Making sense of subjectivity: Q Methodology in counseling research

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Abstract:

Q Methodology is a research method that focuses on systematically exploring individuals' subjective viewpoints. Q Methodology contains both quantitative and qualitative components and involves the exploration of an individual's internal and subjective viewpoints, opinions, and attitudes, proving to be particularly relevant for counselors who are interested in human thoughts and behaviors. This article outlines the philosophical roots of Q Methodology, along with the practical steps of implementing a Q study. An overview of the potential uses of Q Methodology in counseling research and practice is provided.

Keywords: Counseling | Q Methodology | research methods | subjectivity | viewpoints

Article:

Q Methodology is a research technique that is focused on the scientific and systematic exploration of subjectivity, or personal viewpoints (Brown, 1993; McKeown & Thomas, 2013; Watts Stenner, 2012). Although Q Methodology was first developed in the early 20th century, it remains in a "somewhat fugitive status within the larger social scientific community" (McKeown & Thomas, 2013, p. 11). This might be because it is not well understood and does not neatly fit into a quantitative or qualitative box. However, this is also where the strength of this approach lies, as it is a research methodology that complements the strengths of both quantitative and qualitative methods to explore subjectivity rigorously. Although Q Methodology has been used across various fields including nursing, human geography, psychology, social work, political science, and environmental policy among others (e.g., Adams & Proops, 2000; Brown, 1980; Dennis, 1986; Eden, Donaldson, & Walker, 2005; Ellingsen, Storksen, & Stephens, 2010; Shemmings, 2006), the exploration of subjectivity is particularly relevant to the field of counseling. Because counselors are helping professionals who seek to empower diverse people toward mental health and wellness (American Counseling Association, 2017), gaining a better understanding of an individual's subjective attitudes and beliefs is an important step to increase our understanding of the internal perspectives that shape human behavior. As we are able to increase our understanding of individuals' shared perspectives, it will ultimately enhance our

knowledge of how we can best serve clients as helping professionals, ultimately promoting best clinical practice. In this article, we outline the theoretical foundation and specific steps of Q Methodological research, with implications for research, program evaluation, and practitioners. Our goal is to provide an overview of Q Methodology as a rigorous and valuable research approach that can be beneficial specifically for counseling researchers and practitioners.

Theoretical Foundation of Q Methodology

Q Methodology is grounded in the scientific examination of a person's internal self-reference or subjective viewpoint (McKeown & Thomas, 2013). In contrast to an inductive phenomenological introspection, Q methodology relies on operant subjectivity in the sense that individuals express their internal viewpoints through an active or operational manner by physically rank ordering items to represent their perspective (McKeown & Thomas, 2013; Watts & Stenner, 2012). Operant subjectivity includes the connection between the individual person and the expression of, "*his* belief, *his* opinion, *his* idea, *his* thoughts, *his*attitude, and *his* notions" (Stephenson, 1961, p. 21), in relation to the environment. This allows an individual's internal subjectivity to present in the form of a behavior or activity that is not simply isolated inside the mind or distinct from the outside world (Watts & Stenner, 2012). The fundamental connection between subjective internal viewpoints, expressed in a behavioral manner, makes this approach particularly salient to social science researchers (e.g., counselors) who are concerned with human attitudes and behaviors.

Researchers who implement Q Methodology combine aspects of both qualitative and quantitative approaches to provide a systematic structure to explore and explain various viewpoints regarding a particular topic (Brown, 1996). Specifically, Q Methodology was developed by William Stephenson in 1935 to challenge the predominant form of psychological research based on hypothesis testing and sampling methodology, which relies on the conjecture that individuals are alike with the exception of certain errors (i.e., individual differences; Stephenson, 1961; Watts & Stenner, 2005). In contrast, Stephenson promoted the philosophy, which he coined *centrality of self,* that everyone is different until you obtain ample evidence otherwise (Stephenson, 1961). This is where similarity with more qualitative constructivist paradigms comes into play. The uniqueness and value of Q Methodology is the intersection between the philosophical underpinnings of Q Methodology much like qualitative traditions, and the quantitative components, which render a systematic and scientific approach to uncovering the unique, subjective viewpoints of individuals. In other words, Stephenson developed Q Methodology to account for some of the limitations of R factor analysis and positivist correlational research (Shemmings, 2006; Watts & Stenner, 2005, 2012).

