

The Single Case Archive: Review of a multi-theoretical online database of published peer-reviewed single case studies

Abstract

Case study methods are increasingly recognized as crucial methods to enhance understanding of the complexity of psychotherapy processes and as way to bridge the science-practice gap. The Single Case Archive (SCA) was constructed to facilitate access to the existing field of case study research for academic, clinical, and educational purposes. Cases were selected through systematic screening of relevant peer-reviewed journals in the field of psychotherapy research and rigorous snowball sampling. All cases meeting inclusion criteria were inventoried using the Inventory for Basic Information in Single Cases that maps study, patient, therapist, and therapy characteristics. 3471 cases from 175 peer-reviewed journals published between 1955 and 2019 were included in the SCA database. The SCA comprises cases from different theoretical backgrounds, discussing patients from different age categories, with different presenting problems going through a diversity of psychotherapeutic treatments that are studied using a range of methods. Cases differ strongly with respect to the amount of information that is present in the case study, and the field should pay more attention to ethical considerations like informed consent and providing relevant basic descriptive information. An online platform makes the SCA database searchable by researchers, clinicians and students. In conclusion, the SCA is a unique resource that makes case studies more easily accessible, facilitates meta-studies and reviews of case studies, and stimulates methodological developments in the field of case study research.

Keywords: Single Case Archive, database, psychotherapy case studies, science-practice gap

Single case studies were crucial for the development of different theoretical models and are of major importance in clinical and educational contexts. Despite long-lasting criticism on their scientific value, it is increasingly recognized that case study methods are of great importance to studying psychotherapy processes in-depth (American Psychological Association, 2006; McLeod and Elliott, 2011). Due to the complexity of what happens in the consulting room between one or more therapists and an individual, a group, or a family system, intensive idiosyncratic methods are required to understand what takes place and what might lead to change (Edwards, Dattilio, & Bromley, 2004; Stiles, 2013). As case study methods allow more so than cross-sectional or nomothetic research to grasp and systematically map this complexity, they play an important role in bridging the research-practice gap (Dattilio, Edwards, & Fishman, 2010; McLeod, 2010). As a consequence, recognition of the complementary nature of both nomothetic and idiographic approaches is growing and single case studies once again have a place in the field of psychotherapy research (McLeod, 2010). Initiatives like the evidence-based case study section in this journal are exemplary for this trend, as well as increasing attention for case study methodology and quality criteria (e.g., Fishman, 2005, Kaluzeviciute, 2021, McLeod, 2010).

As the number of published case studies is increasing, there is a growing interest in exploring the possibilities of aggregating case studies to generate more generalizable knowledge. Krivzov, Hannon, and Meganck (2021) argue that metasynthesis can contribute to the sustainability of qualitative research by aggregating findings on issues that have already been investigated and protecting vulnerable populations from unnecessary research interventions. In their chapter, they discuss and illustrate how to conduct rigorous metasynthesis of single case studies. Another way to move beyond single case studies is through case comparison studies (Iwakabe & Gazolla, 2009).

A prerequisite for comparing or aggregating findings across cases is the existence of a tool to find relevant sets of good quality cases on a specific topic. General databases like Web of Science (WoS) or Pubmed do not allow to search the field of case study research efficiently, as case studies are often difficult to find with regular search terms. Sometimes title and abstract do not even

mention that the article discusses a case study. Therefore, a well-organized database that inventories existing single case studies based on relevant descriptive information is a necessary requirement. Several leading researchers in the field argued for the importance of such a database (Fishman, 2005; Iwakabe & Gazolla, 2009). Miller (2004) and Iwakabe (2005) laid the foundation for building such a searchable database by assembling several hundreds of case studies. The Journal of Pragmatic Case Studies can also be considered a database of case studies across a variety of theoretical approaches that are written according to a standardized format (Fishman, 2005). These databases of case studies complement databases for RCT's in the field of psychotherapy research, for example the METAPSY project (www.metapsy.org) on psychotherapy for depressive disorders and the database of Christensen and colleagues (2014) on suicide prevention.

These initiatives have inspired an international team of researchers in 2012 to scale up existing case study databases and to develop the first version of the Single Case Archive (SCA; Desmet et al., 2013). This online archive with an easy-to-use search tool focused on psychoanalytic single cases published in ISI¹-ranked journals and was comprised of 445 articles. In the meanwhile, interest in both clinical and research contexts shows its relevance and several published studies corroborate its importance (e.g., Kaluzeviciute & Willemsen, 2020; Krivzov, Baert, et al., 2021; Meganck, Inslegers, Krivzov, & Notaerts, 2017; Schindler, Desmet, Meganck, & Kächele, 2014; Willemsen et al., 2015; Willemsen, Della Rosa, & Kegerreis, 2017).

