INTRODUCING THE SITUATIONAL Q-SORT TO CRISIS PRACTICE AND RESEARCH: EXPLORING BEST PRACTICES AND IMPLICATIONS

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ABSTRACT
Crisis communicators face many obstacles while engaging with impacted audiences during a crisis. Communicators must determine when, how, and where to disseminate effective crisis messages. Most research on crisis communication message strategies has involved experiments, content analysis of published media (traditional and social) through monitoring platforms, interviews, and questionnaires. However, the recently developed Riverside Situational Q-sort (RSQ; Funder et al., 2012; Sherman, Nave, & Funder, 2010) provides a novel method for quantifying subjective impressions of any situation. The RSQ as a methodology provides a window of opportunity for researchers as well as an effective tool for practitioners for determining what messages are most effective for a given situation. This paper provides an overview of the crisis communication methodologies already implemented, discussion related to preliminary results using the RSQ (Freberg, Saling, & Freberg, 2013), and best practices and implications for practitioners and researchers to note when implementing this method in their crisis message strategies.

INTRODUCTION
Crisis communicators face many obstacles while engaging with impacted audiences during a crisis. Communicators must determine when, how, and where to disseminate effective crisis messages. Traditionally, crisis communications research has focused on the most effective message strategies in a crisis situation (Coombs & Holladay, 2008)

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and the impact messaging has on the relationship between an organization and its audiences (Coombs & Holladay, 2015). To develop the most effective persuasive messages, the crisis communicator must have concrete information about how a crisis situation is perceived by audiences.

1. Modeling Audience Perceptions of Situations

Reactions of audiences to persuasive messages have been investigated using a number of different theories and methodologies. Established intention models, such as the Theory of Reasoned Action (TRA; Fishbein & Ajzen, 2010) and the Theory of Planned Behavior (TPB; Fishbein & Ajzen, 2010), can be used to explain and predict an audience’s intention to comply with crisis messages (Freberg, 2012b). These models propose that a person’s intention to comply with a persuasive message can be predicted by his or her attitudes and subjective norms (TRA) in conjunction with the person’s belief in his or her own ability to comply (TPB). In turn, attitudes may be viewed as the product of the value and weight of the information contained in a persuasive message (Anderson, 1971; Fishbein, 1967). Value corresponds to the positive or negative valence of a message. A person might view compliance with a crisis message as a good thing (positive) or bad thing (negative) to do. Weight indicates importance. Individuals might place different weights on the importance of complying with a crisis message, such as a tornado warning. Some will view the warning very seriously, while others might believe that warnings are too alarmist and can be safely ignored.

The value and weights placed on persuasive information in a crisis message are the results of perceptual processes. How the audience members perceive the crisis situation and the messages relevant to the crisis will shape their attitudes and intentions to comply. How can crisis communicators’ best assess these perceptions?

Psychological research is a logical place for crisis communicators to look for methods that capture audience perceptions of crisis situations. However, psychology has paid more attention to the psychologically important characteristics of persons, and has neglected the need for comparable exploration of the psychologically important characteristics of situations (Rauthmann, Gallardo-Pujol, Guillaume, Todd, Nave, Sherman, ...Funder, 2014). The neglect is surprising, given the contemporary consensus among personality and social psychologists that outcomes reflect complex and dynamic interactions between the person and the environment (Funder, 2009). This interactive approach has early roots in the work of Lewin (1936) and his famous formula $B = f(P, S)$, in which $B$ (behavior) is a function of $P$ (person) and $S$ (situation). Psychology features a wealth of data and methodology regarding $P$, such as the widely accepted “Big 5” types of taxonomies (MacRae & Costa, 1996). Despite the recognition that the person acts within a context, making the understanding of that context essential, psychology has not provided a literature or methodological toolkit for the study of situations comparable to those provided for the study of persons.

