SYMPOSIUM
Issues of Validity: Behavioral Concepts, Their Derivation and Interpretation

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Abstract:
Qualitative inquiry that commences with the concept, rather that the phenomenon itself, is subject to violating the tenet of induction, thus is exposed to particular threats of invalidity. In this symposium, using the examples of the concepts of uncertainty, trust, vulnerability and suffering, and interview and videotaped data, we discuss strategies to maintain the inductive thrust, and hence validity, during data analysis. The authors present the use of a skeletal framework and scaffold as techniques to "frame" the concept, while, at the same time, continuing to further develop the concept.

Key words: *Concept development, qualitative validity, induction, video analysis, scaffold, skeletal framework, trust, uncertainty, vulnerability, suffering.*

Introduction to Symposium

The anathema of qualitative inquiry is essentially one of validity. While much literature exists on methods of controlling or countering threats to validity when the goal of research is description, these problems are compounded when one begins working abstractly. Not only is the research most at risk with this research approach, but these problems have been poorly addressed in the methodological literature.

We consider the goal of qualitative science twofold: first to develop concepts in order to get a better grasp on the phenomena represented by the concepts themselves and, second, from this, to develop generalizable and valid theories. We believe it is these tasks, essentially those involving interpretation, conceptualization and abstraction, that will eventually provide qualitative inquiry with a legitimate place in the social sciences, and ultimately earn its respect and contribution to knowledge.

Presently, ways of controlling threats to inductive validity with descriptive research are only partially successful. Briefly, strategies used prior to commencement of data analysis such as bracketing (Janesick, 2000, pp.390-391), rejection of preconceived theoretical frameworks (Miles & Huberman, 1994), or techniques of verification used during the conduct of inquiry (Meadows & Morse, 2001) demand that inquiry begins from the data with each new project, and do not facilitate the incremental compounding of research projects. Post hoc methods to ensure validity, such as testing results by implementation and subsequent inquiry (Morse, 2001), while important, occur too late in the process of inquiry to expedite the process of inquiry itself. While these checks and balances guide inquiry towards validity, there is a need to explore the problem of conducting qualitative inquiry using concepts as a starting point within the analytic processes of induction/deduction, and to bring to the fore ways that more advanced inquiry implicitly proceeds. In particular, there is a need to explore the problem in instances in which inquiry begins with a concept itself, rather than commencing with basic description. Thus, in this symposium, we have attempted to identify and to formalize techniques by which inductive processes may be sustained (and deductive tendencies avoided) when commencing inquiry at the conceptual level. We use four research projects to illustrate these solutions.

Exploring Qualitatively-derived Concepts: Inductive–Deductive Pitfalls

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Analytic induction is a sacred tenet of qualitative inquiry.[1] Therefore, when one begins a project focusing on concept of interest (rather than allowing the concepts to emerge from the data per se), how does one *maintain a valid approach*? When commencing inquiry with a chosen concept or phenomena of interest, rather than with a question from the data per se about what is going on, how does one control deductive tendencies to see what one desires to see and which threaten validity?

Difficulties stem from the *nature of induction itself*—Is analytic induction an impossible operation in qualitative research, as Popper (1963/65) suggests? In this section, we first discuss Popper's concern, followed by a discussion of two major threats that may prevent an inductive approach in qualitative research.[2] The first threat is the "*pink elephant paradox;*" the second is the avoidance of *conceptual tunnel vision* or, specifically, *how* does the researcher decontextualize the concept of interest from the surrounding context and thereby avoid the tendency to consider <u>all</u> data to be pertinent to the concept of interest? As we explore each of these pitfalls, and we present methodological strategies to maintain both the integrity of the concept and the integrity of the research.

The myth of induction

Popper (1963/65, p. 46) identified the most well-known threat to inductive soundness, which has become the Archille's heel of qualitative inquiry.[3] Popper summed up his challenge to the notion of induction with an example of a group of physics students in Vienna in the 1940's:

> Take a pencil and paper; carefully observe, and write down what you have observed!' They asked, of course, what I wanted them to observe. Clearly the instruction, 'Observe!' is absurd (p. 46).

With this example, Popper is implying that just as observation is 'always selective,' induction is not presuppositionless. From this criticism, fear of violating inductive processes has resulted in researchers' reluctance to focus on a concept until it 'emerges,' and some researchers even avoid the literature before commencing fieldwork (see Glaser, 1992).

But because Popper has removed the process of induction from the context of research itself, we suggest that Popper's concern is unwarranted. Let us explain, and at the same time consider the history of the development of this problem, which we call the *myth of induction*.

The problem of induction is already hinted at in the 4th century BCE by Aristotle (2000), although his approach is not so much to reject what will not fit into a tight logical box as to explain how something like induction, which obviously takes place, must in fact be able to do so. In an important passage from *On Interpretation* (Aristotle, 2000), he suggests that the formation of concepts is a little like what goes on as an army retreats under attack, constantly falling back here and then there looking for a place to make a firm stand. The passage easily reminds one of Piaget's (1959) notion of equilibration, of how concepts are developed through trial and error engagement with phenomena. In both cases, induction is accepted as a real process, and one that

is not subject to deductive logical formulation. This is not to deny that some skill-based rules of thumb might help guide induction, although it has been left to later phenomenologists and qualitative researchers to attempt to formulate such rules or guidelines.

When Hume (1976) formulated the classic riddle of induction (albeit, applied to propositions), the upshot is simply to note that thinking involves two different kinds of concepts: those which can be linked or connected by necessity and those which cannot. But there is no need to deny the reality of concepts that cannot be connected by necessity. The fact that the concept of a triangle necessitates that the sum of the interior angles be 180 degrees, whereas the concept of a dog does not with the same necessity mean that it is a mammal, in no way requires that the concepts of dog, mammal, and that dogs are mammals be rejected as being unsound or illegitimate concepts.

Thus, when Popper goes so far as to reject induction as a myth and to replace it with capricious conjecture, which we simply accept as long as we cannot empirically refute it by finding some phenomenon that falsifies it, he reveals his own inherently rationalist biases. It may well be true that this is how some sciences, especially the highly mathematicized ones, tend to work. But it is certainly not how all science has to work, or in fact does work. Biology, for instance, clearly proceeds in its classification of organisms more like a well organized army faced with ever new experiences.

In this way, Popper's argument is itself unsound precisely because he has removed the process of induction from its real-world context in different kinds of research. Consider another example: A *race* is defined by certain characteristics or parameters (that is, there must be a start and a

finish, something to race against such as more than one competitor or time, there must be a system of measuring whatever is being challenged, and so forth), and without these characteristics one cannot have a race. Similarly, *research* has defining characteristics, one of which is a *focus of inquiry*. You cannot have research without something to be inquiring about. Thus taken in the *context* of research, Popper's classic criticism of induction in qualitative inquiry ('What shall I observe?') is in itself invalid.

The issue is not if the inductive process can be used in qualitative research, but how induction should be used.

Nevertheless, our concerns regarding the *pink elephant paradox* remain, and are concerns that the concept of *bracketing* does not resolve. Bracketing works very well for formal knowledge, but less well in instances when the threat to induction is less conscious, as may occur with conceptual tunnel vision. The alternative offered, a priori theoretical frameworks that *prescribe* coding schemes, have been rightly discarded as a source of invalidity for qualitative inquiry.

The pink elephant paradox

"Don't think of a pink elephant!" is an impossible instruction, for once the idea of a pink elephant is mentioned, it cannot be erased from one's consciousness. *The pink elephant paradox* raises the possibility that one could think an idea or concept that one was trying to avoid, and indeed confirm the existence of phenomena to which the concept refers, since once a person starts to think of pink elephants the person also easily starts not just to think them but also to

believe in them. It is possible, for instance, that the mere adoption of some particular coding (or theoretical) framework might lead one to "prove anything", as Popper and others have noted.

We argue that pink elephants are less of a risk in sound qualitative inquiry because they are controlled, to some extent, by processes of saturation, replication and verification. At the same time, by accruing multiple examples of the same event/relationship/phenomenon in the data, from different times or different circumstances, by asking critical questions of these data, and by constantly looking for alternative explanations, the risk of misattribution or miscategorization is reduced. Thus, the risk of pink elephants is greatest in thin data sets.

However, to some extent, the risk always remains and we admit vast pink elephant problems have occurred in social science research, both qualitative and quantitative. One historical example is the theory that masturbation causes madness, which was experimentally "confirmed" repeatedly, and "treated" with treatments such as clitoridectomy (Engelhardt, 1974).

Conceptual tunnel vision

Conceptual tunnel vision exemplifies the researcher's problem in deciding which data **do** and which **do not** pertain to a concept, or **are** and **are not** examples of the concept. *Conceptual tunnel vision* is the over-categorization of data, assigning more data to one category than actually belongs, or seeing or justifying most things as being related to, or considered examples of, the concept being investigated. This problem is inflated with the value in qualitative inquiry on holism, so that the process of encompassing all data—and the fear of missing something—is

embedded in this problem. The questions that the researcher must struggle with are: What is and what is not pertinent to inquiry? And how can I be certain?

When conducting research into a concept, tunnel vision becomes the analytic anathema and over-attribution inflates both the contents and the role of a concept in the results.

How can this problem be controlled? One method is to bring critical inquiry out into the open and demanding that categories earn their way into the analytic scheme. For instance, in Morse's research program on comfort, we ask: Is thus and so an example of caring or comforting? What is the relationship between caring and comforting? Is caring a part of comfort, or comfort a part of caring? Do they share attributes, or are their attributes distinct? In this way, by constantly being alert to hidden and underlying assumptions, and by only allowing legitimate facts and relationships to be used, we control the use of poorly linked or irrelevant contextual characteristics into the developing theory.

Exploring qualitatively-derived concepts: Inductive techniques

We now discuss intermediate solutions or approaches to controlling validity. These strategies are probably already used in qualitative inquiry, but have not been yet formalized and described. We will identify these strategies, and in the other four parts of this article we will illustrate the use of these strategies in the context of completed projects. Because research is a process, each of these methods identified are best used at different stages of inquiry according to the maturity of the project itself.

Deconstruction: Techniques of concept analysis

The first step is using the literature to conduct a concept analysis of the concept. While we disagree with Glaser (1978, 1992) that one enter qualitative inquiry without using the knowledge of others, either conceptual or substantive, we also disagree with the process of simplistic bracketing. Rather, the researcher should act as an informed consumer when using this literature, assume that it is correct, and critically analyze it all as a whole, deconstructing the concept to identify the attributes or characteristics, assumptions, gaps, limitations, differing perspectives (including way the concept has been developed in different contexts or disciplines), and different forms of the concept for different functions. Then, once this analysis is completed, the researcher is working wisely, perhaps selectively bracketing, perhaps using this information to refine one's proposal, perhaps using this information as a comparative template in the process of data collection. Regardless of how the information is used, knowledge makes one's questioning of data smarter as data collection proceeds. The researcher is not with blinded by ignorance, or by the present 'partly line' of theories, models and myths that seem pervasive in the literature.

Jude Spiers' analysis in part II of this symposium is particularly interesting, as she subsequently conceived vulnerability not as an internal state, but as something that could be negotiated in the nurse-patient interactions, and therefore observed. In part III, Judith Hupcey will briefly describe how she built her study of trust through an interdisciplinary exploration of the concept; Janice Penrod (in part IV) describes a careful assessment of uncertainty. We concede that Popper was correct when he stated that inquiry does not begin from nothing, but by using concept analysis as described elsewhere, (Morse, 2000) qualitative inquiry begins its inductive processes

by deconstructing all the implicit assumptions, building from a carefully inspected base, by an informed researcher.

Focusing: Development of a skeletal framework

Inquiry then proceeds depending on the 'maturity' of the concept (Morse, Mitcham, Hupcey & Tasón, 1996). When concepts are immature or little is known about the concept, the next step in inquiry is to identify and develop a *skeletal framework.*

How do you proceed? Normally with ethnographic research, data collection begins as a comprehensive and complete 'fishing trip'—the holistic approach, or 'scoping' (Morse & Richards, 2002). Indeed, broad 'maps' are available to ensure such comprehensive data collection, such as Leininger's (1988) *Sunrise Model* or Spradley's (1980) *Descriptive Question Matrix*. Basically, these schemata ensure that inquiry is broad, so that necessary data are available when, later in the study, the researcher focuses on a particular topic of inquiry. It is a way to ensure validity–by ensuring a complete data set is available, by ensuring that the concept developed is comprehensive and complete, and by ensuring that 'premature closure' has not occurred. For instance, Leininger's Sunrise Model includes categories such as technological factors, religious and philosophical factors, kinship and social factors, and so forth, and how these broad categories influence care patterns and health. Spradley's model is more particular and action oriented, and includes categories such as space, object, act, activity, event, actor, goal, and feelings (1980, pg. 82). Each topic is linked in a matrix to every other topic but, again, these data must be placed within the context of the question asked. In our case, the careful conceptual analysis work preceding the stage of data collection reduces this fumbling, and enables the

researcher to move more quickly through the fieldwork. This background work allows the researcher to focus more quickly, thus expediting the research process.

Note that the researcher is only partially rescued from the invalidity dilemma. We discussed what to call the 'level of theory' developed from this type of semi-focused observations and interview, and decided that the analogy of the skeleton best summed up what we were trying to convey. From the concept analysis, we have some information about the essential characteristics or attributes of the concept, so we know where to direct our attentions but much still remains unknown. As an archaeologist does when discovering a skeleton, we knew roughly the shape of the original dinosaur—and perhaps even how it moved and worked—but we only had a general idea of its actual appearance. As the concept boundaries remain unclear, the risk of omission in data collection remains. To compensate for this risk of missing, ignoring, or omitting essential data, the scope of data collection needs to remain somewhat broader than the actual concept. Thus, researchers should initially sample more data than is required, and refine focus as the study proceeds. However, we avoid the mistake of assuming that all data are relevant—to conduct such a fishing trip is not using inductive principles for inquiry. Only by collecting rich and relevant data around the bare bones of what is known, using principles of saturation and verification, can we recognize the pertinent data from other data.

In summary, a skeletal framework serves to sensitize the researcher and facilitate focusing the inquiry at an early stage. It provides internal structure to study, thus enabling observations, interviews and analysis to proceed. As an archaeologist tries to piece bones together, the

inductive puzzle of inquiry is maintained, and, as inquiry proceeds, falls into place, the skeletal framework is padded, and provides the emerging model with indices of purpose and function.

Towards verification: Using a scaffold

When using a scaffold, one is reasonably confident of the type of concept, either from the literature or from previous inquiry, and the concept may be considered at least partially mature. In this way, the investigator may recognize that a particular setting will provide the researcher with a good example of exploring a particular concept. The investigator is reasonably confident about the domain of the concepts—of what is and what is not an example of the concept. Boundaries have been established, so that the scope of the concept is known (Morse & Richards, 2002). However, the researcher may still have questions about the attributes or characteristics that comprise the concept. Thus, a scaffold delineates a concept, but still enables inductive exploration of the internal compositions of the concept to take shape.

When using a scaffold, the boundaries of the concept may be known, thereby focusing sampling and data collection. However, the internal structures require further investigation. Compared to the previous skeletal framework, sampling is more focused, data are collected in increasing depth, and event sampling may be used. Internally, the researcher holds loosely held assumptions about the attributes. These are inductively explored, with what is already known drawn as a comparative template over the emerging scheme. Thus, previous work, while focusing inquiry, still enables the internal structure of the concept to be malleable ands ‘emerge’. Data collection proceeds inductively, with the investigator seeking new insights, verification, and saturation. Once the work is completed, the scaffold is dismantled, and the theory stands on its own.

From our previous work, developed from interviews, we had an understanding of reports of enduring and emotional suffering emotions and behaviors, but we did not know if we could differentiate these states observationally. We also had little information about the interaction between family members who were also enduring or emotionally suffering. In this case, we recognized the pink elephant, but explored it closely to collect rich and detailed behavioral descriptions.

Theoretical frameworks?

Once a concept has been explored and described in depth, inquiry has proceeded to the level that quantitative inquiry and a theoretical framework may, at this stage, be used. A theoretical framework organizes a coding scheme, and it is this structure that deductively prescribes the form of data collection instruments, measurements, and even types of analysis. Note, however, that inquiry has now moved to the deductive quantitative stages.

Summary

To summarize, the systematic exploration of concepts, using interview or observational methods, progresses sequentially from deconstruction of *concept analysis of the literature* to the use of these *data as a skeleton*, or to *using prior knowledge as a scaffold.* All of these stages continue to use induction, but in different ways and in varying degrees. Awareness of the stage of development of the concept, and of how you are using previous inquiry, will expedite inquiry and enhance, rather than threaten, validity. These frameworks have not been previously placed in the context of inquiry into behavioral concepts, and we will use the next articles to illustrate the utility of this approach.

Notes:

1. In the well-established distinction between qualitative and quantitative research, qualitative research is often criticized for failing to meet the standards generally applicable in quantitative work, when in fact different standards apply. The present argument is an effort to clarify this situation and to defend qualitative research against the kinds of criticisms leveled particularly at the closely related work of concept formation and inductive generalization.

Prefatory to our argument it is useful to review the contrast between qualitative and quantitative research. As has been summarized in Morse (1995), qualitative is typically used to explore new or little known, previously unconceptualized or adequately understood phenomena, or when an investigator suspects the adequacy of or a bias in present knowledge. Qualitative methods are especially appropriate as well in order to approach phenomena from the emic perspective, that is, from the perspective of a non-experimenter or non-observer. As a result qualitative research is usually conducted in a naturalistic setting rather than in a controlled, laboratory situation. In the course of qualitative research hypotheses and theories emerge from data, while data collection is in process or in the course of data analysis. Finally, qualitative research typically uses a small data set investigated in depth.

By contrast, quantitative research approaches more or less well defined phenomena in search of causal relations described from the etic or external world-view perspective of a non-participant observer. The investigator's observations take precedence over the lived experiences of any experimental subjects. Quantitative research thus typically begins not with an exploration of phenomena or data collection, but with the analytic formulation of a hypothesis about causal relations existing in the phenomena and the establishment experimental controls for confirming or falsifying the hypothesis. Quantitative research also uses statistics to determine an appropriately large data set, which will then only be investigated from the perspective predetermined by the hypothesis under investigation.

As this comparison no doubt already suggests, qualitative research is peculiarly appropriate to field work, as in conservation biology or geology, and to investigations focusing on the psychological or personal experiences of human subjects, whereas quantitative research is peculiarly appropriate when doing controlled laboratory experiments on objects or persons insofar as they may be treated as objects. The contrast between these two types of research may thus be summarized in Table 1.

Qualitative Research	Quantitative Research
Used to conceptualize and explore new phenomena	Used to determine causal relations among phenomena
Emic perspective	Etic perspective
Naturalistic setting	Laboratory setting
Hypotheses emerge in the process of data collection	Hypotheses formulated prior to data collection
Small number of samples studies in depth	Large statistically determined sample of subjects studied only in relation to predetermined hypotheses
Especially appropriate to psychological research focused on personal experiences	Especially appropriate to research on physical objects

Qualitative research thus brings into play two of the least clarified and contested processes in scientific practice: concept formation and induction. Almost all analyses of scientific method begin where quantitative research begins, with the assumption or stipulative assertion of concepts or definitions, proceeds from there to the formulation of propositions that link these concepts in hypotheses to be investigated, deduces from the hypotheses phenomena that would or would not be the case if the hypotheses were true, and then proceeds to use appropriately structured empirical investigations to see whether in fact phenomena are or are not such as have been predicted. In the standard philosophies of science concept formation is ignored; the same philosophies typically argue that there are no methods of induction. In the present instance, however, we will make an attempt to clarify the process of concept formation and to defend the process of induction, because both are central to qualitative research. Nevertheless, it will not be necessary to accept all of our claims or arguments to appreciate the case study examples that follow. As Arthur Kaplan has suggested, “differences in epistemology do not prevent acceptance of the same body of scientific truths” (1983, p. 90).

2. At this point we need to differentiate between *analytic induction* and *abstraction.* Analytic induction includes process of testing propositions or less formally, processes of asking questions and seeking the answers in the data, or processes of constant verification as analyses progresses. Abstraction, on the other hand, is a process of analyzing by identifying common properties in the concept.

3. Popper also defines research narrowly, as refutation rather than discovery, and this perspective also challenges qualitative inquiry, which of course, does not proceed using hypotheses and the classical scientific method.

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Issues of Validity: Behavioral Concepts, Their Derivation and Interpretation

The Pink Elephant Paradox (or, Avoiding the Misattribution of Data)

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The pink elephant paradox refers to the threat to inductive thinking caused by the difficulty of inadvertently proving the existence of a concept or phenomena just because it overtly or insidiously exists in one's thoughts, leading to misattribution, or miscategorization of data, and thus subverting inductive processes. As Morse and Mitcham discussed in Part I, this is reduced through inductive strategies, including processes of saturation, replication, and verification. In this article, I present a story of how the phenomenon of interest in nurse-patient interaction evolved and emerged through a number of qualitative projects. At each stage, concepts were identified, explored, and developed in order to more elucidate the central phenomenon. I will show how, while at times I could identify and avoid the pink elephant, at other times there were one or a herd lurking in the shadows or rampaging through my work. I think that discussing both the successes and pit falls is one way to acknowledge and address the fact that, although we accept the evolution in ideas and thought processes in qualitative research, we still may not be comfortable in articulating the far more complex and insidious threats to inductive processes.

Some schools of qualitative inquiry consider analysis of the literature a hindrance–in fact an invalidity–before commencing fieldwork. To the contrary, when a researcher is studying a

concept rather than letting a concept emerge from a setting, it is essential to undertake a thorough theoretical and conceptual analysis of the literature (Morse, 2000; Morse et al, 1996). In my own program of research, the concept analysis was a study in, and of, itself, with the purpose of examining the maturity of concepts, and the explicit and implicit theoretical and research models. The literature constituted data that could be analyzed and formed the basis for a reconceptualization of the original concept by contrasting it with the theory derived from the fieldwork studies.

The importance of nurse-patient communication

My area of interest is interpersonal communication in nurse-patient interaction. Specifically, I am interested in understanding how nurses and patients with uniquely different paradigms of understanding illness experience can, within very short spaces of times, make profound interpersonal connections, perceive and avoid unnecessary interpersonal conflict, and, at times, address issues of significant personal vulnerability.

This dimension of nurse patient interaction was conceptualized by Christensen (1990) as a paradoxical determinant of the context of nursing partnerships. She called it anonymous intimacy, or the significant degree of immediate socially sanctioned closeness between strangers. She described this as the ability for nurses and patients, who are strangers, to forge a high degree of intimacy as the patient surrenders privacy for nursing care. The essence of anonymous intimacy is that patients identify with nursing and nurses rather than individuals.

Although the concept was described well in her data set of 87 nurses and 21 patients in a hospital setting, it was not developed theoretically–the meaning, definitions, assumptions of intimacy and anonymity, and the means through which anonymity and intimacy were combined or resolved in interaction, were unclear. Nevertheless, it was a very interesting concept and one that immediately attracted a sense of recognition from nurses. In my conceptual exploration of anonymous intimacy in the literature, it quickly became clear that although Christensen's (1990) conceptualization was unique, it in fact represented a way of co-orientating to desired ways of relating to each other. It was a style of interacting, not a contextual feature of interactions. It was about using common social knowledge of nursing and patient roles, along with individual ability and desire to enhance a more personal relationship in order to increase or decrease social distance (Spiers, 1994). Of critical importance was the notion of being able to change the degree of interpersonal space in an interaction according to the flow of events in the encounter.

The ability to manipulate the degree of familiarity is important because many of the activities nurses do on a daily basis creates social and personal discomfort and vulnerability for the patient. We know this well; that is why we have different ways of communicating the same information in different contexts. Each approach recognizes the need for diplomacy, politeness, directness or indirectness. But it is not just the patient's sense of vulnerability at issue—nurses, too, deal with needs for privacy, boundaries, and formality and also can be vulnerable in their interactions. From the standpoint of a theoretical understanding of anonymous intimacy, it became evident that the ways nurses and patients interact has something to do with trying to save face in interaction, to prevent or minimize interpersonal discomfort and embarrassment. Thus, in order to comprehend the essence of anonymous intimacy, the concept of face became important.

Saving face

The idea of face as personal vulnerability in interaction is an interesting one. Saving face is a well recognized phenomena in many cultural groups, where face refers to preserving or losing one's social standing by deferring to social norms of behavior. As an ethno-linguistic concept, it has been developed by Brown and Levinson (1987) in a model of the work involved in social interaction to protect and address threats to face, or the threats to individual's sense of public image in social interaction. Interestingly, face is defined more by its loss and threats, than, in fact, what it is.

Face would seem to be a highly pertinent concept for nursing interactions. Think of the number of situations that threaten not only patients face, but that have implications for our own as well–patients becoming embarrassed at the loss of bodily or emotional control, the difficulty of conveying distressing news, how one approaches a procedure never attempted before. Yet, the concept is absent in the nursing literature. The concepts that come closest–such as quality of relatedness, trust, co-creation of meaning–work at a level of abstraction often developed from nurses and patients reflection of their interpersonal relationships (Spiers, 1998). This means that the behaviors, the social actions involved in enacting this dimension of interaction, were still largely obscured because they do not occur at a conscious level of behavior (Byrd, 1995).

Face is related to our sense of personal vulnerability, to our sense of social image or presentation in social interaction (Brown & Levinson, 1987). Moving away from a macro view of anonymous intimacy as a way of relating that minimizes embarrassment and discomfort in interaction by creating a sense of anonymity, it became evident that communicative processes of saving face

were the key to understanding nursing interactions. However, it is problematic to just borrow a concept from another discipline without thoroughly investigating it. Thus, my attention turned to the concept of face. I needed to explore the philosophical, theoretical and methodological assumptions underlying the concept of face in order to move forward in my investigations. A paper entitled The use of face work and politeness theory was published in Qualitative Health Research in 1998.

I had moved from anonymous intimacy to the concept of face in order to draw closer to comprehending that elusive dimension of nurse-patient interaction. Face represents personal vulnerability in interaction. The work involved in saving face–face work–referred to the continual process of identifying, constructing, and enhancing one's own and the other person's sense of face, and avoiding or mitigating situations that threatened face (Holtgraves & Yang, 1990). Face, an interpersonal social phenomenon rather than an intrapersonal psychological construct, is mutually constructed in the interaction and is something that is strategically manipulated in response to the flow of events in the encounter (Holtgraves, 1992). In other words, the context of the encounter, and the events within that encounter, change the nature of the face one wishes to claim for oneself and that one is willing to recognize for the other person. That is why talking about a highly intimate and private topic feels different–and is handled differently–when talking with a best friend, an employer, or a health professional. It seemed to revolve around the idea of vulnerability. To understand that part of the nursing experience Christensen (1990) called anonymous intimacy, it was necessary to establish an interpersonal context of face. In order to understand the nature of face, the concept of vulnerability emerged in my theoretical analysis. So far, there was little sign of the pink elephant.

The concept of vulnerability

There are literally thousands of references to vulnerability in the literature as it is a fundamental aspect of the experience of health and illness. Yet, when I started to explore how the concept was used in the clinical and research literature, it was evident that there were two primary approaches, neither of which were of much use in looking at the experience of nursing, or the behaviors related to influencing social distance in interpersonal interaction (see Spiers, 2000). Vulnerability can be used to identify individual and group at risk of harm (Aday, 1993). This is based on epidemiological characteristics that assign people or groups to higher than normal standards of risk. This risk is objectively derived, most frequently by some source external to the person being assessed. Thus, vulnerability is located intra-personally as a personal attribute of some kind of deficiency in comparison to the normative standard that requires intervention in order to protect the subject from harm or endangerment (Ferguson, 1978). Alternatively, vulnerability can be a more experiential and qualitative phenomenon, a sense of challenge to one's sense of personal integrity (Morse, 1997; Stevens, Hall & Meleis, 1992). Being able to distinguish between emic and etic views allows us to differentiate between being at risk and feeling vulnerable (Spiers, 2000). However, the problem that the concept of face in interaction posed remained–the idea of mutual vulnerability as a social construct, rather than an intra-personal state in interaction. The definitions used in the literature were still intra-personal, whether the view was emically or etically derived.

Moving to field work

This, then, was the theoretical background for my research on the nature of vulnerability in the interactions between home care nurses and their patient's. It seemed that none of the frameworks

I had explored–from anonymous intimacy, to quality of relatedness, to face–were adequate conceptualizations of that elusive dimension of nursing: the ability to move a sense of intimacy and distance in order to deal with the interpersonal implications of the event in-the-moment. The concept of face, while useful and interesting, was defined more by what it was not, and the categories within the model were largely fixed. If I had used this, I would have run the risk of approaching my interpretation deductively, with a priori definitions, and with categories of behavior that were largely decontextualised because face, in Brown and Levinson's (1987) approach, specifically addressed only one distinct dimension of social interaction. The various conceptualizations of vulnerability in the nursing and health literature were likewise problematic, limiting my ability to combine both etic and emic views.

It is important to emphasize that in going to the literature, I was not developing a conceptual framework but trying to clarify assumptions and perspectives to put together the beginning of the skeleton that would give my study shape and direction. To make the fieldwork viable, I needed to have some clarity and a theoretical understanding of the kinds of concepts and phenomena at work in constructing the topic that piqued my interest. Creating this skeleton through systematic concept analysis processes allowed me to articulate my assumptions and perspectives. This would provide direction in sampling and data collection. It had started to build the internal structure for my study. Sometimes, these assumptions were more questions than beliefs–could vulnerability be an interpersonal phenomenon? As a mutual experience related to the events in the interaction, could it be observable in the behaviors of the nurse and patient. These are the ideas that sparked the phase of inductive clinical fieldwork. If I had not done this, but had just leapt into fieldwork, I would have been at extreme risk of floundering—of seeing everything as

related to my phenomenon of interest—which, at the beginning, was extremely poorly delineated. Without this theoretical work, not only would the pink elephant have entered the picture, it would have picked me up, set me on its back and we would have merrily ridden away.

Exploring Vulnerability in Home Care Nurse-Patient Interactions

As is common in qualitative work, researchers seek the context in which we can best see the phenomenon of interest. I was looking for nursing situations in which the nature and characteristics of vulnerability would be highly apparent. To do this, I videotaped home care nurses visits to patients. The unit of analysis was the speech or communication act within the interaction, captured in 31 videotaped visit providing more than 19 hours of video data. Now, it is important to remember that I was not seeking representativeness and generalizability, but an indepth understanding of common social experiences in home care nursing situations. This is where the issue of pink elephants, or issues of inductive/deductive traps, truly began to raise its head—or trunk.

On the trail of pink elephants

Morse and Mitcham, at the first section of this article, talked about the importance of scoping and focusing, to find the balance between entering the research with such a wide view that the researcher is left to fumble in the dark and walking in knowing what to look for and where to find it. Issues of bracketing, as they noted, were difficult to resolve, especially when one has invested so much time and energy in theoretical concept exploration. I had tried to avoid the pink elephant through my evolving concept explorations and analyses. The problem was that now I was trying to explore vulnerability, and I had an idea of what it could look like. It was

clear that nurses and patients experienced episodes of difficulty in their interactions—both very minor and quite major difficulties. Yet, I could not make sense of my data. Despite an excruciating level of description of my data, and extensive challenges from my colleagues, it did not make sense; the idea of vulnerability simply did not match what I thought I saw in the data. It seemed that **everything** could be related to vulnerability.

As I continued to look at different interactions and nurse-patient dyads, it became clear that until I could understand what it was the nurse and patient were trying to achieve, the notion of vulnerability was meaningless. As my study evolved, the research questions became not what is vulnerability, but how the patients and nurses paradigms of understanding or worldviews were co-constructed through their interaction. I had to explore the kinds of goals in terms of co-created meaning that both nurse and patient were working toward in order to understand the interpersonal conditions in which vulnerability could be manifested (Spiers, in press).

To return to Morse and Mitcham's idea of a conceptual skeleton, it turned out that I had the bones the wrong way up. It was only through attention to preserving and ensuring principles of inductive reasoning that I came to realize this problem. It was only by suspending ideas from face work theory and models of vulnerability that I could see this, and then more productively use the concepts of face and emic-etic vulnerability later in my inquiry to explore the communicative means by which the interpersonal contexts of mutual interpersonal vulnerability were created and resolved. The next sections are some very concrete and pragmatic examples of the pink elephant threats in this phase of my research.

1. Overwhelming amounts of data

A necessary design feature in my research, dictated by the need to understand the vulnerability as part of co-creation of meaning, meant that my sampling and data collection were extremely broad. Remember that my unit of analysis was not the nurse-patient dyad, but the speech act–the smallest unit of meaning, verbal or nonverbal, which could be indicative of successful or unsuccessful co-creation of meaning, and thus vulnerability. In each interaction, there could be anywhere from 500 to 2500 speech turns. This was a huge amount of data. However, this breadth was necessary to describe the context of what I was interested in—co-creation of meaning across the nursing and patient paradigms of understanding, and situations in which this did not occur and which was evident in only some data.

I needed to look at multiple levels of the interaction and from different perspectives. For example, I needed to move between very macro perspectives of identifying the activities and tasks they engaged in, from wound care, to pain management, to coordination of services, to types of interaction, from very rote and apparently superficial, to highly attentive interactions, to ones in which each person juggled the degree of involvement. All of this was layered with the immediate and longer terms goals of interaction that were part of every action. By doing this, I could work out what nurse and patient were trying to do, and the nature of the interaction and consequences when this was not successful, or when one person's attempts or goals were not recognized or matched by the other. At this point, my skeletal framework enabled me to more successfully sensitize me to instances of vulnerability as both a process and outcome, or, even more likely, instances of near misses.

The near miss instances were very important to avoiding the pink elephant. Essentially, vulnerability emerged as a result of the nurse and patient's inability to co-create common meaning and understanding of the situation or the intentions of the other. Vulnerability was more often a potential manifestation rather than an actual one. Why? Because of the communicative skill of nurses and patient's in averting problems in the interaction that could result in overt vulnerability and, often, communication breakdown. The following example illustrates this.

A major type of work in the interactions was creating and sustaining an amicable working relationship. This involved negotiating the level of formality as nurse and patient, and familiarity and liking, as individuals. It was deciding how, and to what extent to get to know each other. Both nurses and patients volunteered information about themselves, and showed interest in finding out about the other. This could range from finding an acceptable level of social talk to inviting or offering self disclosure. For example, one patient deflected all personal probes from the nurse but would happily engage in detailed conversation about their mutual tastes and habits in their community of shops and restaurants. Mutual vulnerability occurred when someone was trying to establish personal boundaries without appearing rude, dismissive, or offended. If a question was declined in a way that was respectful, it identified the boundaries of the relationship. If it was not performed tactfully, then it had the effect of rejecting the other person. In one dyad, the patient was always interested in flattering her nurse and validating the importance of the exclusivity of their relationship. This created difficulties, because sometimes the nurse could not visit, and a substitute was sent. In trying to offer a compliment to the usual nurse, this could be construed as criticism of the other nurse, creating a situation of mutual vulnerability.

N: Well, I was away last week.
P: I missed you too!

N: I know <both laugh>
P Don't get me wrong!
N: No!
P: Nothing wrong with the other nurse
N: Yeah.
P: She's nice-
N: I know!
N: -She's just not as friendly. She doesn't laugh like you or I do.
N: Yeah. Yeah, yeah, she's more- she's different.
P: She's mostly (XX) on her work and THAT'S IT. Nothing else
N: Yeah…., you know. (yeah) <both laugh>

2. Intra- or interpersonal characteristics of vulnerability

One of the most apparent deductive-inductive threats in this research was working out the extent to which vulnerability represented an idiosyncratic characteristic or a phenomenon related to the interpersonal context. In dealing with this, my main strategy was pursuing comparative cases. In order to ascertain the extent to which the vulnerability was related to the flow of events in the encounter, rather than to the people, I needed to change the context to see if the nature and characteristics of the vulnerabilities I had identified held across different nurse-patient dyads. It was very interesting to explore how, for example, the kind of vulnerability that was demonstrated in a very well established dyad had significant commonalties and dimensions, as well as differences, with dyads that were the opposite–a new dyad, a first encounter. I was fortunate in being able to observe different nurses with the same patient, which was another way of determining the extent to which the kinds of vulnerabilities or interactive events were intra-personally situated or, as I was discovering, idiosyncratically influenced, but located as mutual interpersonal concern.

3. Attaching meaning to behaviors

Another very interesting conundrum I faced was my ability to attribute meaning to particular behaviors. I noted earlier that I was working on the premise that vulnerability was observable, indicated in not only the content of the interaction but also in the flow of the interaction. In other words, vulnerability or otherwise was not only evident in what is said, but how it was said. This placed me in an interesting position when, from my observers stance, my interpretation of what happened, and how, differed markedly from the patient, the nurse, or both. I had tried to minimize this problem by incorporating interviews in my data collection. I would talk to the patient and nurse each after each visit, asking them about what happened, what they each were trying to do, why and how, and their perceptions of the other person. And of course, I asked if there had been any difficulties. As I expected, they were very rarely able to give me the kind of information that would help me in my interpretation. Why? For two primary reasons, the first being that the kinds of interactive behaviors I was interested in were simply not at a conscious level of awareness or recall. We are so accustomed to dealing with the hiccups and transient communication difficulties that can occur that we simply do not notice them. So, while major communication problems, such as becoming angry or making accusations, were available to my participants for conscious recall, much of what I ultimately found interesting did not exist at a conscious level.

Second, there are interpersonal implications for vulnerability in the researcher-participant relationship and interaction, not just the interaction I was trying to examine. It is bad enough having a researcher observing a nurse's or patient's faults or stupid acts, misunderstanding, being inappropriate or coercive during the actual interaction, let alone having to talk about it

afterwards. In this example, the patient's challenge to the nurse's claim to be able to anticipate the physician's actions, her subsequent attempts to explain her assumptions, and the patient's realization that he had embarrassed her by disputing her right—and competence–to do this created acute embarrassment for both:

<Nurse is engaged in changing the dressing of the Patient's abdominal wound>
N: I wonder if he'll take the rest of those staples out. I know. Are they kind of pulling- can you feel them?
P: No, no, that's one thing I don't do- tell him how to do his job. No-no-no-no-no <fast sing song voice>
N: No- No! I'm just curious!
P: No, I'm just- I'm not even curious!
N: I know- whenever he's ready to take them out, that's (yeah) ok by you!
P: Yes, that's find. I tell you it doesn't bother me one way or the other.
N: yeah, yeah. Sometimes people- they irritate, you know, they kind of pull and—but he'll take- he might take- I wouldn't be surprised-
P: Oh, whatever. That's what he gets paid big bucks for.
N: Yeah, that's right.

Reactions to this kind of interaction would be discounting, denying, laughing it off. Ideally, it could have been useful to take the actual video back to the participants, although I do not think it would have overcome the difficulties inherent in seeing one's own behavior as an observer

(Lomax & Casey, 1998). Thus, there was always the risk of misjudging the intent and meaning of the actions. I addressed this in my analysis by being extremely detailed in my description of behaviors and then in my writing, by a textual rendering that tried to draw the reader into the participants world I was observing.

Summary

I want to sum up by reiterating that the process I engaged in to pursue a clinical phenomena of interest was an exciting voyage of discovery that has demanded flexibility and willingness to pursue a number of productive and less productive routes. All of the processes and stages of these projects were directed toward developing a skeletal framework to guide and refine my research, to provide purposeful seeking and sensitivity to know what is relevant to build up flesh around the skeleton. The result, to date, of vulnerability as an interpersonal phenomenon in nursing relationships is still excessively broad and there are many areas where the boundaries and attributes are less clear than is desirable. The value of this research focusing on vulnerability within the home care nursing context, however, is that it is generating far more specific directions for even more focused research that, cumulatively, will develop the idea of mutual vulnerability in nursing interactions further.

SYMPOSIUM
Issues of Validity: Behavioral Concepts, Their Derivation and Interpretation

Maintaining Validity: The Development of the Concept of Trust

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Maintaining validity while moving a concept to a higher level of maturity is a dilemma that faces all qualitative researchers. In this section, research projects related to the concept of trust will be used to illustrate how new studies can be built on previous ones and then all studies integrated to develop a comprehensive model without compromising validity. The multiple stages of inquiry will be elucidated using the strategies of deconstruction, development of a skeletal framework, and scaffolding as described by in the opening section by Morse and Mitcham.

The strategy of deconstruction was used in the initial project (Morse, 2000), which was a multidisciplinary concept analysis to determine the level of conceptual maturity. Once it was determined that trust was not well developed in the context of health care interactions, literature was used as data (Morse, 2000) to advance the concept further for the purposes of concept clarification. Although this began the process of identifying the structural features of the concept, these data left us with many questions, particularly since the trust literature was context bound and thus not easily applied to health care relationships. A skeletal framework was then developed to investigate trust in health care relationships using grounded theory (Hupcey, Penrod, & Morse, 2000). This project also advanced the concept further toward maturity, but

some aspects still remained unclear. For example, risk as a precondition for trust as found during the concept clarification was not necessarily seen when trust was applied to health care relationships. The strategy of scaffolding was then used as data collection continued with other types of participants and in different contexts to clarify discrepancies in the data and verify the developing model of the concept of trust in health care interactions (Hupcey, Clark, Hutcheson, & Thompson, in press; Thompson, Hupcey, & Clark, in press). Here, I focus on the process of deconstruction, and briefly describe the development of a skeletal framework and the scaffolding process for this research program related to the concept of trust.

Deconstruction

Concept analysis

The concept of trust became a focus of inquiry because, in our earlier studies, trust kept emerging as an important, yet underdeveloped, concept. For example, trust was an important aspect in the development of the nurse-patient and nurse-family relationship and was also needed to help a critically ill patient "feel safe" while in the ICU (Hupcey, 1998, 1999, 2000, 2001). However, the development and maintenance of trust was not understood and many times appeared to be only a component of the interaction or relationship, so as a concept it was not well delineated. This led to our decision to use a criteria-based evaluation to analyze the concept of trust to determine its level of maturity (Morse, Hupcey, Mitcham, & Lenz, 1996). This analysis informed our decision of how to proceed with concept advancement.

Since trust is an important concept for all caring disciplines, it was decided that trust would be analyzed considering literature from the disciplines of psychology, sociology, medicine, and

nursing (see Hupcey, Penrod, Morse, & Mitcham, 2001). From the initial examination of the literature, we found that there were many "lay" meanings of the term; it was used interchangeably with faith and confidence, it was used in a variety of contexts, and it was used in both interpersonal and professional relationships. In addition, there was little agreement about the definition and structural features among the disciplines selected in this study. We also found that the concept was transferred between disciplines. For example, nursing borrowed psychology's interpersonal perspective of trust and placed it into the context of a professional (nurse-patient) relationship.

Level of maturity

The first step in deconstructing a concept is to determine its level of maturity, and for trust, this was an interdisciplinary level of maturity. A mature concept is one that can be readily adapted for research purposes: it is well-defined, has distinct attributes, well-delineated boundaries, and well-described preconditions and outcomes (Morse, Mitcham, Hupcey, & Tasón, 1996). To determine level of maturity, we searched discipline-specific databases for literature and research on trust in our four identified disciplines (i.e., psychology, sociology, medicine, and nursing). Each data source (i.e., article, book, or book chapter) was analyzed for maturity according to four philosophical principles (Morse, Hupcey, Mitcham, & Lenz, 1996). The *epistemological principle* focuses on whether the concept is clearly defined and well-differentiated from other concepts. The *pragmatical principle* focuses on the concept's fit with the discipline and how it has been appropriately operationalized. The *linguistic principle* is the extent to which the concept has been used consistently and appropriately within context. The *logical principle* examines how well the concept hold its boundaries when theoretically integrated with other concepts.

When trust was evaluated according to these four principles, gaps were identified both globally and within individual principles. Epistemologically, trust was found to be inadequately defined with competing definitions. Pragmatically, the concept was embedded with other concepts and rarely operationalized. Linguistically, trust was found to be context bound, and logically it did not hold it boundaries and was often overlapped with other concepts, such as respect (Hupcey, Penrod, Morse, & Mitcham, 2001). From this criteria-based evaluation across the four disciplines, trust was determined to be partially mature as an interdisciplinary concept. Although the body of literature was adequate (that is, in volume and quality), the literatures were not well integrated toward an interdisciplinary consensus in meaning. Therefore, the next step in the process was to advance conceptual maturity by clarifying the concept by gaps per principle and globally. The research approach chosen was concept clarification through a critical analysis of the literature.

Concept clarification

Once level of maturity is determined, there are two ways to go depending on the quantity and quality of the literature available (see Figure 1 below). For this project, we used the literature first because the literature was adequate in both quality and quantity in all four disciplines. So we proceeded with a critical analysis of the literature for the purpose of concept clarification, using the method described by Morse (2000).

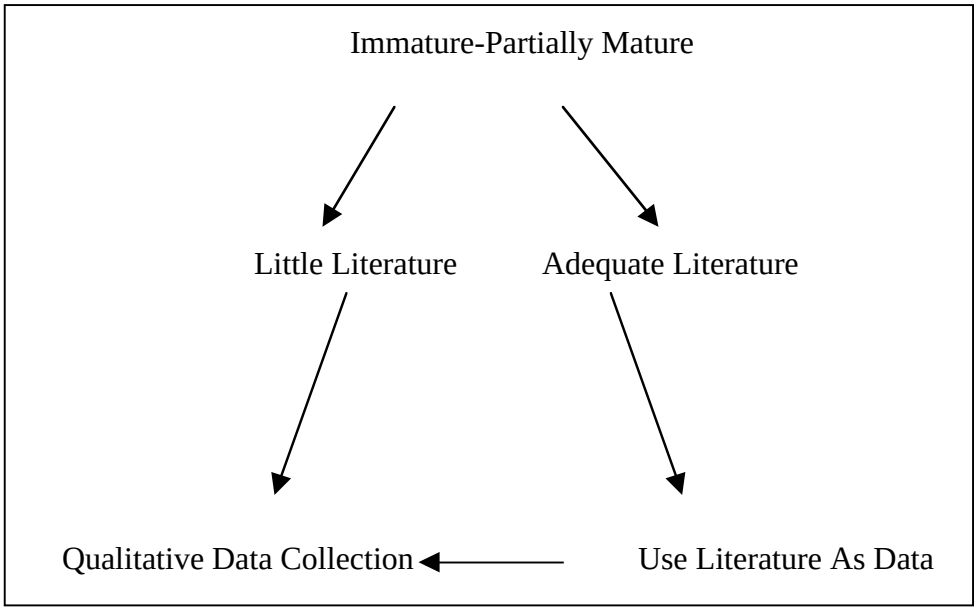

Figure 1.

The first step in the concept clarification is to posit critical inquiries to be asked of the data/literature. Next, a literature search is completed to add additional articles, if needed, to the already existing data set of articles. These articles are then individually analyzed for each discipline's treatment of the critical inquiries. Finally, the findings are theoretically integrated, and the structural features of the concept are clarified (i.e., the attributes, boundaries, preconditions, outcomes, and definition).

Critical inquiries

Since the researchers have already done a significant amount of reading and analyzed the literature to get to this point, this prior knowledge is used to help generate meaningful questions to be asked of the data. So this process is not started blindly. However, to avoid the pitfalls of "tunnel vision" or loss of validity, an interdisciplinary team generated discipline and specialty-specific questions. This incorporated both the previous knowledge base of the researchers and discipline-specific knowledge to generate questions that were not context or discipline bound.

For the trust project, there were researchers from different disciplines, nurses from various specialties, and a lay participant.

The critical inquiries are universal questions to be asked of the data that are relevant to the concept of interest. A total of 10-15 questions are developed with the knowledge that these inquiries can be revised, combined, or deleted as the analysis progresses. For trust, we developed a list of 11 critical inquiries (Hupcey, Penrod, Morse, & Mitcham, 2001). The following is a list of the inquiries:

- Does an individual develop trust instantaneously or is trust built over time?
- Does an individual's needs force him/her to trust?
- By trusting another, does an individual place him/ herself at risk?
- Does an individual have a choice to trust or not to trust?
- Is trust an inherent characteristic or does an individual learn to trust others?
- Does an individual trust another person by virtue of role or the individual's personal characteristics?
- Is trust unilateral, bilateral, or reciprocal?
- Does maintenance of trust between individuals involve testing behaviors?
- Are there types or kinds of trust?
- What are the ramifications and/or manifestations of loss of trust or distrust?
- What is the expected outcome of trusting? .

Analysis and integration of findings

Each critical inquiry is asked of each article from the four disciplines. We used four long sheets of paper, one for each discipline. Each sheet of paper had the list of the 11 inquiries down the left

side and the title, authors, and journal name for each article listed across the top. For each article, the answer for each inquiry was documented along with direct quotes and the page in the article where the information could be found.

Following completion of this step, the research team met and, as a group, analyzed and integrated the findings. Through this process, the structural features of trust were explicated (Hupcey, Penrod, Morse, & Mitcham, 2001). They are as follows:

Attributes*:*

- Dependency on another individual to have a need met;
- Choice or willingness to take some risk;
- An expectation that the trusted individual will behave in a certain way; testing of the trustworthiness of the individual.

Preconditions:

- A need that cannot be met without the help of another;
- Prior knowledge and/or experience with the other; and
- Some assessment of risk or what is at stake.

Boundaries:

- Trusts ceases to exist when:
- The decision to place oneself in a dependent or vulnerable position is not based on some assessment of risk;
- There is a perception no choice; and
- The risks outweigh the benefits.

Outcomes:

- An evaluation of the congruence between expectations of the trusted person and actual behaviors.

Developing the skeletal framework

Following completion of a concept analysis, a skeletal framework is developed to help focus the subsequent inquiry. We had already identified structural features of the concept of trust; however, the application of these features to health care interactions was not clear, and may not fit into this new context. We also knew that there were still unanswered questions, such as:

- Are there features of an individual that foster or inhibit the trusting process?
- Can factors that enable the development and maintenance of trust be identified and transferred?
- Is there a difference between immediate trust of a class of individuals (such as patients toward physicians) and trust built over time with a particular individual?
- What are the differences between the loss of trust and never having trust (i.e., mistrust or distrust)?
- How is trust reestablished once it is lost?
- Under what conditions can a professional-client relationship exist without trust?

To answer these remaining questions, and to further advance the concept of trust (or to build the skeletal framework) particularly within a health care relationship, a qualitative study using the methods of grounded theory was undertaken. To develop the skeletal framework, we built upon the previous concept analysis, using the prior findings as a guide to context (that is, to identify data collection sites where the concept would be manifested). The grounded theory study was conducted with adult patients during an acute care hospitalization as participants (Hupcey, Penrod, & Morse, 2000). The principles of grounded theory were followed, including theoretical sampling and the constant comparative method of data analysis. The initial interviews were semi-structured as trust was explored. To ensure that validity was not jeopardized, the

"unanswered questions" from the concept analysis were used as a guide for follow-up interview questions once the participants told their whole story. In addition, these data were analyzed independently from the findings generated from the concept analysis. From this study, a model of the development and maintenance of trust in health care providers was developed. Once the model was developed, these results were compared with the results of the concept analysis to identify areas of congruence and incongruence between the two analyses.

Concept Analysis	**Grounded Theory**
Congruence Need identified that cannot be met by self Subject to testing Outcome is congruence between expectations and actual behaviors of the other	Congruence Need identified that health care provider must meet Testing behaviors present Congruence between expectations and actual behaviors of health care providers results in the development and maintenance of trust
Incongruence Involves assessment of risk Willing dependence on someone	Incongruence Risk not mentioned* Willing dependence or choice not always present in hospitalized patients

*(Note: although risk is not mentioned, it does not mean that it was absent, it may be implicit)

From this comparison, it appeared that hospitalized patients have unique features that may influence the areas of incongruence. For example, would individuals who are not presently hospitalized assess the risk versus benefit when developing a relationship with a provider, do non-hospitalized individuals feel they have a choice of providers, and would a person responsible for decision-making for a patient (such as a parent or legal guardian) have a different trajectory when developing and maintaining trust in their charge's health care provider?

Building a scaffold

Although a skeletal framework was clearly delineated in the first two studies, further research was needed to develop the scaffold. Data collection continued with other types of participants and in different contexts. This was done to: further explore the concept of trust in healthcare providers, to clarify the discrepancies in the earlier studies, and to verify the model that was developed in the grounded theory. In order to maintain validity, these studies were again undertaken without using the previously developed model as a guide. Participants were allowed to tell their whole story before follow-up questions addressing incongruencies and gaps in the model were asked.

Two studies have been completed so far and a third study is underway to help build the scaffold. The first study was with parents of previously hospitalized children, using a grounded theory approach (Thompson et al., in press). This study revealed that parents have a similar trajectory when developing and maintaining trust in health care providers, as did the adult hospitalized patients. However, there were areas of incongruence between the two groups (see figures 2 & 3).

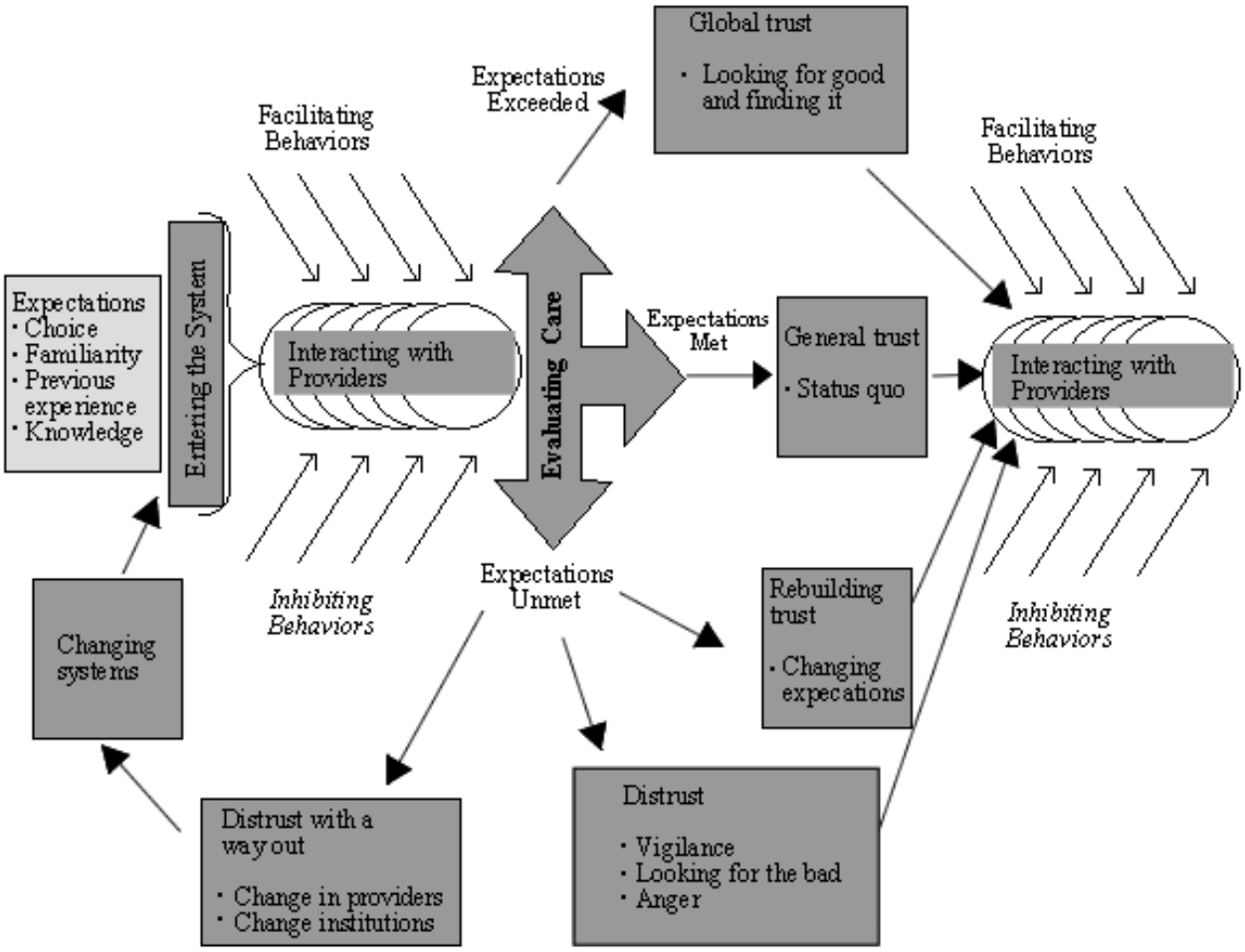

Figure 2: The development and maintenance of trust in health care providers (Hupcey, Penrod, & Morse, 2000).

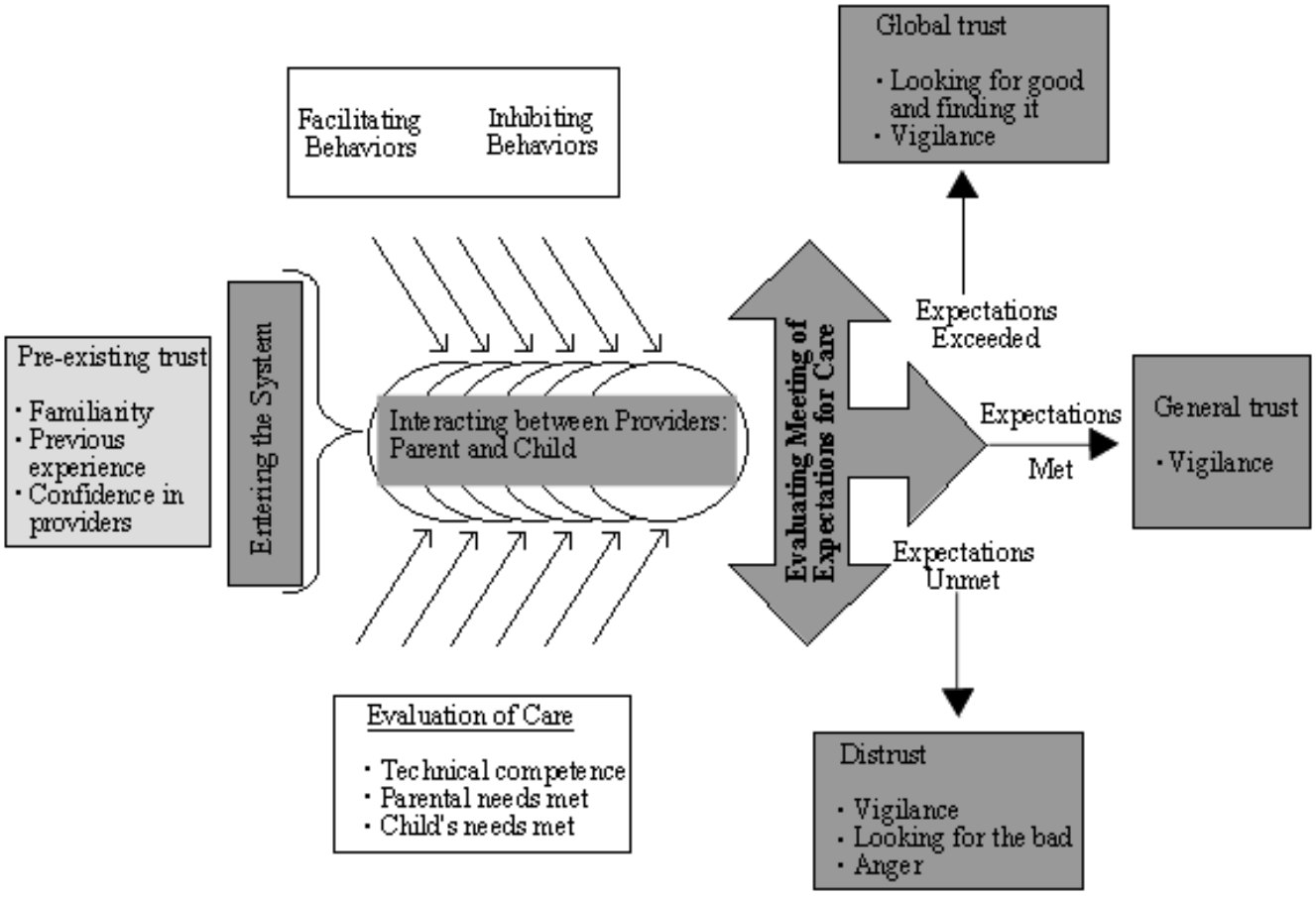

Figure 3: Development and Maintenance of trust in Parents of Hospitalized Children (Thompson, Hupcey, & Clark, in press).

Parents in this study did not exhibit the same three trajectories of unmet expectations as the adults (mistrust with no way out of the health care systemp; mistrust with a way out, where they left the present health care system and entered a new health care system; and rebuilding trust). Parents also remained vigilant, watching the care provided, although they may have expressed that their expectations for care were met or exceeded.

The second study used focus groups with community-dwelling elders to investigate trust in primary health care providers (Hupcey, Clark, Hutcheson, & Thompson, in press). The ongoing

study, using adults in the community, is focusing on mistrust or loss of trust to address pieces of the model that were not well described or where there are areas of incongruence in the earlier studies.

Summary

In this section, I presented the progression of a research program addressing the concept of trust using the strategies of deconstruction, development of a skeletal framework, and scaffolding. Each piece of this project built on previous studies, using the prior knowledge to inform the subsequent study, for example with context, but not as a model or framework for the initial interview questions or the analysis. This process helped to maintain validity within each study and across the entire project. Once completed, the findings of each study were compared to previous results, as the framework is built and pieces of the scaffold are filled in to develop a more comprehensive model of trust in health care providers.

SYMPOSIUM
Issues of Validity: Behavioral Concepts, Their Derivation and Interpretation

Advancing uncertainty: Untangling and discerning related concepts

Janice Penrod

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Methods of advancing concepts within the qualitative paradigm have been developed and articulated. In this section, I describe methodological perspectives of a project designed to advance the concept of uncertainty using multiple qualitative methods. Through a series of earlier studies, the concept of uncertainty arose repeatedly in varied contexts, working its way into prominence, and warranting further investigation. Processes of advanced concept analysis were used to initiate the formal investigation into the meaning of the concept. Through concept analysis, the concept was deconstructed to identify conceptual components and gaps in understanding.

Using this skeletal framework of the concept identified through concept analysis, subsequent studies were carried out to add 'flesh' to the concept. First, a concept refinement using the literature as data was completed. Findings revealed that the current state of the concept of uncertainty failed to incorporate what was known of the lived experience. