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HERMENEUTIC SINGLE CASE EFFICACY DESIGN: A SYSTEMATIC REVIEW OF PUBLISHED RESEARCH AND CURRENT STANDARDS

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This article systematically reviews the methodological characteristics of Hermeneutic Single Case Efficacy Design (HSCED) studies published in peer-reviewed journals. HSCED provides researchers with a flexible and viable alternative to both between-groups and within-subject experimental designs. This article includes a description of the evolution of the methodology distinctive to HSCED; a discussion of results of HSCED studies considered within a framework of contemporary standards and guidelines for systematic case study research; a presentation of recommendations for key characteristics (e.g., diagnosis, hermeneutic analysis, adjudication procedure). Overall, the aim is provide researchers and reviewers with a resource for conducting and evaluating HSCED research. The results of a systematic review of 13 studies suggests that published HSCED research meets contemporary criteria for systematic case study research. Hermeneutic analysis and adjudication emerged as areas of HSCED practice characterized by a diversity of procedures. Although consensus exists along key dimensions of HSCED, there remains a need for further evaluation of adjudication procedures and reporting standards.

Key words: Research in psychotherapy; Single case research; Systematic case study research; Hermeneutic Single Case Efficacy Design (HSCED).

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In response to the challenge of establishing evidence-based practice in psychology (EBPP), psychological treatments have shown an efficacy comparable to medication, leading to an increased recognition of psychological treatment among the public and policymakers (APA, 2006). Evidence for the effectiveness and cost-effectiveness of psychotherapy (Wampold, 2001), has meant that it is possible to claim for its inclusion in health care systems as an established evidence-based practice (APA, 2012). On the basis of this body of evidence, the Council of the European Union invited Member States to make mental health and well-being a priority of their health policies, and to prioritize strategies for tackling mental disorders through health and social

systems, developing evidence based best policy approaches and practices, and guidelines for treatments (EU Council, 2011).

The successful construction of clinical guidelines relies on the availability of adequate scientific and clinical evidence concerning the use of specific interventions in relation to particular diagnostic conditions. This kind of evidence can be obtained from a wide range of research designs, each suitable to address different types of question (Greenberg & Newman, 1996). For example, clinical observation and case studies are valuable sources of innovation and hypothesis, systematic case studies allow for comparison between individual patients, single case experimental designs (SCED) can be used to establish hypothesized causal relationships within individual cases, practice-based outcome research enables the effectiveness of therapy to be evaluated in routine clinical practice, and randomized controlled trials (RCT) are considered the "gold standard" for drawing causal inferences about the efficacy of interventions. Procedures for statistical meta-analysis make it possible to synthesize results from multiple studies, test hypotheses and estimate effect size. It is widely accepted that different kinds of research evidence contribute in different ways to conclusions in ascending order of methodological rigor: 1) clinical opinion and consensus among recognized experts, 2) systematized clinical observation and case research, 3) sophisticated empirical methodology, such as quasi-experiments and randomized controlled experiments (APA, 2002). RCT are widely considered a more stringent way to evaluate treatment efficacy, being the most effective way to rule out threats to internal validity. To define a psychotherapy as an efficacious empirically supported treatment (EST) and include it in clinical guidelines, Chambless and Hollon (1998) argued that its efficacy must have been established in at least two RCT studies conducted by two independent research teams, or alternatively in at least nine SCED studies, conducted by three independent research groups (at least three SCED cases from each group).

It is important not to assume that interventions that have not yet been studied in experimental trials and have therefore not yet achieved EST status are ineffective. Specific interventions that have not been subjected to systematic empirical testing for specific problems cannot be assumed to be either effective or ineffective; they are simply untested (APA, 2006). Good practice and science call for the timely testing of psychological practices in a way that adequately operationalizes them, using appropriate scientific methodology. Several different models of psychotherapy exist that are widely used on the basis of support from clinical opinion and consensus among recognized experts, rather than through RCT or SCED evidence. A key goal for the psychotherapy research community is to find ways to build a stronger evidence base in respect of therapy approaches that are currently lacking evidence-based support.

It is important to acknowledge that there is strong evidence that patient outcome variance is more heavily influenced by patient characteristics such as chronicity, complexity, social support and intensity, and the quality of the therapeutic relationship, than by particular diagnoses or the specific treatment model used (Beutler, 2009; Wampold, 2001). Research in psychotherapy has identified many other nonspecific factors that play a role in the efficacy of the therapeutic treatments, for example the patients' capacity and willingness to be involved in a therapeutic treatment (Mannarini, Boffo & Balottin, 2013; Norcross & Lambert, 2011) and the interaction between causal beliefs of both patient and therapist about the causal role of aetiological factors (Mannarini & Boffo, 2013, 2015; Read & Harré, 2001). These findings imply that different models of psychotherapy have a comparable effect, even those models that are not easily evaluable through RCT or SCED.

It is clear that evidence-based practice needs to have its foundation in research that reflects both internal and external validity. Despite their strong internal validity, RCTs have been criticized for their assumptions and lack of external validity (e.g., Westen, Novotny, & Thompson-Brenner, 2004), to the extent that they are considered "causally empty" and have "poor generalizability to single cases" (Elliott, 2002, p. 2).

The logic of the RCT and SCED design, with its emphasis on quantification, tight focus, and observable outcomes, is highly consistent with approaches to psychotherapy that can easily turn their theoretical concepts into operationalized variables. Therapists and researchers from many approaches (such as humanistic, psychodynamic, and systemic) have tended to eschew RCT and SCED methodology, on the grounds that they are interested in qualitative aspects of therapy that may not be readily captured by existing measures, because they wish to respect the complexity of process and outcome as experienced by the patient, and because they believe that the true goals of therapy are often emergent, rather than being identifiable at a pre-therapy assessment interview.

In response to these methodological issues, over the past fifteen years, several psychotherapy research groups have sought to develop an alternative to experimental designs, in the form of systematic case study research (Iwakabe & Gazzola, 2009), that encompasses a pragmatic approach to data collection (Fishman, 1999) and a quasijudicial or adjudicational approach to data analysis (Bohart, 2000; Miller, 2004). More than 500 therapy case studies have been published (Iwakabe & Gazzola, 2009) but these studies are of variable quality. According to McLeod (2013a), many of them lack credibility, because insufficient information is provided, or because the case report appears to promote a specific model of therapy, with high allegiance bias. Furthermore, it is difficult to locate many of these cases or access them in full text format, since many of them are published in non-indexed and not-open-access journals At the present time, the most comprehensive set of methodological procedures, for the conducting of systematic case study research in psychotherapy, informed by these principles, is the model of hermeneutic single case efficacy design (HSCED; Elliott, 2002).

According to McLeod (2010), HSCED represents a form of mixed-methods case study research that provides an alternative to RCT and SCED as a source of valid evidence about the effectiveness of therapy. In recent years, HSCED has been adopted in a wide range of research projects. In the light of this growing diffusion and increasing attention, we believe that it is an appropriate time to conduct a review of the role of HSCED in psychotherapy research.

The aims of the present article are to: 1) examine contemporary guidelines for systematic case study research; 2) provide a systematic review of all published HSCED research; 3) identify emerging issues and future directions for the application of HSCED in psychotherapy research. The purpose of this analysis is to offer readers a fundamental understanding of what constitutes appropriate methodological soundness in HSCED according to the established standards in the field, which can be used to guide the design of future studies, improve the presentation of publishable empirical research, and inform the peer-review process.

General Guidelines for Systematic Case Study Research

Experimental group comparison research conforms to generally well-agreed methodological design and reporting guidelines, such as the CONSORT statements for randomized trials

(Moher, Schultz, & Altman, 2001) and TREND for nonrandomized trials (Des Jarlais, Lyles, & Crepaz, 2004).

Experimental single case research presents comparatively less consensus: until recently, design and reporting guidelines for SCED were almost entirely absent and were typically determined by the preferences of a research subspecialty or a particular journal's editorial board (Smith, 2012). In addition, some methodologists have proposed more flexible guidelines for standard single case design, in order to extend their applicability to nonbehavioral assumptions (Hayes, Barlow, & Nelson-Gray, 1999; Kazdin, 1981).

Guidelines for evaluating the credibility of qualitative studies within the field of psychotherapy research have been proposed by Elliott, Fischer, and Rennie (1999), Hill (2012), McLeod (2011), Morrow (2005), and Stiles (1993). The guidelines of Elliott and colleagues (1999) represent the current consensus over what is considered a good practice in qualitative studies. At this point, agreed guidelines and consensus have not been formulated for mixed-methods systematic case study research, such as HSCED studies (McLeod, 2013a). On the basis of existing criteria for qualitative and quantitative research in psychotherapy, McLeod (2011, 2013a) proposed a set of key principles that inform contemporary systematic mixed-methods case study research:

1) creating a data set as rich as possible, based on multiple sources of information (e.g., qualitative and quantitative, process and outcome measures; different sources: patient, therapist, and external observers);

2) engaging the interest of the reader by telling the story of what happened within the case;

3) using standardized process and outcome quantitative measure that allow comparisons to be made with data from other cases;

4) providing enough information within the report, or in appendices, so that the reader can make up his/her own mind about the interpretation of the case;

5) using multiple analysts, rather than depending on a single perspective. Also, if possible, more than one person involved in data collection;

6) doing some kind of time series analysis to enable the process of change to be explored in a systematic manner;

7) critically examining alternative interpretations of the data, in a critical and scholarly manner, rather than using the results of the case study to promote the investigated psychotherapy model;

8) using theory to enable generalization;

9) incorporating information about what the patients think about the therapy they have received, and their views on the validity of the analysis of the case data;

10) being reflexive, providing relevant information about the author(s) to allow readers to take potential sources of bias into account (researcher allegiance);

11) using a standard format, to make it easier for future scholars to conduct meta-analyses and for current readers to find their way around your case report;

12) including basic factual information in the case report: aim and objectives of the study; the characteristics of the problem presented by the patient, described in such a way that it is possible to locate the case within a wider population; the organization or agency context within which the therapy took place; number of sessions, missed sessions, length of sessions, payment, and so on; characteristics of the therapist (e.g., age, gender, training); interventions used by the therapist; ethical procedures used to obtain patient consent; use of external supervision and consultation by the therapist.