Several barriers have prevented the development of methods for evaluating situations, beginning with the difficulties inherent in defining what exactly a situation
entails. Rauthmann et al. (2014) argued that situations are “meaningful and impactful” (p. 679). Beyond that beginning definition, situation perception involves interactions between five major components (see Figure 1): situation cues, concurrent information processing, person aspects, situation characteristics, and behavior (Rauthmann et al., 2014). Our interest in this paper is in the nature and measurement of the situation characteristics.

**Figure 1: A Working Model of Situation Perception (Rauthmann et al., 2014, p. 679).**

Another barrier to our understanding of the important features of situations is the absence of appropriate instruments and methods. Among the few rare instances is the work of Lachlan and Spence (2007) on an instrument designed to capture impressions of Hurricane Katrina. The authors presented data supporting the efficacy of their instrument, but noted that their questions were highly specific to that particular crisis. They argued for the development of items that could be used interchangeably across scenarios.

### 2. Q METHODOLOGY BASICS

Q methodology is a relatively infrequently used approach introduced by physicist William Stephenson (1935). Stephenson was mentored by none other than Charles Spearman, who invented factor analysis (Brown, 1993). The purpose of Q methodology was to capture subjectivity in valid, scientific ways. Stephenson (1935) described the Q methodology as correlating persons, which then provides information about similarities and differences in the population’s perceptions of an entity (van Exel & de Graaf, 2005).
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Not too surprisingly, given Stephenson’s history, Q methodology and R methodology (factor analysis) appear on the surface to have some similarities. A longstanding debate over the relationship of Q and R between Stephenson and Cyril Burt (1937, 1940) lasted for decades. Stephenson (1935) distinguished between R methodology, which features “a selected population of \( n \) individuals each of whom as been measured in \( m \) tests,” and Q methodology, which features “a population of \( n \) different tests (or essays, pictures, traits or other measurable material), each of which is measured or scaled by \( m \) individuals.” So for Stephenson, the R methodology of factor analysis is used when an objective measure (IQ, weight) is taken from an individual, who takes a passive role in the procedure. Q methodology involves the subjective instead of the objective, and the person takes an active role in making a judgment. One of Stephenson’s first reported uses of the Q methodology involved his asking participants to rank color samples in terms of their “pleasingness,” which clearly illustrates the subjectivity inherent in this approach.

Contemporary Q methodology usually occurs in the form of a Q-sort. This method requires participants to rank stimuli on a scale. For example, in the Q-sort methods described later in this paper, rankings occur along a scale of “most characteristic (9)” to least characteristic (1).” In this sense, the Q-sort is similar to standard Likert scales, which also captures a participant’s subjective sense of strength (e.g. strongly agree to strongly disagree). Where the methods diverge is the use of a quasi-normal distribution by the Q-sort. This means that the participant is limited in the number of items that can be placed in a “most characteristic” category, while there is no limit to how many items to which a participant can respond with “strongly agree.” This procedure has the additional strength of placing the attributes to be judged relative to one another as part of a set as opposed to isolating them in single questions.

**Conducting a Q Methodology Study**

A large number of Q methodology studies have been carried out by researchers who construct their own items, while in other cases, standardized sets of items have been used.

Researchers constructing their own Q methodology materials must first define the “concourse,” or the “flow of communicability surrounding any topic” (Brown, 1993). The concourse should contain all statements that characterize the discussion of a topic. Communications professionals are familiar with the many appropriate methods for identifying these conversations, including focus groups and content analysis. Obviously, the sum of the concourse is too large to present to participants, so the researcher must make a careful selection of a subset of representative items for presentation. The selection should result in a broad array of differing attributes.

Once the Q attributes have been selected, a sample of participants must be chosen. One of the major advantages of the Q methodology for researchers is its need for a relatively small number of participants. While there is no set rule, Block (2008) argued for as few as eight participants per condition. Van Exel and de Graaf (2005) recommended “four to five persons defining each anticipated viewpoint, which are
often two to four, and rarely more than six” (p. 6), or a range of a minimum of eight to a maximum of thirty participants.