In contrast to R factor analysis, which breaks up a phenomenon into individual components, Q Methodology has a gestalt emphasis and holistic approach, focused on grouping individuals' perspectives or viewpoints (Shemmings, 2006; Watts & Stenner, 2005). Specifically, Stephenson observed that R factor analysis could be inverted to run by-person factor analysis to attempt correlations between people, as opposed to traditional tests or variables (Watts & Stenner, 2012). As a result, researchers are able to identify and group shared viewpoints and perspectives, making this a unique research approach that has been viewed as "'quantifying' qualitative data" (Shemmings, 2006, p. 147).

Steps in Q Methodology

There are a number of specific steps that comprise Q Methodology in practice. We now turn to the practical aspects and the nuanced language of Q Methodology through outlining the steps used to explore individuals' subjective perspectives, including the development of the Q sample, P set, Q sort procedure, and data analysis.

Q Sample

Although most counseling researchers equate a "sample" with individuals selected from the population of interest, Q Methodology is unique in that the Q sample selects items of interest as opposed to individuals. It is not, therefore, referring to people specifically. The Q sample is a group of items selected from the larger concourse surrounding a topic of interest that is designed to adequately represent that topic. The concourse is the raw material from which the Q sample is drawn (Brown, 1993), which can be obtained through multiple avenues such as interviews, written narratives, or real-world communications such as newspapers, talk shows, and radio shows, as well as through ready-made resources (e.g., scholarly literature, research, standardized rating scales), or through a hybrid of both of these methods (Brown, 1993; Eden et al., 2005; McKeown & Thomas, 2013; Van Exel & De Graaf, 2005; Watts & Stenner, 2012). When developing items from the larger concourse, Eden et al. (2005) suggested that the concourse is complete when statements or materials begin to repeat themselves, thus reaching a saturation point.

Although the Q sample is often presented in the form of statements or words, it can also be comprised of different types of media including pictures, words, audio clips, visual arts, and objects, with the final form determined by what will best answer the research question (Watts & Stenner, 2012). No matter the form, the final Q sample should include a subset of items developed from the concourse (McKeown & Thomas, 2013; Watts & Stenner, 2012) and represent the depth and breadth of the topic of interest.

So how is the Q sample, as a subset of the concourse, developed from such a vast amount of information surrounding a topic? Once items have been created or selected through naturalistic or ready-made inquiries, the researcher needs to determine the final Q sample that will be used. This sampling of items can be structured or unstructured. Structured sampling is a systematic approach that breaks the topic into a set of themes often based on existing theory, previous research, or emergent themes from the initial items (McKeown & Thomas, 2013; Watts & Stenner, 2012). If using the structured approach, the Q sample must cover all relevant themes in a balanced and comprehensive manner (McKeown & Thomas, 2013; Watts & Stenner, 2012). For example, if researchers are exploring a concourse related to attachment, they might identify four main conceptualizations of attachment (e.g., secure, anxious-preoccupied, dismissive-avoidant, fearful-avoidant) from which Q sample statements could be organized, with an equal number of items represented in each category. In contrast to a structured design, unstructured sampling is often used when theory around a topic is underdeveloped or does not exist (McKeown & Thomas, 2013). As a result, researchers developing an unstructured sample

attempt to comprehensively cover a topic as a whole without breaking the concourse into predefined or explicitly designed subcategories.

Regardless of using a structured or unstructured approach, a general rule of thumb in developing the Q sample is to ensure that the items are balanced and representative of the concourse (Watts & Stenner, 2012). Initial item sampling from the concourse will often generate a list of between 100 and 300 items (Webler, Danielson, & Tuler, 2009), and will often be approximately two to three times larger than the final number of statements in the Q sample (Cross, 2005). After the initial set of items are pulled, the list is then refined and reduced to create the final Q sample with attention to ensuring that it is clear, balanced, and unbiased toward any one viewpoint or opinion (Watts & Stenner, 2012). Typically researchers need to scrutinize their items to remove unclear or ambiguous items and to merge items that are redundant or overlapping to reduce the initial Q sample to a manageable set that can be sorted by participants. Throughout this reduction process, the researcher needs to constantly ensure the retained items remain accurate and representative of the concourse.