GUIDELINES FOR HSCED STUDIES

Drawing on previous work by Bohart and Boyd (1997), Cook and Campbell (1979), Kazdin (1981), and Mohr (1993), Elliott (2002) developed the HSCED approach to systematic case study research, as a way of overcoming the limitations of both group-comparison studies such as RCTs and SCED. The primary aim of an HSCED study is to evaluate the evidence for the effectiveness of a therapy within a specific case, based on detailed systematic analysis of comprehensive information on the process and outcome of that therapy in that case. HSCED methodology is intended as an approach to establish preliminary evidence of the effectiveness of a new form of therapy or an under-researched form of therapy, or to test the application of a well-established form of therapy with a new patient population. HSCED methodology should therefore be considered as an element within an overall programme of research into the effectiveness of a form of therapy, in which single-case research is used as a stepping stone in progress toward a large scale RCT or practice-based outcome study. Conducting an HSCED study encompasses three main phases: the creation of a rich case record, its hermeneutic analysis, and finally the judgement. A brief introduction to HSCED methodology can be found in McLeod, Thurston, and McLeod (2015) and Thurston, McLeod, and McLeod (2015).

Assembling a Rich Case Record

According to Elliott (2002), the first prerequisite for a HSCED is a rich, comprehensive collection of information about the therapy, based on qualitative and quantitative data on process and outcome, from different informants such as the patient, the therapist, and the researcher. The amount and type of gathered information depends on the objectives of the specific study and the practical constraints related to the research setting. Typically, a rich case record might include the following data:

1) basic information, such as demographic details, diagnoses, model of therapy;

2) quantitative outcome measures, such as standard self-report questionnaires (i.e., Symptom Checklist-90, SCL-90-R; Derogatis, 1983). Elliott (2002) suggests that quantitative outcome measures should be given at least at the beginning and at the end of the therapy, and (if possible) at every session;

3) qualitative outcome measures, in the form of a follow-up interview with the patient at the end of the therapy (i.e., Change Interview, CI; Elliott, Slatick & Urman, 2001). During the Change Interview, the patient describes how he/she has changed and rates these changes in relation to: how much they were expected, how likely they would have been without therapy and how important they are. According to Elliott (2002), the Change Interview should be administered by a third party (i.e., a research assistant rather than the therapist), and if possible should be carried out (in long-term cases) every eight or 10 sessions, as well as at the end of therapy. If possible, it is also useful to assess long-term change by conducting a Change Interview six or 12 months after the end of therapy. An important feature of the Change Interview is the sustained effort of the interviewer to elicit information from the patient about possible negative changes arising from therapy, and areas of disappointment with therapy, and also any extra-therapy factors (e.g., medication, life events) that may have contributed to change. The original CI protocol

developed by Elliott and colleagues (2001) provides a general framework for conducting a critically rigorous change-focused follow-up interview that can be supplemented by other questions that may be of relevance within the context of a particular study;

4) quantitative weekly measure of patient's main problem or goal attainment (i.e., Personal Questionnaire, PQ; Elliott, Shapiro, & Mack,1999). In the PQ patients provide ratings of their distress in relation to their main self-defined therapy-related difficulties;

5) qualitative weekly data on patient perception of significant therapy events (i.e., Helpful Aspect of Therapy, HAT; Llewelyn, 1988). In the HAT form patients describe aspects of their therapy experienced as both helpful and unhelpful;

6) records of therapy sessions such as audio/video recording, therapist's process notes, and a qualitative or quantitative measure of the therapists' adherence to the therapeutic principle of their theoretical model.

Copies of the CI, PQ, and HAT, and a template for structure therapist notes, are available on the Network for Research on Experiential Psychotherapies website (http://www.experiential-researchers.org/index.html). Once a rich case record has been obtained, it is gathered together in a "case book" which serves as the research "text" on which subsequent interpretation of the case is based. At this stage, any information that might enable identification of the patient is removed from the case record or anonymized.

Hermeneutic Analysis of the Case Data

The second phase of an HSCED study consists of an evaluation of evidences of a causal role of therapy in bringing about outcome and a critical reflection on evidences of non-therapy explanations of change. Hermeneutic analysis is intended to address both outcome and efficacy. Outcome is evaluated on the basis of both quantitative measures of patient's symptoms and problems and qualitative data about the patient's perception of change over the course of therapy. Efficacy is evaluated providing evidence on the existence of an association between change in outcome measures and events within psychotherapy.

An hermeneutic approach seeks to achieve a rigorous, credible interpretation of a research text. In an HSCED study, this is facilitated by encompassing two competing positions: affirmative and skeptic. The aim of the affirmative position is to find evidence supporting a good outcome interpretation, whereas the skeptic position looks for evidence supporting a poor outcome interpretation or a non-psychotherapy explanation for change. The rationale for this approach is derived from the legal tradition, in which cases are resolved through careful consideration of arguments (interpretations of the information available on the case) from advocates for the prosecution and the defence. In some HSCED studies, a single researcher has developed affirmative and skeptic interpretations of the case. In other studies, each position is represented by a separate group or team of researchers.

The affirmative position according to Elliott (2002) should collect evidence in the rich case record pointing to therapy as a major cause of patient change. A clear argument supporting the link between change and therapy must be established on the basis of at least two of the following five sources of evidence:

1) retrospective attribution which is based on qualitative outcome data (i.e., CI), in which, for example, a patient describes the importance of his/her change and how likely it would have been without therapy;

2) process-outcome mapping which analyzes the correspondence between events within therapy (e.g., a patient's description of an intervention reported in the HAT form) and the content of the patient's post-therapy change (e.g., a variation in quantitative outcome measures);

3) within therapy process-outcome correlation which analyzes the correlation between the application of therapy's principles (e.g., a measure of the adherence) and the variation in quantitative weekly measures of patient's problem (e.g., PQ). This analysis requires a standard measure of the adherence of the therapist to the theoretical psychotherapeutic principles;

4) early change in stable problem, referring to change in long-standing or chronic problems present at the beginning of the treatment. This analysis requires an evaluation of the baseline of the problems (e.g., assessing how long each problem was bearing the patient by the PQ duration form);

5) event-shift sequences, analyzing the correspondence between a within therapy event referred by the patient (e.g., reported in the HAT) and a variation in a patient's problem (e.g., a decrease in one PQ item).

A skeptic position requires a good-faith effort to find non-therapeutic processes that could account for an observed or reported patient change. Elliott (2002) identified eight alternative explanations that the skeptic position may consider: four non-change explanations and four non-therapy explanations.

The four non-change explanations assume that change is really not present, and should consider:

1) trivial or negative change which verifies the absence of a clear statement of change within qualitative outcome data (e.g., CI), and the absence of clinical significance and/or reliable change index (Jacobson & Truax, 1991) in quantitative outcome measures (e.g., SCL-90-R);

2) statistical artefacts that analyze whether change is due to statistical error, such as measurement error, regression to the mean or experiment-wise error;

3) relational artefacts that analyze whether change reflects the attempts to please the therapist or the researcher;

4) expectancy artefacts, analyzing whether change reflects stereotyped expectation on therapy.

The four non-therapy explanations assume that the change is present, but is not due to the therapy, and should consider:

5) self-correction which analyzes whether change is due to self-help and self-limiting easing of a temporary problem or a return to baseline functioning;

6) extra-therapy events that verify influences on change due to new relationship, work, financial conditions;

7) psychobiological causes which verify whether change is due to medication, herbal remedies, recovery from medical illness;

8) reactive effects of research, analyzing the effect on change due to participating in research, such as generosity toward therapist.

Finally, each position is summarized in a narrative that offers a customized model of the change process that has been inferred, including therapeutic elements and an account of the chain of events from cause (therapy) to effect (outcome), including mediator and moderator variables.

The formulation of affirmative and skeptic interpretations of the case consists of a dialectical process, in which "affirmative" rebuttals to the skeptic position are constructed, along with "skeptic" rebuttals of the affirmative position. If sufficient time is available, there may then be a further round of supplementary position statements from each side, in response to the rebuttals.

The Adjudication Phase: Arriving at an Agreed Set of Conclusion Regarding the Outcome of the Case

The third phase of an HSCED involves arriving at an overall conclusion on the outcome of the case. This is accomplished generally through a process of using external judges to evaluate the strength and credibility of each affirmative and skeptic statement. This final judgement is similar to that made by experts in various fields, including legal rulings and medical decisions. In some HSCED studies, this final stage of analysis may also incorporate consideration of the change process. External judges may be asked to identify the effect of mediator (techniques and therapy factors) and moderator (non-therapy factors) variables of treatment in relation to observed change within the case.

Review of Published HSCED Studies

Since its first description presented by Elliott (2002), HSCED has been applied to research in a range of different approaches to therapy, published both in well-known, indexed journals and, more recently, not yet indexed open source journals. The present section provides a review of these studies. The purpose of a review is to be thorough, which includes drawing on a wide range of materials. Furthermore, new European guidelines for higher education emphasize the importance of researchers publishing their work in open-access journals and drawing also on these sources in developing systematic reviews. For these reasons we conducted a comprehensive search strategy to identify all the studies published in English language, peer-reviewed journals.

First, a computer-based literature search was conducted on the following databases included in the AIRE portal (Integrated Access to Electronic Resources) of the University of Padua: PubMed, EBSCO, PsychINFO, Scopus, and Web of Science. The same search was conducted on Google Scholar in order to find research articles published in open access, peer-reviewed, non-indexed journals. These searches were conducted in October 2014, using as primary key terms: hermeneutic single case efficacy design and its acronym HSCED, which appeared anywhere in the article.

The authors used a 3-stage study selection, screening and coding procedure to select the highest number of applicable studies. At each stage of the screening process studies that did not apply an HSCED to evaluate a psychotherapeutic or psychological treatment were excluded.

Stage 1 consisted of the initial systematic review, conducted using AIRE databases, which resulted in 24 articles. The same query in Google Scholar retrieved about 120.000 entries, which were scored until the key words highlighted in the entries had no relevancy to the topic of the review for 60 consecutive items. In Stage 2, titles and abstracts were screened: articles retrieved in AIRE in which an HSCED was applied to evaluate psychotherapy or psychological interventions were re-

tained (N = 8) for Stage 3. The research in Google Scholar retrieved six more articles, that were evaluated on a paper-by-paper basis before being all included. The six articles retrieved were confronted with the current guidelines for systematic case study research, a procedure that the authors of this review consider to be more valuable than relying solely on the indexing of a specific journal.

