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Q-sort methodology: Bridging the divide between qualitative and quantitative. An introduction to an innovative method for psychotherapy research

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Abstract

Q-methodology offers unique opportunities for counselling and psychotherapy researchers and clinicians. It is an innovative technique capable of bridging the divide between clinical knowledge and the quantitative systematisation of it. It was initially developed by Stephenson as a data collection and data analytic method to empirically study human subjectivity. It was then extended by the British School to study shared viewpoints, thereby adopting a multi-participant design and a highly unusual form of qualitative analysis. Finally, it was adapted by the Californian School for use as a standardised observer-rated assessment tool. Its attractiveness stems from its aptitude to produce holistic data as it collects both quantitative and narrative data. This paper will provide an introduction to Q-statistics and Q-methodology (person-centred) by contrasting it to R-statistics and R-methodology (variable-centred). It will then provide an overview of the three schools of Q-methodology and their various merits demonstrated with an example.

KEYWORDS

mixed methods research, person-centred, Q-analysis, Q-methodology, R-methodology, variable-centred

1 | INTRODUCTION

The neo-Kantian philosopher Wilhelm Windelband coined the terms *nomothetic* and *idiographic* to describe different disciplines of gaining knowledge. Whilst the idiographic approach, situated within the field of the humanities, seeks to understand the unique, private and subjective phenomena, the nomothetic approach, situated within the natural sciences, deals with the discovery of general laws and objective phenomena. Greatly influenced by Hugo Münsterberg and William Stern (both of whom wrote extensively on the subject of Windelband's distinction), the psychologist Gordon Allport (1937) introduced the distinction into personality trait theory. Allport's publication of *Personality: A Psychological Interpretation* did not only initiate an important discourse and debate on the nomothetic versus idiographic issue in psychology, but unfortunately led to the still widely held belief that both are distinctly opposed to each other (Hurlburt & Knapp, 2006). Moreover, the question that has for centuries concerned philosophers and psychologists alike, namely how and why people differed, was now believed to be only truly answered by following the nomothetic approach. From the 1930s, the study of personality and individual differences was informed and shaped primarily by empirical personality research employing

psychometric and factor analytic methods. However, in line with Münsterberg (1899) and Stern (1911), Allport (1937) actually advocated that 'a complete study of the individual will embrace both approaches' (p. 22).

A methodology that is capable of bridging the gap between nomothetic and idiographic scientific inquiry is Q-methodology. Whilst it can be used to answer research questions within either position, it offers an opportunity to combine both in a systematic, operationalised way. Its attractiveness stems from numerous advantages, the most salient being its aptitude to produce holistic data. 'There are surprisingly few methods, quantitative or qualitative, that can justifiably make that claim', as Watts and Stenner (2012, p. 176) have pointed out. In that, it has been described as a qualitative-quantitative hybrid (Coogen & Herrington, 2011; Stenner & Stainton-Rogers, 2004) or can, as Ridenour and Newman (2008) have proposed, be understood as a new, third research model that consists of the amalgamation of both.

In practical terms, Q-methodology consists of the following steps: Firstly, the rank-ordering of items, presented either electronically or on small cards, in the form of statements or pictures, based on the sorters' preference, applicability or prototypicality on a particular rating scale. Depending on the research question, the items and the rating scale are to be developed by the researcher and/or participant(s). The second step involves the subjection of the rank-ordered Q-sorts to the quantitative statistical analysis of correlation, factor analysis, and the calculation of factor scores in order to identify naturally occurring underlying shared similarities or differences (Q-factors). The third step consists of the qualitative process of interpretation and sense-making of the empirically derived Q-factors.

It was the physicist and psychologist William Stephenson who developed Q-methodology and it has undergone several adaptations and extensions since its original formulation in the 1930s. Broadly speaking, its utilisation falls within three main traditions or schools. The first tradition follows Stephenson's approach to primarily utilise it to study values, opinions and viewpoints using a single-case design and primarily following a constructivist approach. The second tradition, the British School, places a focus on using it to study shared viewpoints relevant to a particular social group and context, using a multiple-participant design and principally following a constructionist approach. The third tradition, the Californian School, adapted it for use as a standardised, observer-rated tool to investigate personality differences in clinical settings and the therapeutic process, thereby utilising a multiple-participant design.