Next, a pilot test is conducted to refine the final Q sample. Pilot testing should include testing the adequacy, accuracy, and coverage of the Q sample with subject matter experts as well as lay persons (Watts & Stenner, 2012). The number of items in the final Q sample will vary greatly, but researchers commonly use between 40 and 80 items, with lower numbers used when working with children or individuals with learning difficulties (Watts & Stenner, 2012). The final items in the Q sample are then randomly numbered and placed on individual cards, which become the instrument participants physically sort during the Q sort process to express their subjective viewpoints.

P Set

Individuals or participants who sort the Q sample are known as the P set. The P set is typically chosen using strategic sampling that is theoretical or purposeful in nature, where participants are chosen to represent comprehensiveness and diversity of opinions among a specific population (Eden et al., 2005). Because the purpose of Q Methodology is to explore the subjective perspectives of individuals in a population, it is important to make a concerted effort to ensure sufficient variability among participants to capture all of the relevant viewpoints pertinent to the specific research question (McKeown & Thomas, 2013; Watts & Stenner, 2012). For example, if a researcher is exploring the attitudes of counselors-in-training toward their internship experiences, it might be important to recruit participants at various points in their internship, as well as participants who have varying life experiences (e.g., students with and without children, who have additional jobs outside of their internship, or are in different internship settings). This purposeful sampling increases the chance that varying viewpoints and experiences are obtained. Additionally, P sets can be developed using structured systematic criteria, also known as a factorial design, which is similar to the structured Q sample approach (McKeown & Thomas, 2013; see Table 1). Researchers incorporating a structured P set recruit individuals according to an explicit factorial design or matrix that is based on systematic criteria applied to the desired characteristics of participants. This approach might result in a data-rich sample that can be useful during factor interpretation. Although varying viewpoints are important, Brown (1993) stressed that, "the focus is on quality rather than quantity" (p. 94). In fact, Q studies can

be conducted with a very small number of participants, and numbers can vary from a single case of one participant to extensive analysis of 100 participants, which is typically determined by the scope and focus of the study (McKeown & Thomas, 2013). Watts and Stenner (2012) provided the general guideline to include fewer participants than the number of items in the Q sample, specifically suggesting 40 to 60 participants as adequate with quality studies conducted with far less participants. Given that the unique nature of Q methodology is to establish the existence of specific viewpoints, generalization to the larger population is not the goal; thus, large sample sizes are unnecessary and relatively unimportant (Brown, 1993; Watts & Stenner, 2012). This is also where Q methodology diverges from traditional R methodologies that typically have large sample sizes and a goal of generalization to the larger population.

Table 1. Example of Factorial Design or Structured P-Set.

Dimensions	Types			*N*
A. Sex	a. Male	b. Female		2
B. Age	c. 20–30	d. 31–40	e. 41 and older	3
C. Counseling track	f. Mental health	g. School		2
D. Internship group	h. 1st internship			2
	i. 2nd internship			

Note. P-set (*n*) = (Criteria) (Replications) = ([A] [B] [C] [D]) (Group).
(A) (B) (C) (D) = (2) (3) (2) (2) = 24 combinations; Group = 2.
n = (24) (2) = 48 subjects for the study.

Q Sort Procedures

After the Q sample has been created and the P set determined, the researcher can begin collecting participant data. In what follows we describe the Q sort procedures including the collection of relevant information, conducting the Q sort, and the post-sort interview.

Collection of Relevant Information

After participants are recruited, it is important to gather relevant information from participants that might influence how the researcher understands participant viewpoints (Watts & Stenner, 2012). This can include, but is not limited to, participant demographics or any relevant scales or measures. For instance, in our previous example regarding the exploration of a counselor-in-training's attitudes toward their internship experiences, we could gather information related to students' status in the counseling program, their grade-point average, marital or parental status, internship setting, or counseling self-efficacy. This information will prove to be valuable during the factor interpretation process. It is important to keep in mind, however, that this type of contextual information should not be used to dictate data interpretation or force conclusions based on predetermined measures or demographic variables. In contrast, relevant information that is collected prior to the Q sort process should be used as a tool to aid in factor interpretation after data emerge from the Q sorts and initial factor analysis (Watts & Stenner, 2012).