In Stage 3 an article published in the British Journal of Visual Impairment was rejected as it was based on the same core data set as a previous publication already included in the review (Thurston, McLeod, & Thurston, 2012). Finally, we selected 13 articles. Table 1 summarizes reviewed articles and characteristics of the journals in which they were published. Since their first presentation in 2002, HSCED researches have been presented both in leading journals such has Psychotherapy Research and Counselling and Psychotherapy Research, as well as in journals not yet indexed in Scopus, such as Counselling Psychology Review, the International Journal of Transactional Analysis Research and Person-Centered and Experiential Psychotherapies. It is important to note that several HSCED studies have been published in model-specific journals, such as Transactional Analysis and Person-Centered psychotherapies.

The following subsections offer an outline of different ways in which researchers have implemented the HSCED approach.

Evolution of the Rich Case Record Collection

Elliott (2002) states that the rich data set should provide qualitative and quantitative data on process and outcome, and proposes the following six main features. We summarize reviewed articles to show overall strategies of collecting the rich case.

Basic Facts

Elliott's (2002) list of basic facts encompass most of the general criteria and essential facts proposed by McLeod (2010, 2013a, 2013b). In particular, it highlights areas such as diagnosis, allegiance, adherence, and ethical procedures. The description of basic facts, according to Elliott, should provide information enabling readers to make their own opinion on the case, the credibility of the research, and results. Information included in basic facts have been described in so many different ways, according to the different aims and constraints of each article, that is not convenient to consider all the possible approaches that have been adopted, and compare them. Instead, we have chosen to present the main information regrouped within five areas: patient, therapist, treatment, research, and ethical issues.

About patient, basic facts generally provide the reader with a vivid, meaningful picture of the case and include: relevant life events (e.g., trauma or abuses in childhood, suicide attempts), stressful current events (e.g., illness, caretaking old parents), the quality of relationship with parents and other member of the original family, education, work experiences, marital status, the quality of relationship with significant others. To enrich the vividness of the description, some authors report modality and content of the first presentation. To confront the patient with a wider population are described symptoms, their onset, actual problems and their duration, needs and wishes, a description of previous therapy and mode of conclusion or early termination reasons, in

such a way to allow the reader to verify the fulfilment of diagnostic criteria. The DSM-IV-TR diagnosis is always presented, with the only exception of a case in which the patient was receiving specific support for sight loss (Thurston et al., 2012), and are reported in Table 2. Diagnoses are almost always restricted to DSM-IV-TR Axis I, except for a diagnosis of panic disorder accompanied with a description of narcissistic traits (Elliott et al., 2009) and a diagnosis of personality disorder in DSM-IV-TR Axis II, without description of diseases in Axis I (Carvalho, Faustino, Nascimento, & Sales, 2008). Diagnosis of other lifetime disorders in full or partial remission is an exception (Elliott et al., 2009). Sometimes, DSM diagnosis is accompained with a model specific diagnosis such as genogram for systemic approach (Carvalho et al., 2008) and ego states diagnosis or racket system analysis for Transactional Analysis (e.g., Widdowson, 2012a).

About the therapist, basic facts provide elements for evaluating expertise and adherence to treatment: age, gender, race, training, preferred theoretical model, years of clinical experience, supervision received on the case, expectancy on therapy outcome, quality of involvement with the research project (e.g., leader or member of the research project). Adherence has been evaluated either through clinical supervision and qualitative evaluation (e.g., Carvalho et al., 2008) or through an operationalized checklist (e.g., Person-experiential adherence self-rating questionnaire in Elliott et al., 2009; Transactional Analysis adherence check list in Widdowson, 2012a). Adherence evaluation has also been conducted in three progressively more stringent ways: by self-evaluation of every session by the therapist (e.g., Elliott et al., 2009), by therapist and supervisor session-by-session independent evaluation (e.g., Widdowson, 2012a) and by therapist and supervisor evaluation with additional researcher random checks of transcripts (e.g., Widdowson, 2012c). When standardized adherence measures are employed, information on validity is provided. Table 3 summarizes the therapy model, the level of experience of the therapist and his/her age, the received supervision, the evaluation of the adherence to the treatment.

As for treatment, the basic information needs to provide a clear account of the overall therapeutic journey, its duration, and modality. In Table 2 are summarized modality of recruitment (e.g., self-presenting, leaflet, referring) or selection (e.g., within data base or archive), payment, inclusion and exclusion criteria, screening (e.g., by telephone or interview), and assessment (duration, diagnostic procedure and tools, such as semi-structured interview). It is interesting to note that in many published HSCED studies it is not always clearly evident who managed the assessment and formulated the diagnosis and his/her level of expertize (e.g., Elliott et al., 2009; MacLeod, Elliot, & Rodgers, 2012), leading some hermeneutic teams or judges to speculate on whether a different diagnosis might be warranted (e.g., Elliott et al., 2009). Studies have generally described the specific theoretical framework, orientation or adopted treatment's manualization, when available. It is noteworthy that exclusion criteria are usually not stated or not clearly defined, with some exceptions (e.g., Widdowson, 2012a), and inclusion criteria are often identified with the diagnosis of the disorder investigated through HSCED (e.g., depression) but rarely are defined through a predefined score range in screening tools (e.g., Beck Depression Inventory cut off). It is interesting to note that few of the studies in the review refer clearly to treatment payment, with some exceptions: someone provided the indication that the therapy is offered at low cost in a center for training in family therapy (Carvalho et al., 2008), someone else specified that the patient makes a small donation (Widdowson, 2013). Treatment duration and number of sessions are reported in Table 3. Session frequency (e.g., weekly, monthly) is generally not clearly stated and must be guessed considering the overall treatment duration, whereas length of the ses-

sion (e.g., about 45 minutes) and missed sessions are never mentioned. Generally all reviewed articles provided a brief resume of therapeutic process and interventions, either on a session-by-session basis (e.g., Carvalho et al., 2008), or dividing the therapy into main phases (e.g., MacLeod, Elliot, & Rodgers, 2012) or through an overall resume (e.g., Kerr, 2013).

As for research, basic information provides the reader with a clear comprehension of the research context and researcher's characteristics, allowing an evaluation for the role of allegiance, expectative, and influences on the results.. The context is generally specified within which therapy takes place (e.g., Social Anxiety Research Project at the University of Strathclyde), the characteristics of involved researchers and judges (e.g., nouns, age, education, experience, modality of recruitment), type of provided instructions (e.g., written or oral), nature of research supervision and audit procedure. Relevant relationships among authors, therapist, research team and judges are reported, and implications of such relationships are generally discussed in results or limitations. For example, in one article the therapist was also one of the originators of the investigated model of therapy, acted in a research capacity, was the professor of the student of the research team, helped to assemble the case record, reviewed and audited affirmative brief and rebuttal, selected and recruited the judges (Elliott et al., 2009). Allegiance and expectation of researcher, research teams and judges are stated either implicitly (e.g., describing the therapist's training) or explicitly (e.g., reporting therapist's declarations on favorite model), as well as researchers preferred methods (e.g., qualitative or quantitative). Table 4 summarizes the context where the research took place, the extent to which allegiance and expectation were considered, and the recording procedure.

Reporting wider information allows for a better comprehension of the patient, that, in turn, facilitates the generalization of the results to a similar population, but nonetheless from this arise several *ethical issues*. Together with the expansion of reported information on the patient, we observe an increase in reporting procedure adopted to obtain patient consensus and overall ethical information. These have been addressed in an increasingly rigorous way amongst published research. From a statement on the collection of informed consent and the information that personal and geographic data have been disguised (Carvalho et al., 2008), to the release of a recording form in which the patient agrees that the data collected during the project could be used by members of the research team. Authors report also obtaining permission for the recordings of therapy sessions to be analyzed for the purpose of evaluating and developing the therapy, permission for brief excerpts of the sessions and research interviews (e.g., Change Interview) to be presented at scientific meetings and in scientific publications in order to better understand what the therapeutic process is like for the patient. It is also specified that patient is given the opportunity to renegotiate permission forms on each occasion in which he/she meets the researcher. When present, the ethic committees that reviewed the research protocol are cited (e.g., MacLeod & Elliott, 2012; Thurston et al., 2012). Some authors also provide details regarding the compilation of an ethical consent procedure by both therapist and patient, the provision of information sheet, the specification that the recorder may be switched off at any point on request of the patient. Also information about the storage of data and protection procedure (e.g., password) are described. Some authors describe also that the patient is invited to read a prepublication draft of the article and comment and amend any personal details (e.g., Thurston et al., 2012). It is noteworthy that sometimes the patient does not allow audiorecording or publishing transcriptions (such as in Widdowson, 2012b), thus becoming an active part in the research design.

Quantitative Outcome Measures

Quantitative measures adopted in pre-treatment, treatment and post-treatment evaluations are reported in Table 5. Quantitative outcome measures allow establishing whether, and how much, the patient changed during therapy, providing supporting evidence to the outcome question. We observe that commonly used measures include: measures of general distress (e.g., Clinical Outcome in Routine Evaluation, CORE), general symptoms (e.g., Symptom Checklist, SCL-90-R), specific symptoms (e.g., Beck Depression Inventory, BDI, for depression; Social Phobia Inventory, SPIN, for social phobia), interpersonal relationships (e.g., Inventory of Interpersonal Problems, IIP), and therapeutic alliance (e.g., Working Alliance Inventory, WAI). Elliott's (2002) early methodological indication that quantitative outcome measures should be given at least at the beginning and at the end of the therapy but better if periodically every 8 to 10 sessions have evolved in later publications (Elliott et al., 2009; MacLeod, Elliot, & Rodgers, 2012). This recent work has specified that the employed measures must be psychometrically sound, with a between good and excellent validity and reliability, and that bibliographic indications for psychometric figures must be provided. Together with widely diffused measures, model specific instruments are used, such as the Strathclyde Inventory (SI; Freire, Cooper, & Elliott, 2007), a measure of congruence/incongruence, which is a key theoretical concept in person-centered psychotherapy. All studies analyze data through visual analysis and the statistical approach to clinical significance and reliable change proposed by Jacobson and Truax (1991). Levels of confidence adopted, congruent with the quasilegal framework used in HSCED, were framed in terms of "near certainty" (equivalent to > 95%, $p < .05$), balance of probabilities (equivalent to 50%, $p = .5$), and at a level of "reasonable assurance" or "beyond a reasonable doubt" (equivalent to > 80%, $p < .2$).

