a larger sample, which is planned in ongoing work. In future work, the authors intend to undertake convergent analysis with the *Barrett -Lennard Relationship Inventory Scale (BLRI), MO Emp+ version* (Barrett-Lennard, 2015) which assesses a construct that the authors understand to be closer to the TRACE than the APDQ. Finally, the authors acknowledge the limitations of self-report tools and the potential disparity between an individual's score and what things are like in reality. Nevertheless, self-report tools are practical and easy to administer and have a role to play in evaluations in the context of other measures, including semi-structured interviews.

Directions for future research

Good quality research about RPGs is needed (Heneghan *et al.*, 2014; Patrick *et al.*, 2018). The present paper is a preliminary study, and accordingly the above limitations have guided further research needs in several areas. Firstly, the factor analysis requires confirmation in a larger sample. Secondly, the tool would benefit from being tested with those who work with women, as well as in settings outside of high secure. Interventions such as reflective practice can be seen as particularly important in services where relational trauma and attachment difficulties are present. Thirdly, there is a need to see whether the measure is sensitive to change. These three points will be tested in a new study (already underway) that follows participants through a year of RPG sessions, in a range of levels of security, and in services caring for women as well as men. Following feedback from participants in the present study, the TRACE underwent some refinements for future use: the updated version has a consistent scale throughout (i.e. all items scored on the basis of agreement), and minor refinements to wording in two places to aid clarity. A copy of the TRACE is available from the first author. The new study will test this updated version of the TRACE.

Fourthly, whilst the TRACE scores corresponding to the 25th and 75th percentile may serve as an initial scoring guide, there is a need to develop a more rigorous method of benchmarking scores. Examining TRACE scores in clinicians with and without established abilities in reflective practice would add confidence in interpretation.

Finally, the question arises as to whether the TRACE would be useful in other 'types' of reflective practice groups or whether it is only applicable to the more dynamic-orientated groups as was the context for this study. TRACE was developed with the latter groups particularly in mind and so, currently, the tool has the greatest face validity within this context. Having said this, TRACE seeks to measure clinicians' awareness of key staff-patient dynamics and their ability to reflect on these – these areas are relevant for related forms of reflective practice, especially those that include a focus on the roles and responses of the caregiver. Furthermore, TRACE uses language that is not specific to dynamic-orientated RPGs. Therefore, the authors hypothesise that the TRACE would be useful in related forms of reflective practice, but this clearly needs testing in practice.

Conclusions

This is the first measure that aims to capture general clinicians' awareness of key staff-patient dynamics and emotions in forensic settings and their ability to discuss and utilise these to help themselves and the clinical work. As such, it provides a tool that can be used to evaluate multi-disciplinary RPGs. RPGs are neither therapy for staff nor direct patient management sessions. However, RPGs are intended to be both 'therapeutic' for the team (in the sense of processing emotional responses to the work) and to provide a forum to talk about work with patients. This subtle yet important area has required a new tool to be developed to probe this territory, which the present study has attempted with the TRACE. The TRACE is distinctive from other existing questionnaires in that it probes for a clinician's awareness of feelings in relation a group of patients they work with, as opposed to existing tools which are designed for therapist working with a single patient. Furthermore, it assesses beliefs about discussing and using countertransference and is scored to acknowledge that it is normal for staff to experience a range of feelings in relation to clinical work.

Implications for practice

- The TRACE allows quantitative evaluation of interventions designed to improve staff awareness and expertise in interpersonal dynamics.
- Subject to further development and validation, the TRACE provides a method through which to formally evaluate reflective practice, something that has to date been lacking. It is through such processes that the benefits and importance of reflective practice can begin to be established, as well as determining its limitations and role amongst other elements that make up a therapeutic environment.
- It is envisaged the TRACE could be used in guiding services as to the need or otherwise for developments in the area of relational aspects of care.

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Declaration of Interest

The authors declare that there are no conflicts of interest.