This paper will provide an introduction to each of the three traditions with the aim to make it comprehensible and relevant for both counselling and psychotherapy researchers and clinicians. The aim is not to provide a detailed instruction on how to conduct Q-studies as excellent guides already exist (see, for example, Brown, 1980; McKeown & Thomas, 2013; Watts & Stenner, 2012). Before doing so, a brief outline of Q-statistics and a comparison with R-statistics will be provided.

2 | BACKGROUND TO Q-METHODOLOGY

For Stephenson, Q-methodology was more than just a new technique or method. As he emphasised: 'Our concern, however, is not to be with Q-technique alone, or even principally. Rather, it is with a challenge to psychology, in certain of its aspects, to put its house in scientific order (…). With respect to the philosophy of science, we shall find Q-methodology in comport with logical analysis in all important methodological aspects, except such as have led to the excesses of reductionism' (Stephenson, 1953, p. 1).

He worked with Charles Spearman, and later with Cyril Burt, at University College London (UCL) at a time when psychology began to be influenced by the individual differences approach and experimental methods. Although psychoanalytic ideas and practice flourished not far from UCL, the Cartesian approach to the study of the individual's mind and behaviour became more prominent during that time. With the growing interest in finding empirical measurements of individuals' abilities and personality, Spearman introduced factor analysis to the field and it became the method par excellence within the individual differences tradition in psychology, and remains so today (Watts & Stenner, 2012). In particular due to advances in computer technology that led to improvements of statistical techniques, the end of the 1940s through to the mid-1960s saw a surge in theories and associated psychometric measures (Revelle et al., 2010).

Stephenson, however, began to distance himself from his colleagues, questioning their approach and methodology. In contrast to the variable-centred system of quantitative science, he proposed a new system of person-centred data collection, data scaling, and data analysis.

3 | R VERSUS Q-METHODOLOGY

The procedures used to identify, collect, process, and analyse information that employ tests or traits as variables and operate across a large sample of participants, are denoted by the letter R. Within the R-system, correlational analytic technique is used to explore patterns of relationships between variables, and factor analytic technique is used to identify, describe and explain variability amongst observed and related variables in terms of latent, unobserved factors captured in the correlation matrix. The development of questionnaires or structured clinical interviews are based on this statistical method, which goes hand in hand with the endeavour to understand the constructs under study more systematically. The majority of the existing diagnostic classification systems of psychopathology and personality fall within R-methodology.

Stephenson (1936) was one of the first to point out the apparent contradiction in (a) what the variable-centred approach claims it seeks to achieve; namely to study individual differences, and (b) the particular methods chosen to go about it, as mathematically speaking, R-factor analysis does not provide any information about the

person-specific characteristics or perspectives. It instead provides information (such as trait structure, stability and validity) about the particular variables collected for an average person in the population. Moreover, it focuses on a few specific aspects of a person and treats these as if they operated in isolation from each other, not taking into account their interdependence and mutual influence in making up a whole personality (Allport, 1937). Thus, the variable-centred approach to studying individual differences is limited in its capacity to provide information about a person's unique personality and how it differs from the personality of others (Asendorpf, 2015). Stephenson argued that in order to study true individual differences, one would need to arrive at a holistic understanding of the individual first.

In mathematical terms, he and Burt suggested to correlate and factor-analyse persons, rather than variables, with each other by inverting the correlation matrix. To distinguish it from R, this procedure was denoted by the letter Q. It became known as the by-person or *Q-factor analysis* and the resulting factors as *Q-factors* (Burt, 1940; Cattell, 1978). However, Stephenson (1936) furthermore argued that this statistical analysis could not simply be applied to data that were collected in R-fashion. Namely, data that is collected through questionnaires where the variables usually followed different measurement units, requiring factor analysis to standardise these for a meaningful interpretation. Given that the inverse matrix has different means and standard deviations, the resulting Q-factors would be distorted and become meaningless. In order to circumvent this problem, he developed a new method: The *Q-sort*, which would allow the collection of data in which the differences in elevation and scatter are identical for all persons (Asendorpf, 2015). However, Stephenson and Burt disagreed with respect to that. In a jointly published paper, they explained: 'Stephenson insists on a sharp opposition between R-technique and Q-technique, whereas Burt would regard them as involving much the same aims, methods and theorems' (Burt & Stephenson, 1939, p. 274). Their different use of Q-factor analysis led to confusion surrounding the relationship between the two systems, and subsequent incorrect applications of the method (Ozer, 1993).