Qualitative Outcome Measures (Interview with the Patient at the End of the Therapy)

According to Elliott (2002), the outcome evaluation requires both quantitative and qualitative data, the latter allowing to answer from a qualitative perspective to the outcome and efficacy research questions. HSCED evaluates change not only in terms of statistical significance, clinical significance, and reliable change, but also in terms of qualitative description of the patient experience. Table 5 reports qualitative measures. All reviewed researches used the CI. The amount of information retrieved in CI is sometimes overwhelming, and some authors decided not to use all available data from CI (e.g., Stephen, Elliott, & MacLeod, 2011). For this reason some researchers choose to do CI only at the end of the therapy or at the first follow-up (e.g., Carvalho et al., 2008). Data gathered through Change Interview in follow-up has been used as a test for the judge's conclusion on the outcome of the therapy and to evaluate the validity of adjudication (Elliott et al., 2009; Stephen et al., 2011). To evaluate the credibility of a patient's account of his/her own change, it has been proposed to measure the extent to which the effect of the therapy is elaborated in the narrative (Bohart & Boyd, 1997). For example, the patient's account of his/her own change may be short on detail and high in repetition, supporting the claim that the suggested changes do not in fact represent a substantial or "real" change.

Quantitative Weekly Measures of the Patient's Main Problem or Goal

Elliott (2002) considers as a key element in HSCED a weekly measure of the patient's main problems or goals, through the Personal Questionnaire (PQ), an individualized measure that allows patients to define problems with their own words, and to rate how much they have been stressful during the last week. Scores are averaged to obtain an index of patient distress. Preparing the PQ usually requires a couple of sessions, and is generally settled by the patient and the therapist at the beginning of the therapy or by an evaluator or a researcher during the assessment phase. PQ includes a duration form, that provides an estimated assessment of how long the defined problems have bothered the patient. PQ has been used in all research with the exception of Thurston and colleagues (2012), who propose a similar instrument, the Target Complaint Form, validated by Deane, Spicer, and Todd (1997). Elliott specifies that PQ should be given twice before the beginning of the therapy, at the beginning of each session, and in each later assessment point (Elliott et al., 2009), but most researchers have not reported this double initial assessment of PQ.

Qualitative Weekly Measures of Patient Perception of Significant Therapy Events

Elliott (2002) proposes the Helpful Aspect of Therapy (HAT; Llewelin, 1988) for a qualitative measure of patient perception of significant therapy events; it allows us a) to locate significant processes that may be associated with change on the weekly outcome measure (PQ), and b) to corroborate change processes referred to in Change Interview. All published research employs the HAT for both purposes.

Records of Therapy Sessions such as Therapist Process Notes and Audio/Video Recording

According to Elliott's (2002) guidelines, sessions of therapy, Change Interview and follow-up should be audio- or video-recorded, verbatim transcribed, and made available to support hermeneutic analysis, judges' verdicts, and researchers' inspection. Notes of therapist and supervisors should be gathered as well. This indication has been only partially fulfilled, since most of the research studies reviewed have not made use of transcripts of the therapy sessions.

Evolution of Hermeneutic Analysis

In the first published HSCED (Elliott, 2002), it was assumed that the therapist or the researcher would collect both positive and negative evidences, hence acting both the affirmative and skeptic role. Commenting his own methodology, Elliott affirmed the "need of additional strategies for evaluating non-therapy explanation" (p. 18) and suggested the Bohart's proposal of an adjudication process in which two different teams of researchers (affirmative team, AT; skeptic team, ST) prepare the affirmative and skeptic case. In the following publication (Elliott et al., 2009), a reflection was proposed about how a person can enact both positions and also which criteria and procedure should be used to evaluate conflicting information and reach a valid and robust conclusion. Testing this hypothesis in an adjudicated HSCED, Elliott and colleagues report that both teams, particularly the ST, felt the strategy of supporting only one side to be uncomfortable. For such rea-

son the teams analyzed both direct (affirmative) and indirect (skeptic) evidence, but this methodology has not been repeated in any other research. Recently, several adjudicated HSCEDs have taken place with hermeneutic analysis conducted by one team assuming both positions (e.g., Widdowson, 2012a) or two teams, each supporting one position (Widdowson 2012b, 2012c, 2013).

Together with the adjudicated HSCED, Elliott (2002) proposes a simplified version of hermeneutic analysis, involving only one researcher (or the therapist) supporting direct evidences and another researcher supporting alternative explanations, leaving the final decision to a scientific review process as proposed by Fishman (1999) for pragmatic case study research.

Elliott and colleagues (2009) propose that in clear outcome cases, a single researcher (as in Stephen et al., 2011), a single research team (as in Carvalho et al., 2008), the therapist (as in Kerr, 2013) or student in training (as in MacLeod, Elliot, & Rodgers, 2012) can construct both affirmative and skeptic briefs and rebuttal. It is interesting to note that Kerr (2013) acts as the author, the therapist, the researcher, and the judge of the study. He conducted by himself hermeneutic analysis on the rich case record. He evaluated the affirmative position, based on the 56 criteria proposed by Bohart, Tallman, Byock, and Mackrill (2011) for a jury adjudication of the evidence, and the skeptic position, based on criteria derived from HSCED (Elliott, 2002), for evaluating non-therapy explanations for change. This methodology may be indicated when the aim of the research is to rapidly explore an application of a nonspecific treatment to a non-manualized, rare disorder, as is the case of the use of Transactional Analysis for therapy of emetophobia, as presented by Kerr (2013).

A streamlined version of both of Elliott's proposals (adjudicated and simplified) combine a researcher that collects the rich case record and provides hermeneutic analysis with an adjudication process carried out by a jury (MacLeod & Elliott, 2012; MacLeod, Elliot, & Rodgers, 2012; Stephen et al., 2011). The streamlined HSCED version presents different advantages: efficiency in involving resources, overcoming the discomfort in taking only one position, controlling for different levels of skills and expertizes in affirmative and skeptic teams.

Hermeneutic analyses (e.g., Stephen et al., 2011) are divided in three sequential segments: a brief summary, presenting the main line of argument; a rebuttal, challenging the arguments of the opposite position; and finally a concise summary narrative, or closing argument, that should identify mediator and moderator factors. Table 6 summarizes how the rich case record has been collected, who conducted the hermeneutic analysis, the kind of supervision or audit provided, and the adjudication procedure.

Evolution of Judging Procedure

Judging function may be conducted in different degrees of stringency (Table 6): at the lower level, the readers may adjudicate the case and draw their own conclusion; at a medium level, the researcher and/or the review process as in pragmatic cases may evaluate the case; at the more stringent level, a panel of more or less expert judges provide the verdict on the outcome and efficacy of the treatment, as in adjudicated HSCED (Elliott et al., 2009). An adjudicated HSCED was proposed, that is particularly useful when the case is either contradictory or ambiguous, or qualitative and quantitative data support different conclusion. However, expert judge panels (such as in Elliott et al., 2009) are time demanding and should be reserved for high standard publication. Expertize of judges may vary in function of the aim of the article, from outstanding experts in research in psychotherapy (as in Elliott et al., 2009) to a team of "reasonable persons" (Bohart & Humphreys,

2000), such as first-year postgraduate students with basic competences in psychology and research methods but not yet overly committed to any theoretical approach or professional role (MacLeod, Elliot, & Rodgers, 2012). In less controversial and more straightforward cases, a panel of the researchers or therapist peers can be used, or alternatively the judging function may be managed by manuscripts reviewers (as in pragmatic case, see Fishman, 1999) or directly by the readers.

The three fundamental research questions were modified during the evolution of the methodology. The panel of expert judges selected by Elliott and colleagues (2009), referred that questions were based on an "either-or" logic, excessively simplifying the nature of evaluation. The first question changed from "Did the patient change?" (Elliott, 2002; Elliott et al., 2009) to "Did the patient change substantially (over the course of therapy)?" For the second question was proposed "Was therapy a substantial contributor to patient change?" rather than "Was the therapy responsible for change?" These changes allowed judges to express their conclusion as probabilities on a 0-100% scale (MacLeod, Elliot, & Rodgers, 2012), where substantial change cut-off correspond to a $p < .2$ (80% of certainty). Stephen and colleagues (2011), presenting an unclear outcome case, propose a revision of the first and second adjudication questions and scales, separating the evaluation of degree of change and therapy causality from the degree of judge's certainty on both questions. As methodological hints, they also propose to use median, rather than mean, to best represent a majority decision of the three judges.

To control for allegiance, it is desirable that the judges represent different theoretical orientation (as in Elliott et al., 2009). MacLeod and Elliott (2012) select judges who have basic competences in psychology and research methods, but are not overly committed to any one theoretical approach. These kinds of judges meet the legal definition of a reasonable person. Stephen and colleagues (2011) used the data coming from the Change Interview at a later follow-up as a test for hermeneutic analysis and judges' conclusion: for the first time in an HSCED study, he asked the judges to consider the data of the 6-months follow-up in order to confirm or adjust their decisions.

RESULTS

In the following summary, current best practices in HSCED research are presented as recommendations, based on reflection on the extent to which current HSCED studies adhere to the criteria for systematic case study research proposed by McLeod (2010, 2013a).

Recommendations about Assembling a Rich Case Record

A. Basic information about patient should include a clear assessment of both DSM-IV-TR diseases in Axis I and Axis II Personality Disorders. When criteria for a personality disorder are not fulfilled, it may be worth assessing personality trait. The new alternative dimensional model of personality functioning and trait, presented in DSM5 section III (American Psychiatric Association, 2013), offers an opportunity to finely characterize patients included in single case research. For example, the dimensional model allows differentiating patients for their level of personality functioning, ranging from absence to severe impairment. This additional evaluation would permit to better define what works for whom, in the spirit of McLeod's (2010) indication

to explore the full spectrum of outcome. It would be useful also to describe the patient with model-specific tools, combining standardized diagnosis with model-specific diagnosis.

B. Basic information about the therapist should clearly indicate the level of education and expertize, and the supervision eventually received on the case. The adherence to the treatment should be evaluated through standardized and validated measures, possibly by self-rating of the therapist and proxy rating of the supervisor and/or the researchers. The existing relationships between therapist and the overall research context should be reported, in order to enable the readers to evaluate possible elements of influence on allegiance and outcome.

C. Basic information about therapy should better specify the pre-treatment phases, such as: modality of recruitment, screening, assessment, inclusion and exclusion criteria. As for selection, McLeod (2010) suggests that published studies should examine cases representative of the whole spectrum of outcome, including both good and poor outcome. This allows maximizing the extent to which we can generalize conclusion obtained from single case researches. To achieve this goal, cases may be selected with the lowest (MacLeod & Elliott, 2012) or highest (MacLeod & Elliott, 2014) residual gain score on one of the main outcome quantitative measures (e.g., Personal Questionnaire), in order to control for pre-therapy score.