Table I: Total Variance Explained by Solution to Factor Analysis

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.350	21.751	21.751	4.350	21.751	21.751	3.469	17.343	17.343
2	2.979	14.894	36.645	2.979	14.894	36.645	3.223	16.113	33.456
3	1.732	8.660	45.305	1.732	8.660	45.305	1.983	9.913	43.369
4	1.407	7.037	52.342	1.407	7.037	52.342	1.463	7.316	50.684
5	1.067	5.336	57.678	1.067	5.336	57.678	1.399	6.994	57.678
6	.990	4.949	62.627						
7	.964	4.818	67.445						
8	.880	4.401	71.846						
9	.817	4.087	75.933						
10	.770	3.850	79.782						
11	.706	3.531	83.313						
12	.591	2.956	86.268						
13	.532	2.660	88.928						
14	.424	2.118	91.046						
15	.419	2.095	93.141						
16	.353	1.767	94.908						
17	.307	1.533	96.442						
18	.263	1.317	97.758						
19	.259	1.293	99.051						
20	.190	.949	100.000						

Extraction Method: Principal Component Analysis.

Table II: Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
When working with a/some patient(s) I notice myself: responding in a harsh way (Q7)	**.763**			-.122	
When working with a/some patient(s) I notice myself: avoiding him/them (Q10)	**.752**		.283	-.123	
When working with a/some patient(s) I am aware of feeling: provoked/angered (Q3)	**.670**	-.128	-.219	.196	-.172
When working with a/some patient(s) I notice myself: acting in a rejecting way (Q8)	**.668**	-.192		-.208	.228
When working with a/some patient(s) I am aware of feeling: cut off/ not interested (Q4)	**.615**	-.155		.205	.226
When working with a/some patient(s) I am aware of feeling: a dislike towards them (Q2)	**.603**	.109	-.418	.222	.292
When working with a/some patient(s) I am aware of feeling: anxious (Q1)	**.574**	-.231		.332	.229
I feel comfortable talking to colleagues about feelings to do with work (Q14)	-.125	**.729**		.270	
I sometimes (e.g. at least monthly) have the opportunity to talk with colleagues about feelings to do with work (Q16)	-.143	**.690**	.123	.185	
Having feelings (e.g. anxiety/anger) in response to patients is unprofessional (Q 13)		**.659**		-.266	-.203
Staff should discuss their emotional responses to patients with colleagues (Q12)		**.654**	.375	.145	.171
Having feelings (e.g. anxiety/anger) in response to patients is weak (Q11)		**.638**	-.175	-.258	.177
When I have a different view to colleagues about a clinical situation I feel able to express my ideas (Q20)		**.622**		.141	-.306
When at work staff should try and block out their feelings to do with patients (Q15)	-.100	**.502**	.168	-.415	.395
How I feel when I'm with a patient can tell me something useful about the patient's state of mind (Q17)		.127	**.694**	-.120	

Talking with colleagues about my feelings to do with patients improves relationships with patients (Q18)	-.192	.253	**.679**	.185	
My emotional responses to a patient can potentially lead to unhelpful actions by me (Q19)			**.596**	.167	-.122
When working with a/some patient(s) I am aware of feeling: fondness and a wish to care (Q5)		.264	.211	**.767**	
When working with a/some patient(s) I am aware of feeling: a sense of hopelessness (Q6)	.189		-.179		**.707**
When working with a/some patient(s) I notice myself: showing extra affection (Q9)	.473		.252	-.133	**.495**

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Table III: Component names and associated variables

Component number	Variable component aligns to	Component name
Component 1: anxious, dislike, provoked, cut-off, respond harshly, act in rejecting way, avoid	1,2,3,4,7,8,10	Awareness of common responses
Component 2: feelings e.g. anger is weak, discuss emotional responses with colleagues, anxiety is unprofessional, feel comfortable talking about feelings, block out feelings, have opportunity to talk, able to express ideas	11,12, 13,14,15,16,20	Normalising and discussing feelings
Component 3: my feelings indicate patients state of mind, talk with colleagues re my feelings improves relationships with pts., my responses to pts can potentially lead to unhelpful actions	17,18,19	Utilising feelings
Component 4: Wish to care	5	Wish to care
Component 5: Hopelessness, show extra care	6,9	Awareness of complicated affects

Figure I