Q Sort

The Q sort process is a data gathering method that involves asking individuals to physically rank order the Q sample according to a continuum or "rule" known as the condition of instruction (e.g., most agree to most disagree; Brown, 1993; McKeown & Thomas, 2013). Participants are typically asked to sort the items within a fixed-choice symmetrical distribution, akin to an upside-down bell curve (Cross, 2005; Watts & Stenner, 2012; see Figure 1). A rating scale (e.g., –4 to +4, –3 to +3) is printed across the top of the distribution with the range of the scale depending on the number of statements in the Q sample. Brown (1980) provided the following guidelines for choosing the range of the rating scale: (a) Q samples of 40 items or less should include a 9-point distribution (–4 to +4), Q samples with 40 to 60 items should include an 11-point scale (–5 to +5), and Q samples of 60 items or more should include a 13-point scale (–6 to +6). However, ultimately the choice is up to the researcher. Therefore, Q sorting consists of each participant in the P set rank ordering the Q sample to create a final Q sort, which is the final array of Q sample items. The final Q sort is what allows the researcher to obtain the subjective perspectives of participants (Brown, 1980; Watts & Stenner, 2012).
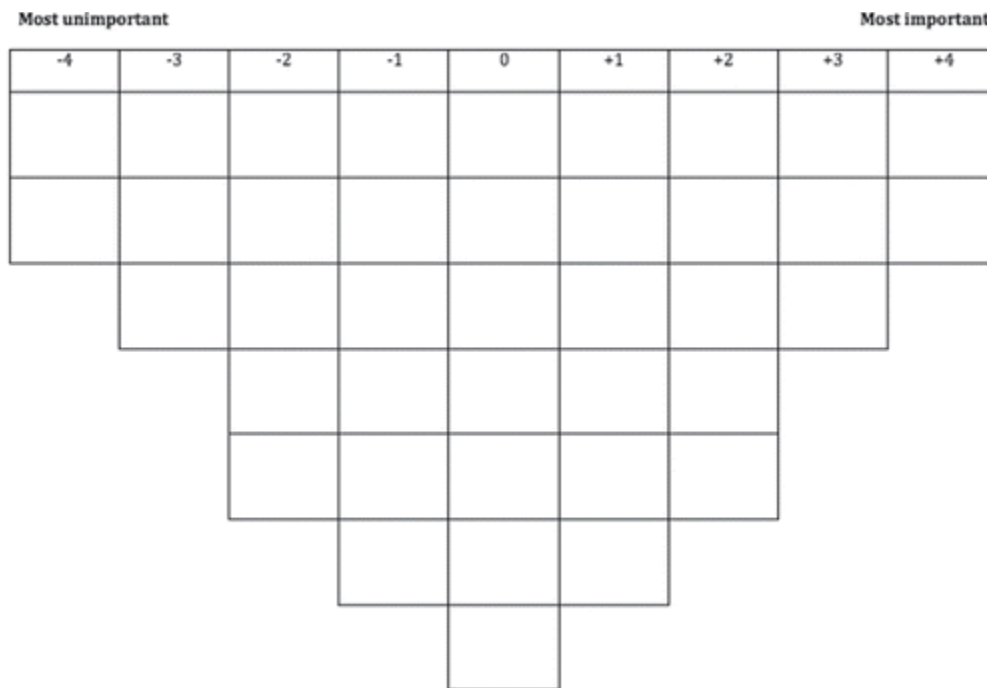

Figure 1. Example of fixed distribution Q sort grid.

It is important to be attuned to the participant during the Q sort as each participant's process can provide valuable information. For example, a counselor-in-training who takes 15 minutes to sort through 50 items might either be very certain of their choices, or might not have paid much attention or given the items much thought before sorting; whereas another counselor-in-training might have a difficult time sorting the 50 items, might show some distress over not being able to place all of the items in the "most agree" or positive side of the distribution; or finally, another participant from your P set might ask you multiple questions about what items mean. Each of these processes during the Q sorting process provides you information and insight into the perspectives of each student. However, the researcher should never assume what each behavior means, but instead should incorporate questions about the sorting process into the post-sort interview. For example, you might ask the second participant, "I noticed that you were frustrated

during the sorting process, can you tell me a little about that?" It should be noted, similar to demographic items, this information is not used to force any conclusions or influence the resulting factor arrays and groups of individuals, but can be used to assist in understanding and interpreting the factors that emerge.

Post-Sort Interview

After the Q sort process is complete, participants engage in a post-sort interview. The post-sort interview is an important step in Q Methodology, as it provides more in-depth information regarding each participant's broader perspective about the topic under consideration. This includes understanding why the participant might have sorted a specific way, and elaboration on particularly salient statements that could help researchers better understand the participant's subjective experience (Brown, 1980; Watts & Stenner, 2012). Unlike qualitative analysis, transcribed interview data are not coded or themed, but used holistically to provide richer information during factor interpretation, increasing the quality and rigor of the study (Watts & Stenner, 2012).

Data Analysis

A description of the initial statistical procedures used during the data analysis process is outlined here, followed by how to conduct factor interpretation. Statistical analyses include (a) correlation, (b) initial factor analysis, (c) factor rotation, and (d) development of factor scores and factor arrays. These analyses are typically conducted through specific Q Methodology software, such as PQMethod (Schmolk, 2014). These programs make the statistical input and analysis of Q sort data simple and user friendly.

Correlation

The first step is to create an initial correlation matrix with the computation of Pearson product–moment correlations for each pair of Q sorts. This correlation matrix provides an initial view of patterns, as well as similarities and differences among participants, from which factors are drawn. Practically speaking, the researcher does not often spend much time analyzing this by-person correlation, beyond viewing initial patterns. However, it is an important statistical step in the factor analysis process.

Initial Factor Analysis

After the correlation matrix is created, initial factor analysis can begin. Factor analysis is foundational to Q methodology because it is the statistical means by which participants are grouped, with the factor processes similar to R method procedures (McKeown & Thomas, 2013). The difference, however, is that the P-set or the participants are being factored, as opposed to the individual items. A number of statistical methods can be employed for initial factor analysis including principal component analysis (PCA) or centroid factor analysis, with theoretical or methodological arguments for both. For a more detailed description of choosing which method to employ, see Watts and Stenner (2012).

After determining the most appropriate method of factor analysis, similar to the steps taken in R method procedures, the researcher needs to make decisions. These decisions might include determining how many factors to extract, whether to rotate factors, and which participants to retain on the specific factors. For factor extraction, a combination of eigenvalues along with the number of participants that load on each factor need to be considered. Similar to R factor analysis, eigenvalues are used to assist in making factor extraction decisions; however, caution should be taken, as using eigenvalues as the sole criteria can lead to meaningfulness factors or exclusion of potentially significant factors in Q Methodological studies (Brown, 1980; McKeown & Thomas, 2013). Therefore, although taking eigenvalues into consideration, researchers should use significant participant factor loadings as the starting place for factor retention and extraction. Q Methodologists suggest identifying significant participant loadings on factors at the .01 level through the equation $2.58 \left(\dfrac{1}{\sqrt{of\ items\ in\ Q\ Set}} \right)$ and retaining factors in the unrotated factor matrix that have two or more significant participant loadings (Brown, 1980; Watts & Stenner, 2012).

Factor Rotation

The most typical method of factor rotation is the varimax method of orthogonal factor rotation (McKeown & Thomas, 2013). Varimax rotation is employed to ensure that each extracted factor offers the most fitting and informative perspective or viewpoint (Watts & Stenner, 2012). The rotated factor loadings allow researchers to identify how close an individual Q sort approximates a particular factor, which ultimately aids in the decision for final factor extraction. Although factor rotation is not always used, it is a commonly employed method in determining final factor extraction. As Eden et al. (2005) pointed out, "The results of a Q study therefore depend on the researchers' decision about how to rotate factors and which factors to retain … this brings the researchers' subjectivity into the heart of the seemingly most quantitative stage of Q" (p. 418).

Factor Scores and Factor Arrays

After the final factors are extracted, factor estimates are created. Factor weights are calculated for each Q sort that significantly load onto each factor. This results in factor estimates (total weighted scores) that are converted into *z* scores, or normalized factor scores. Each individual factor score is then converted into a factor array, or composite Q sort "configured to represent a viewpoint of a particular factor" (Watts & Stenner, 2012, p. 140), representing the most approximate estimate of a specific factor. Next, researchers examine the correlations between factor scores to identify the relationship between factor arrays that aid in the factor interpretation process. These by-factor correlations can help the researcher identify the level of distinction between each extracted factor, or its uniqueness, which can help with the determination of how many factors to extract. It is important to note that factor scores, as opposed to factor loadings, are the primary sources of data used during factor interpretation (Brown, 1993).

Factor Interpretation

Factor interpretation is an interpretive process that involves naming and describing each factor (Eden et al., 2005). As mentioned previously, Q methodology is concerned with holism and as a result, factor interpretation must take into account the entire item configuration that is

represented by a particular factor array (Watts & Stenner, 2012). This includes identifying items in the factor array that were ranked at each pole (e.g., +4, –4), distinguishing items (items that are ranked in a significantly different manner compared to all other factors), and consensus items (items that were ranked in a similar way across all factors). Distinguishing and consensus items are typically determined by the Q Methodological program, such as PQMethod, the researcher employs. These distinguishing versus consensus items can help researchers understand which items were similarly sorted on the continuum by participants across most or all factors, versus the items that statistically significantly differentiated participants on one factor from another based on the importance they assigned to the specific item. This helps the researcher to better understand commonalities versus unique perspectives.

Similar to R factor analysis, factor naming and interpretation is a subjective process (Mvududu & Sink, 2013) and really speaks to the factor interpretation process. This interpretation process includes an integration of all information, as this is imperative in telling the subjective stories of each group (factor) perspective. Thus, in Q Methodology, the researcher needs to first consider the statistical grounding of the factor analysis to identify and establish shared, and differing, viewpoints (factors) about a particular topic. Then, the distinguishing and consensus statements need to be considered, as these assist in showing unique versus universal perspectives. Then to better understand what each of these statements or items means in combination with where all other items have been placed on the continuum within each factor, each individual post-sort interview and demographic survey information needs to be explored and applied to the quantitative factor structures that have emerged. It is the combination of all of this information, along with the theoretical background knowledge the researcher might have of the subject, that are integrated to provide a full picture or narrative of each of the subjective perspectives that transpired. This narrative that emerges then needs to be provided to others in a way that is credible and trustworthy (i.e., supported by the data and quotes from participants) to describe each factor and its unique characteristics, and ultimately, the participants' subjective viewpoints the factor represents.

Q Methodology in Practice

To provide a practical example of the steps outlined in Q Methodology as well as its utilization in counseling research, we turn to a study conducted by Stickl (2017). Given the conceptual variability of sense of belonging in school across the literature, the researcher wanted to better understand the meaning of belonging from students' subjective viewpoints. She chose Q Methodology to examine urban middle school students' perspectives of belonging in school.

Q Sample

The Q sample was developed from the concourse, which consisted of scholarly literature across multiple fields including both empirical and conceptual writings. Stickl (2017) used a structured deductive approach for item sampling because three dimensions or categories of belonging were identified based on the existing literature. The initial set of items included 177 statements across the three categories of belonging, which then went through a refinement process. This included obtaining feedback from five subject matter experts resulting in a final list of 37 items (with approximately equal number of statements in each category), including statements such as

"working hard in school," "feeling like my race is respected," and "adults at school believing in me." Statements were randomly numbered and placed on cards to create the final Q sample.

P Set

The criteria for the P set included any student in Grade 6, 7, or 8 who attended middle school in an urban setting. One middle school agreed to participate because it met the stated criteria. Given the suggested number of 40 to 60 participants, the researcher used a strategic sampling approach to enlist a total of 43 middle school students who ranged in their experiences and perceptions of school.

Q Sort Procedures

Participants began by completing a demographic questionnaire (including general demographic questions and questions related to experiences in school). Participants were then given an enlarged fixed distribution with nine columns raking from –4 (*most unimportant to what belonging in school means to me*) to +4 (*most important to what belonging in school means to me*). Participants rank ordered the statements according to the condition of instruction, which directed students to sort the cards to best describe what belonging to school meant to them. As participants completed the sort, the researcher took notes as to any changes the student made and comments they made during the process, creating additional observational data that were used during later data analysis. For example, during the Q sort process the majority of students expressed that they found the process of rank ordering items challenging because they wanted to place many of the statements in the +4 or +3 columns. These observations helped the researcher identify the complexity of the topic, which increased her understanding of the depth of the factors that emerged later on. Finally, participants engaged in a semistructured interview where they were asked about their experiences and opinions regarding their sorts and items.