Building on the original archive, a broader research consortium joined the effort in 2016 to elaborate the SCA (www.singlecasearchive.com) and render it a more expansive resource for published peer-reviewed single case studies in the field of psychotherapy including the whole range of theoretical orientations. In this paper, we first aim to present the methodology used to construct the SCA and safeguard its sustainability in the future. Secondly, we want to present a review of the characteristics of the set of included case studies until 2019. As case studies differ widely with respect to study methodology and focus, we first want to explore what types of case studies are

¹ ISI: Institute for Scientific Information (included in Web of Science).

available in the field. Next, for both clinical and research purposes, we want to present an overview of the characteristics of the subject of case studies. This implies information on the patient or client under study, but also the therapist and the type of therapeutic treatment that is described.

Method

Case selection

The selection of published case studies was conducted in a systematic way to guarantee the construction of a database that is representative of the field. A trial period showed that the use of a combination of search terms in existing databases leads to a large number of false positives and most importantly misses a substantial amount of case studies. Therefore, in consultation with the SCA scientific board and scientific librarians, the team opted for a systematic screening of peer-reviewed journals² (mostly indexed on WoS) through the following steps:

1. Expert members of the consortium, based on their experience, provided a list of 16 relevant peer-reviewed journals that publish on topics related to psychotherapy.
2. Content tables of each issue of these journals were systematically screened starting from 1985, and possible case studies were selected based on title and abstract.
3. Full texts of the selected articles were read and were retained if the case study was a psychotherapy case and the discussion of the case in the article was a minimum of about two pages³. Articles were classified as a psychotherapy case study if they met the criteria put forward by Norcross (1990), Strupp (1978), and Wampold (2001) stating that psychotherapy necessary includes the following five elements: 1. Interpersonal process; 2. A person seeking help for problems, complaints, disorder; 3. A (trained) therapist/ qualified professional; 4. Adapted to the particular client; and 5. Psychological principles as basis.

² Cases in books are currently not included in the SCA, but it is one of the future directions of the SCA to include these as well.

³ As 2 pages of text are different dependent on journal lay-out, this criterion required inevitably some estimation on the part of coders. However, it was used to exclude smaller vignettes that are often used as illustrations in theoretical papers for example.

4. In a variation of snowball sampling, reference lists of the articles referenced in articles retained in step three, were subjected to the outlined procedures. This was repeated iteratively until no new references were found. This led to the identification of journals that were initially not in the list and cases published before 1985. Additionally, sources that list thematic collections of case studies were consulted (e.g., Miller, 2004).
5. This procedure gave rise to a video manual and training guide depicting how a yearly update starting from the final list of journals can be conducted.

Inventorying cases

To inventory relevant basic descriptive information in case studies, the team developed a coding scheme, namely the Inventory of Basis Information in Single Cases (IBISC, Meganck et al., 2017). As the SCA intends to provide a broad and multipurpose database, the IBISC had to permit the listing of information that is relevant across different kinds of case studies and orientations, and have a sufficient level of detail while keeping feasibility in mind. The IBISC was constructed by the research team in consultation with different experts in the field (e.g., John McLeod, personal communication) and through an iterative process of going back and forth between the scale and different case studies. The information rated in the IBISC includes the publication information, the characteristics of the patient or client, the therapy, the therapist, and the formal characteristics of the study (see Table 1).

Table 1

Brief Overview of IBISC Variables

Characteristics of the			
Study	Patient/client	Therapy	Therapist
Number of cases	Client system involved	Theoretical orientation	Number of therapists
Length of case report	Identified patient?	Specific treatment model	Main therapist?
Type of study	Gender	Setting of therapy	Gender
Type of data	Age	Duration of therapy	Age

Informed consent?	Ethnicity	Number of sessions	Ethnicity
	Complaints/diagnosis	Session frequency	Education/training
	Diagnostic system	Outcome of therapy	Experience
	DSM category	Completion of therapy	
		Follow up?	