4 | THE Q-SORT

A *Q-sort* (also referred to as *Q-set*) consists of a heterogeneous set of items made up of either statements or stimuli. The items in a Q-set are also referred to as the *concourse*. In other words, it is the overall population of items from which a final Q-sort is sampled. It can come from a variety of sources of communication (McKeown & Thomas, 2013), including well-established academic literature, interviews or focus groups, non-academic literature and traditional or social media. Once the concourse has been established, a suitable ranking system and sorting distribution need to be chosen. Q-sorts can take various shapes and utilise either a forced-choice or free distribution of number of items to be given a ranking value. Stephenson coined the term *psychological significance* (Burt & Stephenson, 1939) in assisting the Q-sorter. He or she is asked to give items that have high psychological significance a high ranking and those with low psychological significance a low ranking. Furthermore, each item or stimuli is ranked relative to each other in order to capture the interdependence and complexity of them. For Stephenson, following an ipsative approach made the items or stimuli homogenous relative to the individual in question. In other words, it provides a holistic *gestalt entity* of whatever is being investigated—be it an individual's viewpoint, a particular group's opinion, a psychotherapy session, or a personality profile. In contrast to questionnaires, where the items are provided to help express a particular predetermined concept or phenomena (for example depression or anxiety), the items of a Q-sort provide the means through which the participant can impress their own viewpoint and meaning. However, in particular within the Californian School, a Q-sort can be designed to express a particular predetermined construct or set of meanings, as will be shown below. Figures 1 and 2 provide examples of two possible Q-sorts.

5 | Q-FACTOR ANALYSIS

The analysis of completed Q-sorts via Q-factor analysis allows for the identification and underlying grouping of the individuals'

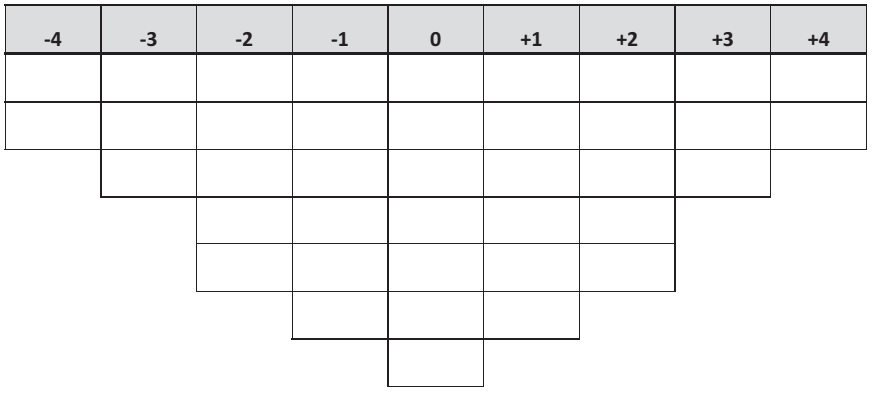

FIGURE 1 Q-sort grid with quasi-normal distribution

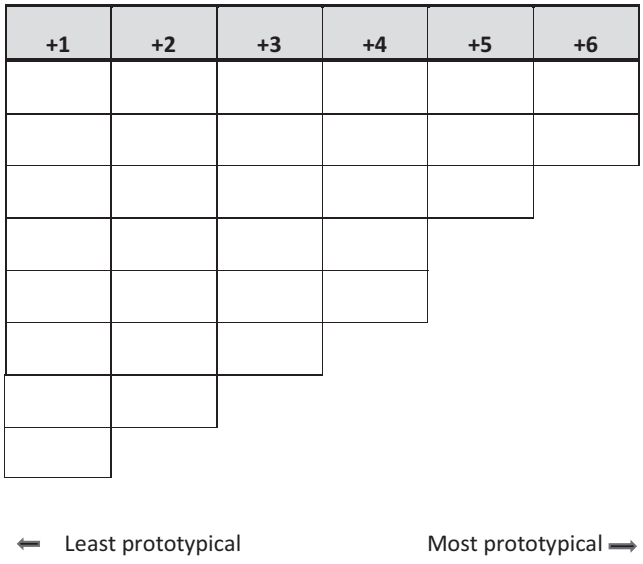

FIGURE 2 Q-sort grid with asymptotic distribution

viewpoint in a single-case study. In a multiple-case study, it reveals and describes different views or consensus between several individuals, or underlying prototypes, depending on the aim and tradition of the Q-study. It is important that each Q-sort is directly and holistically compared with each other. In practical terms, the Q-sorts are entered into a statistical software package, where people now represent columns, which are then subjected to factor analytic techniques. Watts and Stenner (2012) provide a very good step-by-step guide on how to conduct the data analysis. Free software packages are also available, which can be found on Peter Schmolck's website (http://schmolck.org/qmethod/) along with other helpful references on Q-methodology.

Following this brief introduction of Q-methodology in general, its application and adaptation within the three Q-traditions will now be outlined.

6 | STEPHENSON'S Q-TRADITION—THE SINGLE-CASE DESIGN

Stephenson's quest for a new methodology was influenced by the doctrines of quantum mechanics, the philosophy by Kierkegaard, Husserl, and James, psychanalytic object-relations theory (Fairbairn, 1952; Freud, 1925), Koffka's (1922/1938) Gestalt doctrines, and Peirce's (1935/1985) notion of abductive reasoning. In challenging the notions of determinism, testability and parsimony, he emphasised the inherent complexity of our minds and selves. In applying a truly inter-disciplinary approach, he saw in Q-methodology a way to operationalise subjectivity. Q-methodology within this tradition follows a single-case design and utilises self-reference as the essential level of knowledge. This allows for the exploration of segmentations of the self, including an individual's feelings, viewpoints, or preferences (Brown, 1980; Good, 2010; Watts & Stenner, 2005).

Underpinning his methodology are the principles of *operant subjectivity*, *science of subjectivity* and the *logic of abduction*. Within the bounds of the present paper, only a brief summary of these can be provided. The interested reader may want to refer to *Introduction to Q-Methodology* (Stephenson, 1994), *Factors as Operant Subjectivity* (Stephenson, 1997), as well as to Watts and Stenner's (2012) detailed summary of these principles. In line with William James (1912/1984), Stephenson argued that objectivity and subjectivity are both modes of inter-related actions in that one cannot exist without the other. As such, subjectivity, like objectivity, is not an isolated mental concept or an aspect of consciousness, but an activity that is produced spontaneously and made meaningful through its interaction with the environment. Thus, when an individual is asked to perform a Q-sort task, he or she expresses his or her subjectivity operantly. 'Understood in this way, Q sorting is a means of capturing subjectivity - reliably, scientifically and experimentally - in the very act of it being an operant', as Watts and Stenner (2012, p. 26) have pointed out. The completed Q-sort captures the impact of the viewpoint upon its immediate environment. Given its dependency on the environment, the operant nature of viewpoints consists in that they are constantly changing or *transitive*, which in turn needs to be distinguished from observable, or *substantive*, facts. Thus, as Watts and Stenner (2012) have summarised, the participant who is completing a Q-sort is engaging in a subjective, transitive act as he or she is rank-ordering the set of statements about his or her viewpoint on a particular subject. The completed Q-sort becomes both substantive and objective, as it can be examined and interpreted from a third-person's perspective, namely the researcher. The researcher in turn becomes a subject who engages in his or her own transitive act of interpreting, and the result of that is yet another substantive product. This, once again, can become an object for yet another researcher, who, for example, compares it to other findings. As such, a repeating cycle of subjectivity, followed and influenced by objectivity, followed and influenced by subjectivity, and so forth, is created. In contrast to the *science of objectivity*, where the aim is to reduce and discard variability, the *science of subjectivity* acknowledges the existence, as well as the mutual influence, of multiple viewpoints.

Subjecting a Q-sort to Q-factor analysis in order to explore underlying factors follows the *logic of abduction*. In contrast to R-methodology and the variable-centred approach, Stephenson argued that the study of subjectivity cannot be derived through the postulation and testing of pre-formulated hypotheses. He believed that concepts do not precede operations, but that it is the other way around (Stephenson, 1953, 1977). As such, Q-factor analysis is used to derive a formulation of a theory or hypothesis that is aimed at explaining why an observable phenomenon is manifesting itself in a particular way (Peirce, 1931/1958).

'Matters are so complex in subjectivity, that only complexity, as such (and not its constituents) can form the basis of a science for psychology', as Stephenson (1987/2010, p. 256) argued. Leaning on principles of quantum physics, he postulated that in any complex condition we must assume innumerable quasi-atomic elements that have a natural tendency to congregate in instances

of similarity (Stephenson, 1953, 1988, 1970). Q-methodology allows for the identification of these and factor analysis is the means through which they can be made empirically observable. As such, Stephenson drew a link between Q-methodology and quantum mechanics (Stephenson, 1988).

In summary, Stephenson developed Q-methodology to study human subjectivity empirically. His tradition is primarily shaped by *constructivism*, the belief that the individual influences the meaning-making of his or her environment. The International Society for the Scientific Study of Subjectivity actively promotes research within that tradition. More information about their journal, conferences, and links to Q-studies can be found on their website: https://qmethod.org/. Table 1 provides an example of a Q-study within this tradition.

TABLE 1 Example of a Q-study following Stephenson's Q-tradition

Goldstein and Goldstein (2005): *Q Methodology Study of a Person in Individual Therapy.*
The authors explored the self-image of an individual undergoing short-term therapy. Their study provides not only an example of how the participant is involved in each step of the Q-study but also of how Q-methodology can be a helpful aspect of the therapeutic process itself. One of the authors (the therapist) and the participant (the client) began to devise the concourse after the 8th therapy session and derived a finalised Q-set of 75 items. Example items include: 'I want to love and be loved' and 'I try to understand my world, so I can deal with it'.
After the 12th session, the client was asked to perform the Q-sorting task several times according to a quasi-normal distribution (−6 − 0 − +6). Each time she was given a different instruction, such as: 'sort the cards to show the way you are as a parent/child/lead editor/opposite of your mother', or 'sort the cards to show the way you would like to be ideally/reflecting your core personality/being a lover/being divorced/being a reader/riding a bike'.
All rank-ordered Q-sorts were then subjected to Q-factor analysis to obtain an underlying comprehensive description of the client's self-image. Results revealed five factors, three of which were discussed during therapy, and as such the interpretation, or meaning-making, of each factor was carried out by the participant together with her therapist.
Factor 1 was defined by Q-sorts *Parent*, *Child*, *Lead editor, and Ideal*. It describes the participant as 'being/behaving protective, nurturing, and mature as one extreme versus anxious and withdrawn as the other extreme'. Factor 2 was formed from Q-*sorts Core Personality*, *Lover and Reader* and describes the participant as 'curious about her environment and a seeker of knowledge'. Factor 3 was made up of three Q-sorts, the perspective of her when she was *divorced* and *riding a bike* and describe her as 'passive as one extreme and controlling as the other'.
Overall, the results revealed the existence of multiple self-images that allowed the client to derive a better understanding of her internal conflict related to the presenting problems in therapy. Discussing the empirically derived factors during her treatment helped her to resolve some of the internal conflict. The authors conclude that Q-methodology 'makes a nice addition to the therapy tool box' (p.55).

7 | SECOND TRADITION: THE BRITISH SCHOOL

In contrast to Stephenson's approach, the British School of Q-Methodology was influenced by *social constructionism*, the belief that we have shared assumptions and sense-making about reality, which John Dewey (1931/1985) termed *social facts*. Therefore, this Q-tradition adopted a multi-participant design to explore and to make sense of highly complex and often socially contested concepts and subject matters (Stainton Rogers, 1995). It began to establish itself in the 1990s in the United Kingdom, pioneered by Curt (1994) and Stainton Rogers (1995). A Q-study within this tradition provides a predetermined concourse, devised by the researcher, to several individuals belonging to a particular social group. Each member is asked to rank order the statements based on their importance or non-importance relative to each other. Applying Q-factor analysis allows for the empirical identification of a particular configuration or combination of themes that are preferred by the group. As such, it can be described as a highly unusual form of qualitative analysis (Watts & Stenner, 2005). However, given that it is primarily a gestalt procedure, as explained earlier on, the particular subject matter cannot be broken up into a series of constituent themes, which distinguishes it from other qualitative methods, such as discourse analysis or interpretative phenomenological analysis. According to Watts and Stenner (2005), it may come closest to Crossley's (2000) narrative analysis. However, it also differs from it in three substantial ways. Firstly, by violating the principle of naturalism, Q-methodology within this tradition does not deal with participants' own discourse, but asks them to relate to a set of prepared statements. Secondly, it differs in that Q-researchers are not interested in the unfolding temporality of narratives. Q-methodology explicitly identifies a snap-shot or a temporally frozen idea or concept. Thirdly, the focus is on shared viewpoints rather than on the narratives of individuals. Moreover, from a qualitative perspective, it could be criticised precisely because researchers want to escape the particular strand of quantitative logic and the associated hypothetico-deductive method (Watts & Stenner, 2005). In order to highlight its hybrid position between qualitative and quantitative methodology, Stenner and Stainton Rogers (2004) offered the new term *qualiquantological*.

In summary, within the British tradition, a typical Q-study 'very deliberately pursues constructions and representations of a social kind' (Moscovici, 1981, p. 71). It has been applied in a variety of disciplines other than psychology, including political sciences, education, sociology, economy, gender studies, and health research. Table 2 provides an example of a Q-study conducted within this tradition.

8 | THIRD Q-TRADITION: THE CALIFORNIAN SCHOOL

In 1948, Stephenson emigrated to the United States. As Good (2010) pointed out, 'psychology in the United Kingdom lost (…) one of its most radical thinkers who might have helped resist the growth and

TABLE 2 Example of a Q-study following the British Q-tradition

Eccleston et al. (1997): *Patient's and Professional's Understanding of the Causes of Chronic Pain: Blame, Responsibility and Identity Protection*.
The authors utilised Q-methodology to empirically identify how sense is made of the causes of chronic pain by a group of 60 chronic pain patients and pain professionals. They used academic and popular reviews of the literature, television and online media reports, as well as interviews carried out with both groups, to derive their concourse. A final Q-set of 80 items was developed. Example items include: 'A lot of chronic pain is the result of the body becoming accustomed to painkillers', and 'A lot of people who claim to suffer from chronic pain are simply seeking attention'.
Participants were asked to sort items according to a quasi-normal distribution (−6 – 0 – +6). Q-factor analysis revealed four underlying Q-factors describing different accounts of the causes of chronic pain. Factor 1, *The Patients' Account*, describes a dominant theme of 'contested reality of the pain and the conviction that it always has a physical origin'. It also expresses apportion of blame away from the self to the medical profession. Factor 2, *The Professionals' Account*, describes an opposing view to the patients' account by explaining that chronic pain results 'from a dysfunctional reaction to what are often quite minor "natural" pain-evoking events'. Factor 3, *The Scientists' Account*, expresses a view that pain has a physical origin, and as such is often the result of having done something the wrong way (for example, incorrect lifting). Factor 4, *The Alternative Practitioners' Account*, describes a view that stresses the importance of 'pain being the consequence of the harmful effects of modern living (…) that offer fads and fashion which endanger health'.
The main aim of this Q-study was to empirically investigate the available social construction of what causes chronic pain amongst the chosen cohort. Q-methodology revealed a set of sub-systems of explanations of chronic pain. As the authors discuss, a common theme in all four accounts is that blame and responsibility is deflected away from the self onto the other.

domination of an experimental psychology of a particular narrow kind' (p. 9). In the United States, his ideas were met with more acceptance and led to many productive years of developing and publicising his methodology (Good, 2010).

Whilst his PhD student Steve Brown continues to advocate Q-studies within the single-case design, Block (1961a, 1971) adapted the method to study personality and personality change from a third-person perspective. Inspired by the person-centred approach of the aforementioned philosopher Stern, Block concerned himself primarily with the close characterisation of individuals in clinical settings. With the aim of providing a common language to Q-sort methodologists, he extended the method for use as an observer-rated, standardised assessment tool. As such, the set of items contained in the Q-set consist of statements describing different aspects of personality and psychological functioning, which in their combined, rank-ordered whole (or gestalt) provides a *composite personality description* (Westen & Shedler, 1999a). Q-factor analysis of Q-sorts collected within this tradition allows for the empirical identification of groups of people with similar profiles or, in other words, it identifies a typology. The difference to the individual differences approach, however, is that 'the uniqueness of the individual asserts that every person is a type unto himself' (Block, 1961b, p.16).

Many important psychological processes underlying personality and psychopathology are consciously non-reportable and may require the objective in-depth assessment and judgment of another. As such, a Q-sort within that tradition may include an adequate range of statements that capture both manifest as well as more subtle psychological constructs, including unconscious, structural and dynamic ones. The number and range of carefully selected and worded statements provide, as Westen and Shedler (1999a) have put it, 'a standard vocabulary with which clinicians can express their observations and inferences' (p. 261). The Q-sort functions as both a statistically robust means for identifying discrete, naturally occurring categories or typologies, and a case formulation, in which the items that were arranged in an ipsative fashion provide a rich narrative description of a person's personality, behaviour or other particular aspect under investigation (Shedler & Block, 1990). Within that vein, the method has been used to extend research endeavours to the study of the clinical setting and the psychotherapy process, thereby allowing its complexity rather than reducing it. Being able to utilise the Q-sort repeatedly allows for the investigation of how the whole gestalt of a particular personality configuration or psychotherapy session may change over time. This can be explored both qualitatively or quantitatively on either the individual or the group level, as for the latter aggregated Q-sort scores can be calculated and compared.

Block and his wife, Jean, are most renowned for their longitudinal work on 100 toddlers, who they followed up for 30 years to study their psychological well-being and history utilising Q-methodology. The California Child Q-set (Block & Block, 1980) and the California Adult Q-set (Block, 1961b, 2008) are perhaps the most widely known of Block's Q-sort measures. In order to provide an alternative to the variable-centred DSM approach, Jonathan Shedler and Drew Westen developed the Shedler–Westen Assessment Procedure (SWAP-2000; Westen & Shedler, 1999a, 1999b, and SWAP-II, Shedler & Westen, 2007), a well-validated and established Q-sort assessing personality functioning and personality disorder. Block's approach has also been employed in other areas of psychology and includes the development of the Attachment Q-sort (AQS; Waters, 1987), the Defence Mechanism Rating Scale Q-sort (DMRS-Q; Di Giuseppe et al., 2014), the Psychotherapy Process Q-set (PQS; Ablon & Jones, 2005) and it's adolescent version (APQ; Calderon et al., 2017), the Mentalising Profile Q-sort (MPQ; Gallego-Hoyos, 2019), and the Anaclitic-Introjective Depression Assessment (AIDA; Rost et al., 2017). Serving as an example for a Q-study in this tradition, the latter is outlined in Table 3.

9 | Q OR NOT Q

Important to note is that Block's adaptation differs to the other two Q-traditions in two major ways. Firstly, the individual is no longer the participant in the study as he or she becomes the case to be studied (Watts & Stenner, 2012). Secondly, by turning the Q-sort into a standardised measure, Block combined Q-methodology with R-concepts and R-statistics. Although mathematically viable

TABLE 3 Example of a Q-study following the Californian Q-tradition

Rost et al. (2017). *The Anaclitic-Introjective Depression Assessment (AIDA).*
The authors developed a Q-sort measure with the aim to investigate the heterogeneous and multidimensional nature of chronic depression following Blatt's (1974, 2004) Two-Configurations model that distinguishes between anaclitic (dependent) and introjective (self-critical) depression. They proposed that a clinical, observer-rated tool utilising a person-centred approach would be able to access important aspects of underlying personality functioning of depressed individuals, which available self-report questionnaires are not able to capture.
The authors used the well-established item pool of the aforementioned SWAP-II (Shedler & Westen, 2007) and expert consensus rating for their concourse and derived a finalised 59-item Q-set to be rank-ordered according to a fixed asymptotic distribution (+1 − + 5). Example items include: 'Appears to fear being alone, may go to great lengths to avoid being alone' and 'Expects self to be perfect'.
Q-factor analysis identified four Q-factors of depressed patients: Two sub-dimensions of the anaclitic configuration named *Submissive Depression* (Factor 1) and *Needy Depression* (Factor 4) and two sub-dimensions of the introjective configuration, named *Dismissive Depression* (Factor 3) *and Self-Critical Depression (Factor 2).* Examination and interpretation of the Q-factors revealed that issues and concerns within each respective configuration are expressed at different development levels. The authors concluded that individuals falling within *Submissive* and *Dismissive Depression* express their respective anaclitic or introjective characteristics at a more problematic, more maladaptive and lower functioning level; whilst individuals prototypical of *Needy* and *Self-Critical Depression* express theirs at a less problematic, less maladaptive and higher functioning developmental level.
In line with this tradition's adaptation, the authors combined Q- and R-methodology and assessed the AIDA's psychometric properties, reliability and validity in a sample of 129 patients diagnosed with treatment-resistant depression. It provided good preliminary evidence for a promising observer-rated Q-sort measure that allows the detection of important nuanced differentiation between and within anaclitic and introjective depression.
In a second study, Rost et al. (2019) found statistical and clinical significant differential treatment responses between these four groups of depressed individuals, calling for the need to tailor psychotherapy to individuals' pre-treatment personality features and functioning.

if certain precautions are observed and limitations are accepted (Danielson, 2009; Ozer, 1993), it does diverge from Stephenson's proposed philosophy and epistemology, and as such has been heavily criticised by traditional Q-methodologists. Pivotal R-concepts, such as reliability and validity, do not apply in the same way to traditional Q-methodology. Utilising Q-sorts to study individuals' opinion and viewpoints, where the resulting factors from Q-analysis represent clusters of subjectivity, cannot be generalised or compared to other measures (McKeown & Thomas, 2013). Meaning and significance are determined by the study participant(s), to which external criteria cannot be applied. From this perspective, the validity of a Q-sort is assessed by the subject reviewing the resulting factors and assessing the degree of satisfaction regarding the empirical representation of their viewpoint (Brown, 1980). Block's combination approach, on the other hand, suggests generalising the results to a particular population, therefore demonstrating that the Q-study successfully captured an acceptable proportion of naturally existing characteristics or perspectives, as well as assessing their prevalence (Danielson, 2009).

Therefore, combining Q- and R-methodology within this tradition creates conflicts and limitations. This includes that Q-sorts cannot be correlated with each other and likewise cannot be tested for statistical significance in the same way in which measures collected in R-fashion are usually analysed (Ozer, 1993). Similarly, Q-sorts cannot be simply correlated with external variables in R-format, which provides a complication for studies that wish to establish validity that way. A solution to this problem, however, was put forward by Block (1961b), who suggested the calculation of the correlation coefficient between a prototype and each individual Q-set. In practical terms, this entails the development of a prototype or template of the construct one wants to investigate. As the resulting correlation coefficients belong to the same class (R-system), it is possible to subsequently establish convergent and discriminant validity of the Q-sort measure. However, the Q-sort would need to be sufficiently large, encompassing enough attributes so that the intrinsically negative correlations between saliences are small in order not to affect the correlations with other measures (Asendorpf & Van Aken, 1999). Another option is the comparison of groups. Once individuals have been assigned to a relevant group (each Q-factor represents a group), mean differences between these can be calculated in the usual way (Block, 1961b). This leads to a final point for consideration; that of sample size. It is perhaps the most difficult practical aspect to reconcile when combining both systems, as the sample requirement in Q-methodology is much smaller than that considered necessary for taxonomic work following R-principles, leading to potential limitations of the results (Brown, 1980; Danielson, 2009).

Notwithstanding these limitations, Block's combination of the two systems can be seen as an expansion of the methodology that aims at addressing the particular research questions that often lie at the interface between nomothetic and idiographic enquiry. As such, rather than encouraging further debate as to whether the adaptation- and extension of the method are Q or not Q, the aim of this paper is to underscore this particular unique scientific merit and the opportunity it offers to the scientific community.

10 | CONCLUDING REMARK

As was outlined in the present paper, Q-methodology initially developed by Stephenson in the 1930s has undergone several transformations since and can broadly be placed within three main traditions or schools. Despite its long history and application in a variety of disciplines, its unique scientific advantages remain sadly unacknowledged and, as a consequence, it is largely underused in counselling and psychotherapy research. A possible explanation might be a general misunderstanding and confusion that the various adaptations of the methodology brought about,

as well as the disagreements between methodologists that accompanied these. By definition, a model that aims at dissolving boundaries and thereby creates something new may inherently generate conflict and discomfort (Newman & Ramlo, 2010; Stenner & Stainton-Rogers, 2004). As was shown within each tradition, Q-methodology bridges the divide between qualitative and quantitative methods, or, in other words, between clinical and personal knowledge and the quantitative systematisation of it. As such, as Ridenour and Newman (2008) have pointed out, Q-methodology provides a third research methodology that we have at our disposal. It is therefore hoped that the present paper stimulates an interest in adding it to our repertoire of research methodologies and clinical tools, thereby allowing Q-methodology to move from its current peripheral position closer towards the centre of contemporary science.

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