Data Analysis

To analyze the Q sort data, the researcher used PQMethod (Schmolck,). Seven factors were initially extracted for exploration based on the strategy that one factor can be extracted for every six sorts (Watts & Stenner, 2012). After calculating the level of significance, significant sorts were flagged on an unrotated factor matrix. The researcher retained three factors based on Q methodologists' recommendations to extract factors that contain two or more significant factor loadings (Watts & Stenner, 2012). Varimax method of orthogonal rotation was then used because of the objective and reliable nature of Varimax and because PQMethod employs orthogonal rotations (as opposed to oblique). When the researcher examined the rotated solutions, she reviewed interview data of sorts that significantly loaded onto those factors, which helped contextualize each factor solution. However, after inspection of both the unrotated and rotated solutions, along with Q sort and interview data, factors were left unrotated. Specifically, the researcher identified that the shared perspectives of students were most similar and appropriate in the unrotated factor solution. In addition, she also explored the correlation between the factor scores of the unrotated solution, which revealed no significant correlations suggesting that each factor represented a distinct viewpoint. Next, the researcher excluded any sorts from further analysis that significantly loaded onto more than one extracted factor or did

not load onto a factor, because statistically they represented individual perspectives that did not closely approximate others. Finally, normalized factor scores (z scores) were created for each statement through PQMethod, and each individual factor score was converted into a factor array to represent a composite Q sort for each factor.

Finally, the researcher began the factor interpretation process by systematically examining the factor array for each extracted factor. She identified the important statements (specifically at the polarized ends) for each extracted factor and how each array was relative to the other two factors. This process allowed the researcher to create a preliminary hypothesis about how the individual ranking of statements related to the perspective of the factor as a whole. She then examined and integrated the specific demographic information and transcribed interview data relevant to each factor. This added to the holistic picture of each factor array and provided important additional information that enriched the initial interpretation. For example, interview data revealed that some students' interpretations of racial respect were directly related to the broader political tensions that were happening around the time of the 2016 election, leading to important interpretations of what cultural respect meant to students' belonging in school at that point in time. Additionally, demographic information revealed that all students who loaded onto one of the factors were students of color. This additional information proved critical to the factor interpretation process to understand and contextualize the quantitative data. Finally, the researcher developed a factor name and narrative that captured the viewpoint of each factor including "Belonging is Finding My Place in Academics" (Factor One), "Belonging is Being Myself and Connecting with Others" (Factor Two), and "Belonging is Cultural Respect and Adult Support" (Factor Three). Based on the results, the researcher found a number of limitations in the previous aggregate statistical data available on students' sense of belonging, supporting important implications for research and school counseling practice.

Conclusion

Q Methodology is a viable and valuable research method for the counseling field. It represents a distinct approach to research that incorporates the methodological components and philosophies of both quantitative and qualitative components to make decisions about how to group subjective opinions. Q Methodology has the potential to contribute to a better understanding of the strengths and challenges in best clinical practice as we identify viewpoints and attitudes of specific client populations, counselors, or counselors-in-training. Q Methodology also has the potential to be an invaluable tool for program development and evaluation (Lennise, 2010). Identifying the existence of specific viewpoints, opinions, or attitudes within a specific population or program can provide crucial information that could become foundational for the development of logic models, program planning, and specific program goals and objectives that incorporate various viewpoints of the target population. These implications are important in any setting, including educational training programs, K–12 schools, higher education, clinical mental health settings, and even medical and integrated care settings. Additional resources that counselors might refer to regarding the theoretical and practical considerations of Q Methodology include McKeown and Thomas (2013), Watts and Stenner (2012), and Newman and Ramlo (2010). Additionally, there are various examples of the practical use of Q Methodology in counseling research (see Janson, Milltello, & Kosine, 2008; Kindsvatter, Osborn, Bubenzer, & Duba, 2010; Shinebourne & Adams, 2007; Trepal, Wester, &

Shuler, 2008; Wallis, Burns, & Capdevila, 2011). There is an entire journal devoted solely to Q Methodology entitled *Operant Subjectivity* that is also a good resource.

It is important to note the ethical and cultural implications that should be considered when implementing Q Methodology. As with any research method, researchers need to consider the ethical standards as outlined by the American Counseling Association (ACA, 2014). Given the combination of quantitative and qualitative aspects of Q Methodology, it is important to remember that the physical act of rank ordering items during the Q sort, along with the post-sort interview, might bring up triggering experiences, memories, or events for participants. Researchers should take precautions to share this risk with participants ahead of time and vigilantly assess any emotional reactions throughout the process from the participant. Furthermore, it is important to consider cultural implications, particularly when drawing from the concourse. Researchers should make every effort to identify diverse perspectives and input to fully represent the concourse as a whole, not simply a biased body of knowledge. Unfortunately, Q Methodology is often an underutilized research and evaluation approach that has significant potential for advancing the counseling field. Given the focus on the value of subjectivity, integrated with sound statistical and empirical data, Q Methodology is an inimitable option for counseling researchers, evaluators, and practitioners.

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