D. Basic information about research should clearly describe the allegiance, professional background, and prior expectations of all members of the research team (e.g., skeptic and affirmative teams) and judges. The existing relationship amongst therapist, researchers, judges and the research context should be clearly stated, in order to allow readers to evaluate both allegiance and other influences that can bias the results. When employed, the method of recruitment of researchers and judges should be specified. The judges' and research teams' allegiance may be more influential in mixed-outcome cases, where change is ambiguous or extra-therapy events may account for the observed change; for this reason this should be clearly discussed within the conclusion and limitations of the study.

E. Basic information about ethical procedures should include the specification of the ethical guideline(s) employed, permission of ethical committee, and the procedures for negotiating consent with the patient. Consent form and information sheet provided to the patient should be included in the rich case record and made available to reviewer and readers.

Recommendations about the Use of Quantitative Outcome Measures

F. The evaluation of quantitative outcome data in reviewed HSCED studies has been largely based on visual analysis of repeated measurement of variables of interest over a period of time. It is noteworthy that this definition overlaps that of time-series designs (Box & Jenkins, 1970) that have the potential to reveal how change occurs, not simply whether it occurs (Borckardt et al., 2008). In psychotherapy research, time-series designs can assess mediators of change, treatment processes, and might be capable of revealing mechanisms of change (Kazdin, 2007, 2009, 2010). According to the most recent and comprehensive review on SCED (Smith, 2012), time-series analysis are mostly used in personality and psychotherapy research, and recent advances in methods for collecting and analyzing time-series data could expand the use of this design to the SCED community, supporting McLeod's (2013b) view that these methods are developing common criteria of research. Visual analysis can be applied to both SCED and HSCED,

providing that a number of baseline data characteristics are met. Baseline must be relatively stable, free of a significant trend, above all if in the direction of the hypothesized effect, must present a minimal overlap of data with subsequent phases, and must present a sufficient sampling to be considered representative (Franklin, Allison, & Gorman, 1996). In SCED, the baseline measurement represents one of the most crucial design requirements, since a stable sample of variables must be gathered to accurately infer an effect. The majority of standard guidelines for SCED (e.g., American Psychological Association Divisions 12 and 16) require that the minimal length of the baseline measurement must be three points, but longer baseline periods increase the validity of the effect and reduce bias resulting from autocorrelation. Despite Elliott's (2002) recommendation to employ quantitative outcome measure twice before treatment, no HSCED (except the measurement of the Personal Questionnaire in Elliott, 2002) met this standard. It is interesting to note that the two-point pre-treatment baseline gathered by Elliott (2002) of the PQ allowed him to argue that subsequent fluctuations in patient PQ measure were not due to measure errors. Almost every research describes a pre-treatment phase of at least one or two assessment sessions, or two 2-hour screening interviews. To strengthen the HSCED validity, equalizing the minimal baseline requirement for SCED measurements, it would be enough to measure outcome quantitative variables in the first three encounters with the patient, during the screening, evaluation or assessment pre-treatment phase, eventually with a minimal overlap with the data of the first treatment session.

G. All quantitative measures used in an HSCED study must be sensitive, valid, and reliable.

H. Clinical significance according to Jacobson and Truax (1991) refers to a remission of the problem presented at the beginning of the therapy. To statistically assess this change one needs to know the mean and variance of: a) the dysfunctional population, b) the functional population, or c) both populations. Most diffuse measures adopted in HSCED (e.g., SCL-90-R; CORE; BDI; GAD7) provide data from a normative sample of both populations, that allow us to define a cut-off point that the subject has to cross to be classified as changed to a clinically significant level. Unfortunately, data from a normative sample are lacking for many measures used in psychotherapy research. In this case, the crossed cut-off point in which a person would be defined as clinically changed can be estimated in two ways: a) two standard deviations away from the dysfunctional population mean, or b) within two standard deviations from the functional population mean. In non-overlapping populations, a person that is changed according to the criterion (a) (i.e., his/her score falls two standard deviations away from dysfunctional population mean) may not be changed according the criterion (b) (i.e., his/her score is not yet within two standard deviations from the functional population mean). Among reviewed articles, only one (MacLeod, Elliot, & Rodgers, 2012) reported the criteria (a), (b), or (c) on which clinical significance was evaluated. This information should be very helpful in according strong credibility to the claim that outcome quantitative measures support the person's change, and could help researchers to find out the most appropriate instruments.

I. In addition to clinically significant change, when functional and dysfunctional populations are overlapping an additional index is required, the Reliable Change Index (RCI), that allows to estimate whether change reflects only the fluctuation due to measure errors. In fact, when distribution overlaps, it is possible that scores at the end of the therapy cross the cut-off point settled by criteria (a), (b), or (c), yet are not statistically reliable. RCI allows controlling the differ-

ence between pre- and post- measurements for the standard error of the difference of the two test scores, according to the following formula:

$$RCI = (x_2 - x_1)/S_{diff}$$

where x_1 is the pre- score, x_2 is the post- score, and S_{diff} represents the range of scores that would be observed in the case of no actual change occurring. It is possible to calculate S_{diff} knowing the standard deviation of a normative population and the reliability of the measure (i.e., test-retest reliability). According to Jacobson and Truax (1991), when the RCI is greater than 1.96 it is unlikely ($p < .05$) that the post-therapy score does not reflect a real change; Elliott (2002) proposed that a RCI greater than 1.29 ($p < .2$) should be acceptable and should allow a "reasonable assurance," a threshold most appropriate to the circumstances in which patients and therapist operate. Reliable change must be replicated in at least two out of three outcome measures to control for multiple tests on change measure and demonstrate a global reliable change.

Recommendations about the Use of Other Sources of Data

J. Whereas quantitative outcome measures may be improved using some similar criteria adopted in SCED research, qualitative outcome assessment represents a distinguishing feature of HSCED. The Change Interview provides a naturalistic patient description of experienced change that allows researchers and judges to draw conclusions about the patient's perspective on outcome. It is essential that patient change ratings should be displayed together with the patient rating of the three related questions: how expected (1 = *expected*, 5 = *surprising*), how likely without therapy (1 = *likely without therapy*, 5 = *unlikely*), how important (1 = *not at all*, 5 = e*xtremely*). This information provides a crucial basis for dialogue about non-change or non-therapy explanations.

K. To determine whether change has been sustained over time, the Change Interview should be collected at least at the end of the therapy and at a further follow-up period.

L. Members of the research team who carry out Change Interviews should receive specific training and supervision in the use of this technique, to ensure that sufficiently rich, critically focused data are collected.

M. Personal Questionnaire items, describing the problems of the patient, should be displayed, together with weekly scores on each problem and averaged score, which provide an index of client problem distress. Similar displays should be included in the rich case record, in respect of qualitative HAT data.

Recommendations on the Publication of the Rich Case Record

N. All the components of the rich case record should be available for inspection to allow researchers and reviewers to verify the validity of the study and the drawn conclusions, but at the publication stage may be restricted for confidentiality reasons. To enable readers to arrive at their own interpretation of the case, all the essential information should be published as complete account, or available as supplementary appendix, or obtainable from the author.

O. Information related to selection, screening, assessment, treatment, follow-up, and measures adopted in each phase are often spread out in different subsections of a case book. The use of a

time-line may help in understanding the overall research design and enhance the capacity to conduct comparisons across different studies. Table 7 presents on the left the time-line of the case of George (Elliott et al., 2009), that is one of the most time and resource consuming published HSCEDs. On the right the time-line of the case of Pamina is presented (Carvalho et al., 2008), that is one of the least time and resource consuming. Confronting the two time-plans, appear at a glance the major differences between the two studies: the type of selection, the research context, procedure for screening and assessment, duration of the baseline, duration of the treatment, therapist's and patient's measures, the sequential order of the hermeneutic analyses, and the follow-up.

Recommendations for Conducting Hermeneutic Analysis and Adjudication

P. HSCED aims to foster research in a naturalistic setting, thus it is appropriate to allow a wide range of procedures, according to the available resources and contextual constraints. Published studies have employed different HSCED-analysis procedures, spanning from a single person acting multiple role of therapist, researcher, and author, to a team of eight or more researchers. Three different types of analysis can be identified in current studies: basic (the same person acts as author, therapist, and researcher); streamlined (a single researcher collects the rich case record and provides affirmative and skeptic brief and rebuttal, before submitting their analysis to external judges); full adjudication procedure (separate affirmative and skeptic teams and a panel of judges). Adjudication/auditing of the hermeneutic analysis may be carried out by an expert researcher or by the research supervisor, better if not involved with the model, in order to control for allegiance. We think that there are strong advantages associated with the use of the full adjudication model (Elliott et al., 2009), to ensure that conclusions are informed by independent triangulation of data, full consideration of alternative interpretations, and external judgement.

Q. Affirmative/skeptic analysis should not be limited to constructing lists of information consistent with each position. Instead, each position should be carefully argued in relation to detailed causal accounts of linkages between events that occurred in therapy (or outside therapy) and reported outcomes.

R. The hermeneutic analysis should produce affirmative and skeptic brief, rebuttal, and narrative summing, all of which must be available for inspection by judges.

S. Each quantitative measure should be discussed considering both improvement on the basis of RCI and recovery on the basis of a clinical cut-off point.

T. The clinical or research expertize of the hermeneutic team must be considered. The instruction and training received by members of the team and the supervision provided should be reported in all publications.

U. It appears essential to specify judge allegiance, research preferences, and relationship with author, researcher or therapist, and modality of recruitment. In addition, HSCED papers should specify the nature of the data that judges receive: rich case record (verbatim transcription of sessions, or only Change Interview), briefs and rebuttal and narrative summing, notes from therapist and supervisor.

V. Judges should be provided with written instruction on how to approach the documents, as well as a form on which to document their conclusion about research questions ("Did patient change over the course of therapy?" "How likely is the patient to show a substantial change?"

"Change was due to therapy?" "How likely is it that patient's change is substantially due to therapy?") also by recording their judgement on each of these questions as a percentage score ranging from 0 to 100 %. At the present time, it is questionable whether an independent or consensual evaluation is better. Judges work independently, but to be consistent with the legal model, judges working together and producing only one verdict may be better than describing by mean or median their verdict and scores. In this way, results are clearer and more robust conclusions may be drawn, in accordance with the jury system that currently dominates social science and decision-making.

W. Throughout the process of hermeneutic analysis, in case of discrepancy between various data sources, MacLeod, Elliot, and Rodgers (2012) suggest that source of data most consistent with the philosophical base of the therapeutic approach should be prioritized.

X. Judges should be asked to comment on which parts of the evidence they found most convincing in reaching their conclusions, and which processes they believed to have been most important.

Y. Judges should also be invited to identify psychotherapeutic processes (mediator factors) and nontherapeutic process (moderator factors) implied in observed change (outcome), in order to answer the third of the three main psychotherapy research questions (the nature of the change process). They should be directly asked to find mediator and moderator factors for both positive and negative outcomes. This level of analysis contributes to generalization through future meta-synthesis of single cases, for example, in relation to the Timulak (2007) qualitative meta-analysis of categories of client-identified impact of helpful events in psychotherapy. In some studies, analysis of helpful/hindering factors or therapeutic tasks can be part of a broader goal of using case-based research for the purpose of theory-building (McLeod, 2010; Stiles, 2007).

Z. When the article aims to propose a new therapeutic approach to a disorder that is already treated by a well-known, manualized therapy, it is advisable to use different hermeneutic teams and independent judges controlled for allegiance (as in Elliott et al., 2009). On the other hand, when a study aims to evaluate a new therapeutic approach for a disorder for which an evidence-based approach does not exist, it can be appropriate for practitioners to conduct their own HSCED, collect the rich case and do hermeneutic analysis, without a judging procedure, in order to accumulate evidence and develop their model of therapy (as in Kerr, 2013).

AA. Particular attention should be paid during hermeneutic analysis to contradictions between qualitative and quantitative data from a follow-up, in terms of not prioritizing one source of data over another. Instead, the research team should seek to account for such contradictions in terms of consistency with other sources of information.

BB. HSCED research teams should reflect on the strengths and limitations of different data collection and data analysis procedures, and report these conclusions in published articles, as a means of contributing to ongoing development of HSCED methodology.

Discussion

In recent years, psychological researchers have increasingly expanded their investigations to encompass more complex psychological phenomena, and are facing up to the challenges associated with application of their designs in naturalistic studies, to increase the ecological validity of empirical findings (Westen & Bradley, 2005). HSCED is a systematic case-study approach

that allows researchers to address fundamental questions within the scientific field of research in psychotherapy. McLeod (2013a) argues that HSCED and SCED methodologies can be viewed as existing at the same level of rigor, as alternative designs for conducting outcome-oriented, case-study research. This implies that to become an Empirically Supported Treatment, according to the argument of Chambless and Hollon (1998), at least three SCEDs or HSCEDs should be replicated in at least three independent research groups. It is interesting to observe that while psychotherapy researchers are improving HSCED metodology considering SCED tradition, the SCED community recognizes that their methodology needs updated designs and reporting standards that enable to examine complex psychological processes and the relationship between events in people's lives and their psychological correlates and look to other areas of psychology that use multimethod and multisource evaluation of outcome (Smith, 2012), such as HSCED.

The degree to which the scientific community can accept the equivalence of SCED and HSCED relies on the overall strength of the HSCED procedure, in particular on the employment of valid, reliable, quantitative outcome measures and statistical approach to defining clinical significance and meaningful change. However, because of the relatively small number of HSCED studies, to claim such equivalence further research is needed.

The present review has examined the evolution and current use of HSCED methodology, and has offered some recommendations for good practice in the use of this approach. Future HSCED may improve their rigor and scientific impact by collecting the rich case with a wider clinical description of the patient (i.e., personality assessment). Practitioners and research groups might interact, matching expertize and allegiance of therapists, researchers and judges, providing a valuable cross-evaluation of the results. Theoretical development could improve manualized treatments and the evaluation of the adherence. Data collection could extend the baseline length and rely on an agreed definition of clinical significance and reliable change. Quantitative and qualitative data (i.e., Change Interview and Personal Questionnaire) should both be visually displayed, and the overall research design should be displayed by an agreed visual time-line in order to facilitate comprehension and comparison. Hermeneutic analysis may be conducted in streamlined or full procedure, according to available resources, and should identify mediator and moderator factor for both positive and negative outcome, thus enhancing cross-case comparison and meta-synthesis. Judges' consensual procedure may be enhanced and produce more robust conclusions. According to McLeod (2010), it is possible to influence policy decision-making creating practitioner research networks and carrying out studies that are based on multiple cases.

These ideas are intended to stimulate dialogue, and should be considered as part of an ongoing, international effort to develop more rigorous and credible methods for case-based research in psychotherapy. We believe that HSCED has the potential to create a positive circle among psychotherapy training, practice and research. It represents a methodology that is flexible and does not need to be conducted in strictly controlled settings. Considering the paucity of funding in psychotherapy research, HSCED represents a viable method for collecting and analyzing case data in which students and trainees can work together to produce high-quality case report while at the same time learning how to conduct effective psychotherapy.

Furthermore, considering the characteristics highlighted above, HSCED can be successfully proposed by academies and scholars to practitioners. In fact, there is often a gap between research and professional practice that makes field studies difficult and limited. The problems are mainly costs and difficulties in applying research models in the everyday professional practice.

HSCED could sensibly contain these limitations being more easily applicable than other methods. In this perspective, a pivotal role of a scientific or professional society is also possible to forecast. In fact, while professionals would benefit from scientific results showing the efficacy of their activity they are often reluctant to participate in researches because of the potential difficulties. With the support of a society, the supervision of a trained scholarly staff and a sufficiently easy to apply research method, this gap could be filled.

The limitations of the analysis presented in the present paper are that some articles were retrieved outside indexed journals, and that resources did not permit direct access to supplementary materials or to the authors of research studies to verify aspects of their analyses not published in articles. The search strategy was clearly described and the readers can make their own judgments about the nature of the review process. During the selection of articles at Stage 3, each item that had been published in an open access, non-indexed journal was evaluated on its own merits in relation to current research standards. All the not indexed papers have been identified in open access sources (e.g., those retrieved into the International Journal of Transactional Analysis), that current international scientific guidelines (e.g., EU Framework Program for Research and Innovation, 2013) propose as the new standard to optimize the circulation, access to and transfer of scientific knowledge. Furthermore, the papers of Widdowson (2012a, 2012b, 2012c, 2013) have been referenced in at least two textbooks on research (McLeod, 2013b; Vossler & Moller, 2014) and have been identified in both books as key articles and worthy of scientific merit.

TABLE 1
Diffusion of HSCED literature

Author	Year	Journal	Scopus Indexed	Impact Factor (2013)	H-index (2013)	Quartile (2013)
Elliott	2002	Psychotherapy Research	yes	1.6	43	1° Clinical Psychology
Carvalho, Faustino, Nascimento, & Sales	2008	Counselling and Psychotherapy Research	yes	0.731	7	2° Clinical Psychology 2° Psychiatry and Mental Health 3° Applied Psychology
Elliott et al.	2009	Psychotherapy Research	yes	1.6	43	1° Clinical Psychology
Stephen, Elliott, & MacLeod	2011	Counselling and Psychotherapy Research	yes	0.731	7	2° Clinical Psychology 2° Psychiatry and Mental Health 3° Applied Psychology
MacLeod, Elliott, & Rodgers	2012	Psychotherapy Research	yes	1.6	43	1° Clinical Psychology
MacLeod & Elliott	2012	Counselling Psychology Review	no	–	–	–
Widdowson	2012a	International Journal of Transactional Analysis Research	no	–	–	–
Widdowson	2012b	International Journal of Transactional Analysis Research	no	–	–	–
Widdowson	2012c	International Journal of Transactional Analysis Research	no	–	–	–
Thurston, McLeod, & Thurston	2012	Counselling Psychology Review	no	–	–	–
Widdowson	2013	International Journal of Transactional Analysis Research	no	–	–	–
Kerr	2013	International Journal of Transactional Analysis Research	no	–	–	–
MacLeod & Elliott	2014	Person-Centered & Experiential Psychotherapies	no	–	–	–

Note. For the columns relating to Impact Factor, H-index, and Quartile, when data are not reported, it means that information is lacking.

TABLE 2
Patient and treatment

Author (year)	Patient recruitment/ selection and payment	Inclusion criteria	Exclusion criteria	Screening	Assessment	Diagnosis
Elliott (2002)	Author's running case	*ns*	*ns*	*ns*	*ns*	Bipolar II Disorder
Carvalho et al. (2008)	Patient referred by a psychologist to a low cost training center	*ns*	*ns*	One evaluation session	Clinical interview	Paranoid Personality Disorder
Elliott et al. (2009)	Patient self-referred responding to an ad in a local newspaper	Patient treated by PE-EFT as nonstandard therapy	*ns*		Two 2-hour diagnostic assessments using SCID Axes I and II	Panic Disorder with agoraphobia and bridge phobia; Narcissistic traits
Stephen et al. (2011)	Patient selected in a database	Diagnosis of Social Anxiety Disorder	Other current psychotherapy, substance abuse, active psychosis, domestic violence, more predominant difficulty as depression	Screening interview	SCID Axis I	Social Anxiety Disorder
MacLeod, Elliott, & Rodgers (2012)	Referred to the center by a no-profit counselling agency, in response to a leaflet offering services for person with social anxiety	*ns*	*ns*	20-minute initial telephone screening	Two 2-hour diagnostic assessments using SCID Axes I and II, PDQ-IV, SPIN, PQ	Social Anxiety Disorder
MacLeod & Elliott (2012)	Lowest residual gain score on PQ among patients present in a data archive	Diagnosis of Social Anxiety Disorder	*ns*	20-minute initial telephone screening	Two 2-hour diagnostic assessments using SCID Axes I and II, PDQ-IV, SPIN, PQ	Social Anxiety Disorder
Widdowson (2012a)	The patient self-referred after careful research, and presented for psychotherapy	Diagnosis of Major Depressive Disorder CORE-OM >15 BDI-II >16	Psychosis, bipolar disorder, antidepressant medication, alcohol or drug abuse, domestic violence	Intake interview CORE-OM and BDI-II	Clinical interview CORE-OM and BDI-II	Major Depressive Disorder

(table 2 continues)

Table 2 (continued)