The definitions used to differentiate between types of case studies were based on Iwakabe and Gazolla (2009) and distinguish between clinical, systematic, and experimental case studies (see IBISC manual p. 6). Clinical case studies are narrative reports by the therapist of what happened during a therapy, together with the therapist's interpretations of what happened. Specific methods might be used (e.g., questionnaire), yet it is still the therapist that uses and interprets these. Systematic case studies are a systematized alternative for the clinical case where (a) data are gathered from different sources so convergence can be considered, and (b) there is a researcher/team involved in the analyses of the material rather than merely the therapist. Finally, the single case experiment or N=1 trial, single subject design, or N=1 subject experiment, use rigorous methods to test hypotheses about effects of treatment. The goal is to measure specific changes that can be ascribed to the use of specific interventions. Changes are compared to baseline scores of target behavior. In addition to the pre-defined basic characteristics, the IBISC coding scheme also allows to specify important themes and keywords, to facilitate the search for case studies for specific research and clinical questions. The full IBISC and coding manual can be freely consulted at www.singlecasearchive.com.

Both coders (second and third author) adhered to the IBISC manual coding procedure. Initially, they strived towards consensus in each coding decision that appeared unclear. In case of doubt, coding decisions were regularly discussed in the larger expert group and subsequently a diary was kept assuring uniformity of coding. After coding the first three hundred case studies, both coders and the experts considered the consensus procedure to be sufficient and the coders worked independently.

Results

Database accessibility and user interface

All published case studies inventoried by means of the IBISC are included in a database. This database can be freely searched through a user-friendly search engine available at www.singlecasearchive.com. Both searches with free text and using the IBISC categories or combinations are possible. To protect copyright and potential confidentiality issues⁴, access to full texts of search results is possible for researchers, clinicians, and students after registration and approval of registration on the platform. All information and relevant resources are available at the website. Researchers that want to investigate questions related to the entire database can obtain access to the full data matrix by contacting the SCA board. Authors also have the possibility to add a case or indicate it to the SCA team on the website. The SCA team then checks or completes the IBISC variables.

Database content

Data for this review were retrieved from the SCA database on April, 7, 2021. Starting from the case selection procedure, the SCA comprises 3471 cases⁵ from 175 different journals between 1955 and 2019. The year 2020 is not yet included in the review as publications in general databases and journals are not yet completely available and the SCA update for 2020 is not complete. Before 1985, there are few case studies per year, but this might also be due to differences in publication practices (i.e., more book publications), and because of the way journal articles were constructed (e.g., no abstract) and indexed in general databases. Also, systematic screening of content tables only started from 1985. From then on, we see a steady increase throughout the nineties and from around 2002 there generally are more than 100 case studies published per year. This aligns with a relative increase of published case studies in the broader field of psychiatry and psychology (WoS categories

⁴ Confidentiality issues are limited as the SCA consists of published papers that went through a peer-review process. Nevertheless, case studies published in professional journals could present confidentiality issues if publicly available.

⁵ Some articles contain more than one case study. Each case was coded separately and as such is a different entry in the database.

are as a point of reference here). After 2010 we see a sharp increase in general in the number of publications in the categories of Psychiatry and Psychology that goes hand in hand with a relative drop of case studies.

All 3471 cases were inventoried in the SCA database with the IBISC. To provide a general idea of the kind of case studies present in the SCA, we summarize the IBISC characteristics of these cases below. Percentages for a specific category often do not add up to 100%, since information is sometimes not mentioned in cases.

Study characteristics

First, we look at the level of the study itself and how this was conceived. Of the 3471 inventoried case studies, 58.5% are clinical case studies, 33.8% are systematic case studies, and 6.7% are single case experiments. In 16.7% of the cases, it is mentioned that there is an informed consent, in 15 cases (0.4%) it is explicitly mentioned that there is no informed consent. In 82.1% of the cases however, it is not mentioned whether there is an informed consent. Informed consent is mentioned more often in systematic (30.6%) and experimental (17.2%) cases than in clinical cases (9.2%) and is mentioned more often in the last two decades than before 2000 (8.4% before 2000; 15.4% between 2000 and 2010; 27.2% after 2010). The type of data used for the study was mentioned in 64.7% of cases. The most used data are questionnaires (34.9%) and interviews (28.9%). Also, audio- or videotapes (15.7%) or transcriptions (12.2%) are regularly used. Types of data are mostly not mentioned in clinical case studies (56.9%), where it is likely that therapists use their own notes without mentioning this explicitly. The focus of the study (i.e., the client system), mostly is the individual (79.2%), however, there are a substantial number of cases where the client system is a family (10.2%), a group (7.7%), or a couple (2.6%). For case studies with multiple clients, not all subsequent characteristics could be rated as these are about individual characteristics.