Presentation of the Q attributes representing the concourse has traditionally been done in the form of cards on which a single attribute is printed. Contemporary methods include the presentation of the Q attributes by mail or in a drag-and-drop computer display. The former requires a one-on-one interaction with a participant, while the latter provides the ability to conduct a study remotely.

Analyzing the Q-Sort
Researchers interested in the detailed analysis of Q methodology studies are referred to Brown (1993) for a comprehensive overview of the necessary procedures. The first step is the construction of a correlation matrix, which indicates the level of agreement among the participants’ sorts. Following the example provided by Brown (1993), let’s assume that we have two participants who have sorted 20 items into seven categories ranging from -3 to +3, with 2 items allowed in the ± 3 categories, 3 items allowed in each of the ± 1 and 2 categories and 4 items allowed in the 0 category. Squaring all scores in each of the two sorts (to remove the minus signs) produces a total of 66 each or 132 total. Next, a difference score is computed for the two sorts by squaring the difference between each ranking. For example, if one person ranked item #1 as a 1 and the other ranked item #1 as a -1, the difference would be 2 and D^2 would be 4. If the two people produced identical sorts, the sum of all D^2 values would be zero, and the correlation between their sorts would be a perfect and rare r = 1.0. In all other cases, Brown (1993) specifies calculating the correlation by computing the ratio of the difference scores (we’ll follow his example of 220) to the sum of the squared sorts (132 in our example) and subtracting from 1 as follows:

\[ r = 1 - \frac{\sum D^2}{132} \]
\[ r = 1 - \frac{220}{132} \]
\[ r = -0.67 \]

These calculations produce the correlation between just two participants. Assuming a researcher obtains sorts from more participants, the resulting correlation matrix would be n x n.

Some research questions involve an evaluation of which individual participants do or do not correlate with others, although that is not the use we describe in the remainder of this paper. To evaluate the size of a particular correlation, however, Brown (1991) suggests estimating the standard error using the expression, where N refers to the number of attributes in the sort:

Estimated standard error = \frac{1}{\sqrt{N}}

In a case using 20 attributes, the estimated standard error would be 0.22. According to Brown (1993), significant correlations are at least more than 2 or 2.5 times the standard error, or in our example, at least ± 0.44 to 0.56.
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More frequently, however, researchers are interested in how many distinct types of Q-sorts occur in the data set. For example, in our research, we have been interested in seeing if crisis management experts view a crisis similarly or differently when compared to laypersons. Sets of sorts that are highly correlated with each other but not well correlated with others can be viewed as a “family.” To see how many families you have requires factor analysis.

According to Brown (1993), interpretation of resulting factors in Q methodology differs from the typical interpretation of R methodology. The former involves factor scores, while the latter is focused on factor loadings. To obtain a factor score for each participant’s sort, a weighting is computed by dividing a factor loading (f) by the expression $1 - \sqrt{f}$. These weightings can then be applied to the individual attributes, which then tells the researcher that a given attribute has positive salience, negative salience, or no impact on the factors emerging from the factor analysis. Based on the weightings, the attributes are re-queued into the original sorting arrangement with the two most salient attributes given a ranking of three, the next two most salient attributes given a 2, and so on for all 20 attributes. Note that Block (2008) takes a simpler approach of averaging scores for each statement and then re-queuing, a process Brown (1993) acknowledges but does not recommend.

What exactly have we learned? Brown (1993) describes each Q-sort as a “version of the world ‘as I see it,’” while each factor represents “a version of the world that is commonly held and which speaks to us through the unison of the factor scores….” Brown further notes that Q methodology “transforms the ‘70s phrase ‘This is where I’m coming from’ from an imprecise affectation to a scientific principle."

The Standardized Q-sort

Although the use of unique, idiosyncratic attribute sets for Q methodology studies has resulted in substantial contributions to the scientific literatures of many fields, there are advantages to using standardized sets of attributes. If you have a single set of attributes, researchers conducting Q-sorts with different sets of participants and different types of questions can nonetheless make valid comparisons among their results.

For researchers interested in the attribution of personality characteristics to a target individual, the California Q-sort (CAQ; Block, 2008) provides a highly useful tool. To illustrate the range of possibilities presented by the CAQ, we note the work of Reise and Oliver (1994) on indicators of primary psychopathy as described by experts, which was later extended to the evaluation of a large, non-clinical population (Reise & Wink, 1995). Wink (1991, 1992) used the CAQ in similar ways in the assessment of narcissism. In our own work, we have used the CAQ to evaluate perceptions of social media influencers (Freberg, Graham/Saling, Mcgaughey, & Freberg, 2010), comparisons of the perceptions of CEOs and psychopaths (Freberg, Adams, Mcgaughey, Rust, Blume, Menon, …Freberg, 2010), comparisons of military general officers and CEOs (Freberg, Graham/Saling, Murphy, Park, Rainey, Singh,…Freberg,
The perception of persons by audiences remains a critical issue in public relations as a whole and crisis communications in particular, and our work on audience perceptions of spokespersons continues. At the same time, a crisis is by definition a situation, and the use of a standardized set of situational attributes holds great promise for obtaining nuanced insight into audience perceptions of situations. The recently developed Riverside Situational Q-sort (RSQ; Funder et al., 2012; Sherman et al., 2010) supplies a useful methodology for quantifying and comparing subjective impressions of situations. This tool meets the need identified by Lachlen and Spence (2007) for a more general method of evaluating crises.

3. APPLYING THE RIVERSIDE SITUATIONAL Q-SORT (RSQ) TO PERCEPTIONS OF A CRISIS

By definition, Q methodology looks for shared ways of thinking. In that sense, Q methodology has been described as correlating persons instead of correlating tests. The crisis manager faces many challenges which would be simplified if only he or she knew more about how the audience was thinking about a situation. Using standardized q-sort attributes, a crisis manager anticipating potential crises and developing a crisis development plan could “test drive” audience responses to crisis messages. Not everyone will respond to a crisis the same way, and groups of individuals with shared perceptions could be targeted with tailored messages.

The Riverside Situational Q-sort (RSQ) was developed by personality and social psychologists who felt the need for a taxonomy of psychologically important situation characteristics analogous to the well-developed existing taxonomies of person characteristics (Rauthmann et al., 2014). The use of the RSQ by this group of researchers differs somewhat from our use of the instrument. In applications to personality theory, the participants in RSQ studies have been instructed to think of their own situations. In other words, specific situational targets have not been provided to the participant. For example, participants in one study were asked to “describe a situation they experienced the previous day” (Funder, Guillaume, Kumagi, Kawamoto, & Sato, 2012). We have been using the RSQ to collect participant impressions of the same or similar situations.

**Perceptions of Crisis Messages in Different Media**

Prior research has explored the importance of reputation with key audiences for brands and other entities. Reputations are at particular risk with regards to engagement during crises involving social media (Ott & Theunissen, 2014). Social media has transformed how messages are being sent and the overall pace of updates and dialogue have increased not only in scope, but impact as well (Ott & Theunissen, 2014).

Our first foray into the use of the RSQ as an instrument for assessing participant impressions of a crisis situation manipulated the source of a crisis message (Freberg,
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Saling, & Freberg, 2013). Participants responded using the RSQ after reading a crisis message about a hypothetical food recall delivered in one of three media: social media, an organizational website (the Centers for Disease Control and Prevention or CDC), or traditional media.

Data from the RSQ showed that participants viewed the food safety crisis in similar ways, regardless of the media by which the message was delivered. This outcome might have been influenced by the use of a convenience sample of university students, who are more likely to treat social media messages similarly to messages from more traditional sources (Freberg, 2012b). The use of the convenience sample was appropriate for this preliminary proof of concept exploration, but subsequent research should incorporate more representative samples of the public at large.

This study also assessed the participants’ intent to comply with the food recall message. Intention to comply was very high in all three media conditions, but we were interested in any particular situational attributes that seemed to be associated with intent. Two attributes, in particular, were significantly correlated with intent at the $p < .01$ level: “Situation may cause feelings of hostility” and “P is the focus of attention.” While it might be challenging for crisis managers to know how to make use of “feelings of hostility,” it is very easy to craft messages that make individuals feel that they are the center of attention. If that perception leads to intention to comply with a crisis message, higher levels of compliance might be achieved.

Experts and Laypersons

The purpose of the Q methodology is to correlate persons, so this method lends itself nicely to situations where different points of view between groups are likely. Members of crisis management teams frame the crisis issues for each other as well as for affected audiences. Do crisis managers view a crisis in similar or different ways when compared to members of the public?

Currently, we know very little about how crisis professionals view the crises they are managing. A small number of voices have expressed the need to understand the perceptions of crisis professionals (Wester, 2009; Bergeron & Cooren, 2012). Again, part of the paucity of data in this area is due to the lack of appropriate methodologies for the assessment and comparison of subjective impressions. However, the RSQ provides means to answer this question. Expert models are common in the Q methodology literature, particularly in the area of the assessment of psychopathology. The previously cited analysis of the primary psychopath by Reise and Oliver (1994) is a model for this type of research. Expert clinicians are asked to sort the personality attributes of the California Q-sort (CAQ; Block, 2008) leading to an expert model of psychopathy that can be used to make comparisons with other targets, such as the CEOs in one of our studies (Freberg et al., 2010). This comparison revealed that CEOs and psychopaths were perceived in somewhat similar ways, but with notable differences. For example, both CEOs and psychopaths were viewed as poised, smart, and power-oriented, while CEOs but not psychopaths were perceived as responsible, intellectual, and productive.
Our question was whether an expert model of a crisis situation could be constructed along the same lines as the expert model of psychopathy. If so, the model could be compared to layperson responses to a crisis to identify where perceptions of a crisis situation overlapped or differed.

The personal perspective of the crisis management experts who completed the RSQ was evident in their endorsement of attributes such as “rational thinking is called for,” “a job needs to be done,” and “success requires cooperation.” The personal perspective of the audience laypersons also reflected their personal point of view. The laypersons endorsed attributes that were much more emotional and less practical than the crisis managers, such as “situation entails or could entail stress or trauma,” “someone (present or discussed) is unhappy or suffering,” and “situation would make some people tense and upset.”

**Next Steps: Hazard and Outrage**

To follow up on the observation that laypersons were more emotional than crisis managers when describing the characteristic attributes of a crisis, we plan to engage in a further manipulation of the hazard and outrage concepts raised by Lachlan and Spence (2007). These authors defined “hazard” in terms of the technical challenges of a crisis situation, such as its probability of occurrence and magnitude of harm. “Outrage” combines emotional responses with the audience’s sense of control over the situation.

A number of the RSQ items reflect hazard and outrage quite well. The crisis managers and laypersons participating in the study described in the previous section did not differ in the weight they placed on RSQ items deemed relevant to hazard. However, the two groups of observers did differ significantly in the weight they placed on outrage items ($M=62.80$, $SD=3.59$), $t (11) = -3.33$, $p < .01$, $r$ (effect size) = .73, 95% CI [-16.66, -3.40]. The effect size of .73 indicated a moderate to large practical significance of group identity (expert versus layperson) on these items.

The observed difference in outrage between crisis experts and laypersons raises the spectre of habituation or desensitization to emotional pain on the part of experienced crisis managers. Unless these managers make a concerted effort to see the crisis through the eyes of the affected audiences, they run the risk of underestimating the public outrage associated with a crisis. Proactive use of the RSQ for obtaining perceptions of likely crises could provide managers with important insights into the potential responses of affected audiences.

The target prompt for the comparison between the experts and laypersons was a generic crisis of their own choosing. In this manner, the expert model was similar to other uses of the RSQ in personality investigations described previously in which participants chose a situation to which they responded. Given the interest in hazard and outrage, however, it is possible to construct target scenarios that vary on these dimensions to which participants can then respond. In other words, we can construct high hazard—high outrage scenarios, high hazard—low outrage scenarios, low
hazard—high outrage scenarios, and low hazard—low outrage scenarios. If participants respond as predicted to the identified hazard and outrage items on the RSQ, these results will support the validity of this further analysis.

**Next Steps: DIAMONDS**

An additional direction for further analysis using the RSQ was contributed by Rauthmann et al. (2014). Just as we have personality taxonomies, such as the Big 5 trait theory, Rauthmann et al. (2014) attempted to evaluate a situational taxonomy using the RSQ. Their efforts identified eight major dimensions of situational characteristics, for which they coined the acronym DIAMONDS: Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality.

Several of these dimensions appear particularly relevant to crisis situations and the perceptions of these situations by crisis managers and affected audiences. Duty attributes include “a job needs to be done,” “being counted on to do something,” “minor details are important,” and “task-oriented thinking is called for.” The Negativity dimension also seems intuitively relevant to a crisis situation. These attributes include “situation is anxiety-inducing,” “situation could entail stress and trauma,” “situation would make some people tense and upset,” and “situation entails frustration.”

Returning to our analysis of differing perceptions held by crisis experts and laypersons, the Duty dimension appears to capture one of the key differences between the two groups. Duty attributes were ranked as more characteristic of a crisis situation by crisis experts than by laypersons ($M=20.33$, $SD=3.61$), $t(12)= -3.13$, $p < .01$, $r$ (effect size) = .67, 95% CI [-10.29, -1.84]. The effect size once again suggests a moderate to large practical significance of group identity (expert versus layperson). Crisis experts and laypersons did not differ significantly on any of the remaining seven dimensions in the taxonomy.

In further work evaluating the responses of crisis experts to two different types of crises (natural disaster and workplace violence), the importance of the Duty dimension to crisis experts was again clear. Crisis experts exposed to one of these two crisis scenarios agreed that the duty items were characteristic of the situation to which they were exposed, giving these four attributes an average ranking of 7/9, with 9 being “extremely characteristic.” The Negativity items also produced an average ranking of 7/9.

The Adversity dimension as a whole was not ranked as characteristic of a crisis, with an average ranking of 4.5 (with 5 being neutral). While perhaps a surprising result on the surface, a further examination of the items making up the dimension adds clarity. Three of the items relate very clearly to personal adversity: “being criticized,” “being blamed for something,” and “being dominated or bossed around.” The fourth attribute in this dimension, “being under threat,” was ranked 9/9 or “extremely characteristic” by the crisis experts. It appears that some of the
dimensions, such as Duty and Negativity, apply to perceptions of crisis situations more clearly than others, such as Adversity.

Further work by Rauthmann and Sherman (forthcoming) will feature the use of DIAMONDS to segment situations into “distinct psychologically relevant phases or cycles.” We await this analysis with great anticipation, as any tool that can help the crisis manager contend with the rapidly changing environment of a crisis could be profoundly useful.

**Next Steps Beyond the Q-sort**

Although our research group has found both the personality q-sort (CAQ; Block, 2008) and the situational q-sort (RSQ; Sherman, Nave, & Funder, 2010) to be highly useful tools for our analysis of crisis perceptions, the questions raised in this paper are not limited to those that lend themselves to Q methodology.

The Duty dimension of the RSQ, although based on perceptions of situations, forms an interesting bridge back to personality theory. According to Rauthmann et al. (2014), the Duty dimension has close ties to the Big 5 personality attribute of Conscientiousness. In further studies of crisis experts, interactions between their personality attributes and perceptions of crisis situations could be illuminating. Do crisis experts who are high in conscientiousness perceive a crisis differently compared to those who are not? How does a crisis communications professional display duty characteristics personally and professionally on social media in a crisis situation? One of the great characteristics of social media is giving the individual the power of their unique voice and showcase their insights, thoughts, and network with others virtually. However, one of the challenges for social media is creating a more niche, personalized, and real-time media sphere where getting a message out quickly and to the target audiences more challenging.

Rauthmann et al. (2014) further suggest that situations perceived as high in Duty are task-oriented rather than socio-emotional. This point dovetails neatly with our previous observations about the differences between crisis managers and laypersons along the hazard and outrage scales. Perhaps it is the sense of duty that crisis experts bring to the management of a crisis that attenuates their outrage. Having much less duty involved with a crisis, other than possibly following directions, the layperson experiences a full sense of outrage regarding the crisis situation. Further research is necessary to explore these relationships.

Exploring how messages are adapted to fit a certain medium and can be tailored for a particular audience should be explored further. One of the limitations found in some of the crisis communication research that tests crisis messages has been on the use of convenience samples, in which the participants do not have a sound crisis education and experience. Understanding how to strategically manage emotions and messages for different audiences and how to integrate key characteristics into a crisis plan takes time, and exploring the evolution of crisis understanding, literacy, and implementation of these strategies should be explored further.
Previous research has explored the differences in credibility and trust when it comes to testing crisis messages across age cohorts (Freberg, 2012). More research has to be conducted looking at the individual crisis manager and see if the dimensions shared by Rauthmann et al. (2014) change or evolve as audiences get older. Are there age cohort differences with the sense of duty and other DIAMONDs characteristics in crisis situations? Further research is needed to explore these questions to contribute to the academic and practitioner community.

CONCLUSIONS

Many methods allow communications scholars and practitioners to evaluate subjective impressions, but few provide the advantages of Q methodology. Using Q methodology, and the RSQ in particular, allows crisis scholars and practitioners to obtain quantitative data that capture subjective impressions formed by specific audiences. Resulting impressions, unlike the data obtained using specific instruments like those developed at great cost in time and effort by Lachlan and Spence (2007), can be compared easily from one situation to the next or from one audience to the next with considerable reliability and validity.

Although there are proprietary Q methods available at cost, the basic attribute sets we use in our research have been made available at no cost by the authors. A copy of Block (2008) and a visit to the Riverside Accuracy Project (RAP) website are all that a researcher wishing to begin using Q-sorts needs to do.

Among the historical barriers to using Q methodology has been the laborious nature of its administration in face-to-face settings using packs of cards. Although we have conducted studies in this manner, we have switched recently to a “drag and drop” method using a single-page Excel spreadsheet with very good results. This procedure has allowed us to engage with remotely located participants.

A second traditional barrier has been the statistical analysis of the data. A program known as PQMethod that is used to statistically analyze Q data is available for free on the Q Methodology website (International Society for the Scientific Study of Subjectivity, 2015). A commercial program for analyzing Q data, known as PCQ, is also available at this location. Existing statistical packages, including SPSS, also provide most of the tools a researcher would need to analyze Q data. Examples of Q study data sets prepared for various software packages and other analysis resources are available for free from Peter Schmolck (2014).

With the historical barriers to Q methodology breaking down and a wider dissemination of the benefits of the methodology in psychology and the social sciences, we anticipate that larger numbers of investigators will find this method to be an essential part of their research toolkit.
REFERENCES


Poster presented at the 24th annual convention of the Association for Psychological Science, May 24-27, 2012, Chicago, IL.


primary psychopathy. *Journal of Personality Assessment, 62*, 130-144.