Author (year)	Patient recruitment/ selection and payment	Inclusion criteria	Exclusion criteria	Screening	Assessment	Diagnosis
Widdowson (2012b)	The patient self-referred and presented for psychotherapy	Diagnosis of Major Depressive Disorder CORE-OM >15 BDI-II >16	Psychosis, bipolar disorder, antidepressant medication, alcohol or drug abuse, domestic violence	Intake interview CORE-OM and BDI-II	Brief clinical diagnostic interview CORE-OM and BDI-II	Major Depressive Disorder
Widdowson (2012c)	The patient self-referred and presented for psychotherapy	Diagnosis of Major Depressive Disorder CORE-OM >15 BDI-II >16	Psychosis, bipolar disorder, antidepressant medication, alcohol or drug abuse, domestic violence	Intake interview CORE-OM and BDI-II	Brief clinical diagnostic interview CORE-OM and BDI-II	Major Depressive Disorder
Thurston et al. (2012)	The patient self-referred responding to an advertisement	Sight loss	–	One-hour pre-treatment assessment interview	–	Post-operative sight loss
Widdowson (2013)	The patient self-referred to a local voluntary agency, paying a small donation per session	Diagnosis of Major Depressive Disorder CORE-OM >15 BDI-II >16	Psychosis, bipolar disorder, antidepressant medication, alcohol or drug abuse, domestic violence	Intake interview CORE-OM and BDI-II	Brief clinical diagnostic interview CORE-OM and BDI-II	Major Depressive Disorder
Kerr (2013)	First patient with emetophobia	Diagnosis of emetophobia Age > 18 years	History of mental illness (self reported) or personality disorders	–	Clinical interview (not clearly specified)	Emetophobia
MacLeod & Elliott (2014)	Highest residual gain score on PQ among patients present in a data archive	Diagnosis of Social Anxiety Disorder	*ns*	20-minute initial telephone screening	Two 2-hour diagnostic assessments using SCID Axes I and II, PDQ-IV, SPIN, PQ	Social Anxiety Disorder

Note. BDI-II = Beck Depression Inventory (Beck, Steer, & Brown, 1996). CORE-OM = Clinical Outcomes in Routine Evaluation Outcome Measure (Evans et al., 2000). PCT = Person Centred Therapy. PDQ-IV = Personality Disorders Questionnaire IV (Hyler, 2007). PE-EFT = Process Experiential-Emotion Focused Therapy. PQ = Personal Questionnaire (Wagner & Elliott, 2001). SCID = Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon, & Williams, 1996). SPIN = Social Phobia Inventory (Connor et al., 2000). *ns* = not specified.

TABLE 3
Therapist

Author (year)	Therapy model	Duration (unplanned ending)	Therapist experience (age)	Therapist supervision	Therapist adherence	Outcome
Elliott (2002)	PE-T	Thirty-nine sessions over 16 months	Second-year clinical psychology graduate student	*ns*	Therapist self-rating (measure *ns*)	Effective
Carvalho et al. (2008)	Individual systemic therapy	Six sessions over six months	Two psychologists with postgraduate training in systemic family therapy	by the research team before each session	Qualitative consensus during clinical supervision	Effective
Elliott et al. (2009)	PE-EFT	Forty sessions over 11 months (terminated at 23rd)	Experienced PE-EFT therapist (50 years old)	*ns*	Therapist self-rating TESF	Effective
Stephen et al. (2011)	PCT	Twenty sessions	PCT psychotherapist, with 12 years post-training experience	*ns*	*ns*	Unclear, mixed outcome
MacLeod, Elliott, & Rodgers (2012)	PE-EFT	Sixteen sessions	Experienced PE-EFT therapist with more than 30 years of experience	*ns*	Therapist self-rating TESF	Effective
MacLeod & Elliott (2012)	EFT	Twenty sessions	PC-EP counsellor, with 15 years of experience	*ns*	Therapist self-rating TESF	Unclear, low outcome
Widdowson (2012a)	TA	Sixteen sessions	TA psychotherapist with 15 years of experience (38 years old)	by a TSTA at least once a month	Therapist and supervisor adherence checklist	Mixed outcome
Widdowson (2012b)	TA	Sixteen sessions	TA psychotherapist with over five years post-qualifying experience	by a TSTA at least once a month	Therapist and supervisor adherence checklist	Good outcome
Widdowson (2012c)	TA	Sixteen sessions	Therapist with over 10 years of post-qualifying experience	by a TSTA at least once a month	Therapist and supervisor adherence checklist also randomly checked by researcher on transcription	Good outcome
Thurston et al. (2012)	Pluralistic counseling	Six sessions	BACP accredited practitioner	*ns*	*ns*	Moderately effective
Widdowson (2013)	TA	Sixteen sessions (terminated at 8th)	One year post-qualifying experience as TA therapist (42 years old)	by a PTSTA at least once a month	Therapist and supervisor adherence checklist	Mixed outcome
Kerr (2013)	TA	Thirty-nine sessions	TA psychotherapist with five years of experience	by a supervisor twice a month	*ns*	Good outcome case
MacLeod & Elliott (2014)	PC-EP	Sixteen sessions	Person-centered psychotherapist, with six years of experience (37 years old)	*ns*	*ns*	Effective, clear good outcome

Note. BACP = British Association of Counselling and Psychotherapy. EFT = Emotion Focused Therapy. PC-EP = Person Centered-Experiential Psychotherapy. PCT = Person Centered Therapy. PE-EFT = Process Experiential-Emotion Focused Therapy. PE-T = Process Experiential Therapy. PTSTA = Provisional Teaching and Supervising Transactional Analyst. TA = Transitional Analysis. TESF = Therapist Experiential Session Form (Elliott, 2003). TSTA = Teaching and Supervising Transactional Analyst. *ns* = not specified.

TABLE 4
Research

Author (year)	Research context	Allegiance	Recording	Explication of expectation about outcome
Elliott (2002)	Center for the Study of Experiential Psychotherapy, University of Toledo, OH	*ns*	*ns*	*ns*
Carvalho et al. (2008)	Center for Research and Family Support at Lisbon, University of Lisbon, Portugal	Therapist and research team, not clearly specified	*ns*	*ns*
Elliott et al. (2009)	Center for the Study of Experiential Psychotherapy, University of Toledo, OH	Therapist, HSCED analysis teams (affirmative team and skeptic team), judges	All sessions and *CI*	Therapist
Stephen et al. (2011)	Social Anxiety Research Project at University of Strathclyde, UK	Therapist, patient's researcher, HSCED investigator, research supervisor, judges	All sessions and *CI*	Therapist, patient's researcher, HSCED investigator, research supervisor
MacLeod, Elliott, & Rodgers (2012)	Social Anxiety Research Project at University of Strathclyde, UK	Therapist/research supervisor, patient's researcher, HSCED investigator, judges	*ns*	Therapist/research supervisor, Patient's researcher, HSCED investigator
MacLeod & Elliott (2012)	Social Anxiety Research Project at University of Strathclyde, UK	Therapist, HSCED investigator, judges	*ns*	*ns*
Widdowson (2012a)	Private practice Naturalistic therapy protocol	Researcher, HSCED analysis team	All sessions and *CI*	Patient
Widdowson (2012b)	Private practice Naturalistic therapy protocol	Therapist, HSCED investigator, HSCED analysis teams (affirmative team and skeptic team), judges	Patient did not give consent for audiorecording	*ns*
Widdowson (2012c)	Private practice Naturalistic therapy protocol	Therapist, HSCED investigator, HSCED analysis teams (affirmative team and skeptic team), judges	All sessions and *CI*	*ns*
Thurston et al. (2012)	University based counselling clinical setting	*ns*	All sessions	Patient
Widdowson (2013)	Private practice Naturalistic therapy protocol	Research and team research	All sessions	*ns*
Kerr (2013)	Private practice Naturalistic therapy protocol	–	All sessions	*ns*
MacLeod & Elliott (2014)	Social Anxiety Research Project at University of Strathclyde, UK	HSCED investigator, research supervisor, judges	*CI*	*ns*

Note. *CI* = Change Interview (Elliott et al., 2001). HSCED = Hermeneutic Single Case Efficacy Design. *ns* = not specified.

TABLE 5
Quantitative and qualitative measures

Author (year)	Pre-treatment	Treatment	Post-treatment
Elliott (2002)	SCL-90-R, IIP, PQ	SCL-90-R, IIP and *CI* every 8/10 sessions, PQ and *HAT* at every session	SCL-90-R and IIP at the end of the therapy, *CI* at 6-month FU
Carvalho et al. (2008)	–	PQ and *HAT*[1] at every session	*CI* at 6-month FU
Elliott et al. (2009)	SCL-90-R, IIP, PQ[2]	SCL-90-R and IIP after Sessions 10 and 20, PQ and *HAT* at every session, *CI* after Sessions 10 and 20	SCL-90-R and IIP at the end of the therapy and at 6- and 18-month FU, *CI* at 6- and 18-month FU
Stephen et al. (2011)	SCID[3]	CORE-OM, SI, SPIN, IIP after Session 8, PQ and *HAT* at every session, *CI* after Session 8	CORE-OM, PQ, SI, SPIN, IIP at the end of the therapy (after Session 20) and at 6-month FU, *CI* at the end of the therapy
MacLeod, Elliott, & Rodgers (2012)	SCID, SPIN, PDQ-IV, PQ, CORE-OM, SI, SRQ, IIP	SPIN, PDQ-IV, CORE-OM, and SI at Sessions 8 and 16, PQ and *HAT* at every session, *CI* after Sessions 8 and 16	Maintenance phase (post Session 20): SPIN, PDQ-IV, PQ, CORE-OM, SI, SRQ, and IIP, *CI* after Session 4 of the maintenance phase
MacLeod & Elliott (2012)	SCID, CORE-OM, SI, SPIN, IIP, PQ, PDQ-IV	CORE-OM, SI, SPIN, IIP, PDQ-IV at Session 8, PQ and *HAT* at every session, *CI* at Session 8	CORE-OM, SI, SPIN, IIP, PDQ-IV post therapy, *CI* at the end of the therapy
Widdowson (2012a)	BDI-II, CORE-OM	BDI-II and CORE-OM at Session 8, CORE-10, PQ, and *HAT* at every session	BDI-II and CORE-OM at the end of the therapy and at 1-, 3-, 6-month FUs, *CI* at 1-month FU, PQ at each of the three FUs
Widdowson (2012b)	BDI-II, CORE-OM	BDI-II and CORE-OM at Session 8, CORE-10, PQ, and *HAT* at every session	BDI-II and CORE-OM at the end of the therapy and at 1-, 3-, 6-month FUs, *CI* at 1-month FU, PQ at each of the three FUs
Widdowson (2012c)	BDI-II, CORE-OM	BDI-II and CORE-OM at Session 8, CORE-10, PQ, and *HAT* at every session	BDI-II and CORE-OM at the end of the therapy and at 1-, 3-, 6-month FUs; *CI* at 1-month FU, PQ at each of the three FUs
Thurston et al. (2012)	CORE-OM, SHS, CPCI[4]	CORE-10, TC, *HAT*, WAI-SR at every session[4]	CORE-OM and SHS at the end of the therapy, *CI* at 1-week FU, CORE-10 and TC at 1-week, 6- and 12-month FUs
Widdowson (2013)	BDI-II, CORE-OM	BDI-II and CORE-OM at Session 8, CORE-10, PQ, and *HAT* at every session	BDI-II and CORE-OM at the end of the therapy and at 1-, 3-, 6-month FUs, *CI* at 1-month FU, PQ at each of the three FUs

(table 5 continues)

Table 5 (continued)

Author (year)	Pre-treatment	Treatment	Post-treatment
Kerr (2013)	SPQ, GAD-7	SPQ and GAD-7 at every session	SPQ and GAD-7 at 6-week, 4- and 9-month FUs *CI* at the end of the therapy and at 4-month FU
MacLeod & Elliott (2014)	SCID, CORE-OM, SI, SPIN, IIP, PQ, PDQ-IV	SPIN, PDQ-IV, CORE-OM, IIP, and SI at Session 8, PQ and *HAT* at every session, *CI* after Session 8	SPIN, PDQ-IV, PQ, CORE-OM, and SI at the end of the therapy, *CI* at the end of the therapy

Note. Quantitative measures are reported in roman, qualitative measures are reported in italics. BDI-II = Beck Depression Inventory (Beck et al., 1996). *CI = Change Interview* (Elliott et al., 2001). CORE-OM = Clinical Outcomes in Routine Evaluation-Outcome Measure (Evans et al., 2000). CORE-10 = Clinical Outcomes in Routine Evaluation-10 item (Connel & Barkham, 2007). CPCI = Client Pre-Counselling Interview. FU = follow-up. GAD-7 = Generalized Anxiety Disorder 7-item (Spitzer, Kroenke, Williams, & Löwe, 2006). *HAT = Helpful Aspect of Therapy* (Llewelyn, 1988). IIP = Inventory of Interpersonal Problems (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988). PDQ-IV = Personality Disorders Questionnaire IV (Hyler, 2007). PQ = Personal Questionnaire (Wagner & Elliott, 2001). SCID = Structured Clinical Interview for DSM-IV (First et al., 1996). SCL-90-R = Symptom Checklist 90 (Derogatis, 1983). SHS = State Hope Scale (Snyder et al., 1996). SI = Strathclyde Inventory (Freire et al., 2007). SPIN = Social Phobia Inventory (Connor et al., 2000). SPQ = Simplified Personal Questionnaire (Elliott, Shapiro, & Mack, 1999). SRQ = Self-Relationship Questionnaire (Faur, Elliott, & Beltykova, 2006). TC = Goals/Target Complaints Rating (Deane et al., 1997). WAI-SR = Working Alliance Inventory-Short Form (Hatcher & Gillaspy, 2006).
[1]Two *HAT* forms for each therapy session: immediately at the end and after the intersession period. [2]The PQ was assessed twice. [3]Data collection error: no pre-therapy data for the SI, CORE-OM, and IIP. [4]All the measures in each treatment phase were administered orally since the client was blind.

TABLE 6
Hermeneutic analysis and adjudication

Author (year)	Rich case record collection	Hermeneutic analysis	Research supervision/audit	Adjudication
Elliott (2002)	Researcher/author (not clearly specified)	HSCED investigator/author	*ns*	HSCED investigator/author
Carvalho et al. (2008)	Research team (not clearly specified)	Research team (not clearly specified)	*ns*	Research team (not clearly specified)
Elliott et al. (2009)	Affirmative and skeptic teams + therapist (Elliott)	Affirmative team (two people) and skeptic team (two people). Both teams analyzed direct and indirect evidences	by the therapist (Elliott) to both hermeneutic teams	Three independent judges, well known psychotherapy researchers representing three different theoretical orientations (therapist' peer)
Stephen et al. (2011)	HSCED investigator	HSCED investigator/author	by the supervisor (Elliott) to the HSCED investigator	Three independent judges, experienced practitioners (therapist peer, "reasonable persons")
MacLeod, Elliott, & Rodgers (2012)	HSCED investigator	HSCED investigator/author	by the therapist/research supervisor (Elliott) to the HSCED investigator	Three first-year postgraduate students (HSCED investigator' peer, "reasonable persons")
MacLeod & Elliott (2012)	HSCED investigator	HSCED investigator/author	by the second author (Elliott) to the HSCED investigator	Three independent judges, two last-year doctoral trainees (author peer) and one clinical associated ("reasonable persons")
Widdowson (2012a)	HSCED analysis team (three experienced therapist + patient's therapist/author)	HSCED analysis team	by the author	Two independent judges representing a different theoretical orientations
Widdowson (2012b)	Therapist, author/HSCED investigator	Affirmative team (three people) and skeptic team (four people), each with facilitator (author/HSCED investigator and a facilitator), therapist	by the author	Three independent judges, representing a different theoretical orientation
Widdowson (2012c)	Author/HSCED investigator	Affirmative team (three people) and skeptic team (four people), each with facilitator (author/HSCED investigator and a facilitator)	by the author	Three independent judges, representing two different theoretical orientations

(table 6 continues)

Table 6 (continued)

Author (year)	Rich case record collection	Hermeneutic analysis	Research supervision/audit	Adjudication
Thurston et al. (2012)	*ns*	HSCED group of 22 postgraduate students divided in two affirmative and three skeptic teams each of four or five people	*ns*	Four independent judges with expertize in psychological treatments and social science
Widdowson (2013)	Author/HSCED investigator	Affirmative team (three people) and skeptic team (four people), each with facilitator (author/HSCED investigator and a facilitator)	by the author	Three independent judges, representing two different theoretical orientations
Kerr (2013)	Therapist/author/HSCED investigator	Therapist/author/HSCED investigator	by an expert researcher (Widdowson)	Therapist/author/HSCED investigator
MacLeod & Elliott (2014)	Author/HSCED investigator	HSCED investigator	by the second author (Elliott) to the HSCED investigator	Three independent judges, two last-year doctoral trainees (author peer) and one psychology graduate ("reasonable persons")

Note. HSCED = Hermeneutic Single Case Efficacy Design. *ns* = not specified.

TABLE 7
Comparison between the timelines of the cases of George and Pamina

Case "George"			Case "Pamina"		
Phase	Sub-phase	Description	Phase	Sub-phase	Description
Pre-treatment procedures and measures	Selection	The patient respond to an ad in a local newspaper	Pre-treatment procedures and measures	Selection	The patient was referred at the Centre
	Context	Center for the Study of Experiential Psychotherapy at the University of Toledo, OH. Ongoing practice-based research protocol; max 40 sessions		Context	Centre for Research and Family Support, University Clinic, Lisbon, Portugal. Low cost therapy for training Family and Community therapists
	Screening/ assessment	Two 2-hours screening interview; PQ construction with researcher; SCID Axis I and Axis II		Screening/ assessment	One evaluation session with the clinical team supervisor; PQ construction with the clinical team supervisor
	Diagnosis	Panic disorder with agoraphobia. Major Depressive Disorder in full remission. Alcohol dependence, sustained full remission. No Axis II diagnosis, some narcissistic traits, including entitlement and absence of empathy for others feelings and needs		Diagnosis	Paranoid Personality Disorder; no Axis I diagnosis
	Baseline pre-Session 1	One point; SCL-90-R, IIP, PQ		Baseline pre-Session 1	One point; PQ
Therapist measures	All sessions	Process notes; open-ended questions about in- and extra-therapy events; Therapist Experiential Session Form TESF (PE-EFT adherence self-rating questionnaire)	Therapist measures	All sessions	Pre-session supervision with the clinical team
Patient treatment measures	Sessions 1 to 9	Before session: PQ After session: *HAT*	Patient treatment measures	Sessions 1 to 6 (END)	Before session: PQ and *HAT* (related to previous session) After session: *HAT* (related to current session)
	Session 10	Before session: PQ After session: *HAT*, SCL-90-R, IIP, *CI*			

(table 7 continues)

Table 7 (continued)

Case "George"			Case "Pamina"		
Phase	Sub-phase	Description	Phase	Sub-phase	Description
Patient treatment measures (*continues*)	Sessions 11 to 19	Before session: PQ After session: *HAT*			
	Session 20	Before session: PQ After session: *HAT*, SCL-90-R, IIP, *CI*			
	Sessions 21 to 22	Before session: PQ After session: *HAT*			
	Session 23 (END)	Before session: PQ After session: *HAT*, SCL-90-R, IIP, *CI*			
Rich case	After Session 23	Assembled by affirmative and skeptic teams and the therapist	Patient follow-up measures	6-month follow-up	Personal Questionnaire *CI*
Hermeneutic analysis	After Session 23 before follow-up	Two independent teams of two people. Affirmative and skeptic teams assumed both affirmative and skeptic positions because they founded the tactic of supporting only one side uncomfortable			
Judging procedure	Before follow-up	Three independent judges, controlled for allegiance, expert in research in psychotherapy and psychotherapy integration			
Patient follow-up measures	6-month follow-up	PQ, SCL-90-R, IIP, *CI*. Follow-up data were used to validate judge verdicts	Rich case		Assembled by the clinical team
	18-month follow-up	PQ, SCL-90-R, IIP, *CI*. Follow-up data were used to validate judge verdicts	Hermeneutic analysis		Conducted by the clinical team
	24-months follow-up	PQ, SCL-90-R, IIP. Follow-up data were used to validate judge verdicts	Judging procedure		Conducted by the clinical team

Note. Timelines allows an immediate comparison of the main procedures, measures, steps and phases of different cases. In light gray, the phases of rich case collection, hermeneutic analysis, and judging procedure. In dark gray, the phase of follow-up. It is noteworthy that in the case of George follow-up occurs after the judging procedure. Quantitative measures are reported in roman, qualitative measures are reported in italics. *CI = Change Interview* (Elliott et al., 2001). DSM-IV = Diagnostic and Statistical Manual of Mental Disorders (4th ed.). *HAT = Helpful Aspect of Therapy* (Llewelyn, 1988). IIP = Inventory of Interpersonal Problems (Horowitz et al., 1988). PE-EFT = Process Experiential-Emotion Focused Therapy. PQ = Personal Questionnaire (Wagner & Elliott, 2001). SCID = Structured Clinical Interview for DSM-IV (First et al., 1996). SCL-90-R = Symptom Checklist 90 (Derogatis, 1983). TESF = Therapist Experiential Session Form (Elliott, 2003).

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