Patient characteristics

Next, we consider the characteristics of patient or clients that are discussed in the case studies. Concerning gender, 51.4% of patients are female, 41.7% of cases are male patients, while

only 0.3% (11 cases) are other (e.g., transgender or gender-nonconforming). There are only a few cases about infants (0-1 year; 0.5%), 13.1% of cases are about children (2-11 years), 10% of cases about adolescents (12-17 years), 11.6% about young adults (18-24 years), 49.2% about adults (25-65 years) and 2.3% about elderly (> 65 years). Patient ethnicity was often not mentioned (63.1%), yet when mentioned there is a predominance of White-Caucasian (18.5%) and only few cases of Arab (0.3%), Asian (2.1%), Black/African (2.9%) or Hispanic (2.6%) patients.

While there are descriptions of the presenting problem in most cases, in the majority of cases (69.4%) there is no explicit diagnostic system mentioned. In other cases, the DSM is the most common diagnostic system (28.6%) whereas the ICD (1.2%), OPD (0.3%) or PDM (0.3%) are rarely mentioned. Descriptive diagnostic terms are inventoried in the database, thus allowing for topic-based searches in the search engine. Additionally, based on the description of the problems, cases were assigned to one or more of the broad DSM categories by the (clinically trained) coders. Mood disorders (29.7%) and anxiety disorders (35.4%) were the most common categories, yet there are a substantial number of cases on other diagnostic categories as well.

Therapy characteristics

To be able to situate cases in the clinical field, also the characteristics of the therapeutic treatment were rated. With respect to theoretical orientations, the preponderance of case studies is published about therapies from a psychoanalytic (46.5%) or a cognitive-behavioral (38.2%) point of view. Nevertheless, because of the magnitude of the database, a substantial number of cases can be found from systemic (9.1%), client-centered/humanistic (6.6%) and other perspectives (13.6%). Most case studies discuss outpatient psychotherapy (84%), whereas only 9.3% of cases discusses inpatient care. Therapies have variable duration, with about 26.9% of case studies on therapies under 6 months, 9% of publications about therapies between 6 and 12 months, 16.2% between 1 and three years, and 11.9% longer than three years. We note that longer therapies are more often described in clinical case studies as compared to shorter therapies that are mostly the focus of systematic or

experimental cases. Most cases present therapies where the outcome is described as successful by the authors (63%), 4.3% describe the outcome as a failure, and 14.6% as mixed.

Therapist characteristics

Finally, we consider the therapist as an important protagonist in a case study. However, in general, there was a lack of information on therapist characteristics in most studies. Male therapists (31.9%) were somewhat more common than female therapists (26.7%), yet gender of the therapist was also often not mentioned (25.2%)⁶. There was even much less information on age, ethnicity, and experience (not mentioned in respectively 79.2%, 78.2%, and 68.5% of cases). For 67.9% of cases there was some information on formal education of the therapist with psychotherapist, psychologist, PhD, and master's degree being most mentioned.

Discussion

The SCA provides an easily searchable online database of peer reviewed single case studies in the field of psychotherapy. It is unique due to the magnitude of the database, the systematic mapping of relevant descriptive characteristics and its broad scope concerning theoretical orientations. While it is impossible to claim that all cases published in ISI-ranked or peer-reviewed journals are inventoried in the database, its systematic construction process guarantee a database that is representative for the research field, at least from 1985 onwards. As illustrated by several issues addressed below, this does not imply that it is representative for the clinical field.

Because of the wide scope of the SCA project, our findings point towards some broad tendencies in the field of case study research. First, we note that although attention for and appreciation of the importance of case study research increased, the number of published case studies remains limited, and some theoretical orientations (e.g., gestalt) are underrepresented in the scientific literature. This is in line with other types of psychotherapy research like randomized controlled trials where there is also little attention for orientations such as gestalt therapy or client-centered approaches.

⁶ In case of multiple therapists, gender was not rated.

With respect to study design, it is remarkable that there is little attention to ethical aspects of case study research. Already in the small predecessor psychoanalytic case study archive we noticed that informed consent was hardly mentioned (Desmet et al., 2013). It seems now that this is more widespread and is characteristic across all theoretical orientations. We do note however, that there is a substantial increase in explicitly mentioning informed consent the last decades. Given new regulations like the General Data Protection Regulation in Europe and attention for data management, this nevertheless remains a surprising observation.

When considering patient characteristics, we note the scarcity of cases about infants and elderly. A lot could be gained here as both are groups with specific needs and challenges for therapists. With the increasing attention to infant mental health, one might hope that more cases will also be systematically studied and published in peer-reviewed journals. Also, for elderly this would be important given the composition of the population in western societies where people live longer and encounter new challenges. Considering diagnoses, we note that a wide diversity of clinical problems is discussed in case study research. While most cases could be categorized within the broad DSM categories of depressive and anxiety disorders, often a much more complex clinical picture was described with multiple complaints being presented. It seems that cases are selected predominantly because of the therapeutic process rather than because they would fit into a specific DSM category. The lack of the use of diagnostic systems reflects this focus. Finally, the lack of information on ethnicity is remarkable and seems to reflect an implicit yet dominant white Anglo-Saxon perspective in the psychotherapy research literature. When ethnicity is mentioned, this is mostly done in cases where culturally sensitive issues are at stake. Country or region were not included in the IBISC, so we have no way of knowing to what degree case studies conducted in non-Western countries are included in SCA. The inclusion of non-English journals in the screening process (currently only a small number of German and French cases are included), might remedy this limitation partly. However, this will not solve the dominance of the Anglo-Saxon perspective and the underrepresentation of certain regions or minority groups in psychotherapy research.

As was discussed elsewhere (Krivzov, Notaerts, et al., 2021), failure cases make up about 4% of the published case studies, which is also like the original psychoanalytic SCA, yet not representative for outcomes in clinical practice (e.g., Lambert, 2013). In that respect, the recommendation of Iwakabe and Gazolla (2009) to include both successful and unsuccessful cases in a case database could only partially be fulfilled. Given the large number of cases in the archive, it is however possible to study failure in a meaningful way and conduct case comparison or metasynthesis studies. This does not take away the importance for both journals and authors to pay more attention to failure in psychotherapy, as we can often learn more from our mistakes than from our successes.

The construction process of the SCA also lead to some qualitative observations as reading and inventorying the cases was manual work of some dedicated coders that systematically kept track of their observations outside of the IBISC variables throughout the coding process. For example, we observed that while earlier cases were more often focused on unique and unusual aspects of the patient and psychotherapy process, recent cases usually strive for representativeness and typical patterns. Also, while the methodological sophistication increased in recent years, it often went along with increased anonymity of the therapist, often lacking therapist's personal reflection and even therapist's basic demographic characteristics. Future research could examine these observations more in-depth.

Whereas the SCA provides a useful resource for meta-studies, it has its limitations as well. In addition to some of the issues described, the scope of the project did not allow to rate more detailed process variables like the therapeutic relationship. On the other hand, it does allow to find sets of cases on specific combinations of characteristics that would not provide results in a smaller database. Due to the complexity of coding the IBISC, coders had to rely on consensus discussions and were not able to calculate a formal interrater reliability. The method of consensus discussion was also the most suitable to deal with the extreme diversity of case material and the continuous evolution of the field (e.g., new therapies, new methodologies,...). Also, the construction process of the SCA is a time-

consuming process that requires trained and clinically oriented researchers. The creation of the SCA, from concept to output, took ten years, and the actual coding of 3471 case studies took five years. As such, it is a challenge for the future to keep the archive up-to-date and maintain its easy and free accessibility for researchers, clinicians, and students in the field of psychotherapy. We maximally tried to address this issue by developing a training module and protocol for updates so the future of the SCA can be safeguarded with minimal means. Also, future funding will be requested, and the university partners involved have a commitment with respect to the continuation of the database. As such, we hope the SCA can increasingly support the impact of case study research and realize its three main purposes. First, it aims to bridge the gap between research and practice by facilitating access to contextualized knowledge for clinicians and psychotherapy students. As they operate in situations of uncertainty, this type of knowledge can assist in the kind of practical or situated thinking that is necessary to take decisions in clinical situations (Polkinghorne, 1999). Second, it aims to facilitate meta-studies and reviews of case studies that can generate contextualized knowledge that is quintessential for the clinical field. Third, it aims to foster the development of methodological standards and new approaches in the field of case study research.

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Data

The database is (freely) accessible through www.singlecasearchive.com. Through the search engine registered users can search for specific sets of cases based on a range of descriptive characteristics. Researchers that want to access the full database with all rated variables, can contact the researchers through the website or via email (corresponding author).

Author contributions

■■■: Conceptualization, methodology, formal analysis, writing – original draft, supervision, funding acquisition; ■■■: Methodology, investigation, writing – review and editing, project administration; ■■■: Methodology, investigation, writing – review and editing, project administration; ■■■: conceptualization, methodology, funding acquisition, writing – review and editing; ■■■: investigation, writing – review and editing; ■■■: project administration, funding acquisition, writing – review and editing; ■■■: Conceptualization, methodology, funding acquisition.

All authors read and approved the final manuscript.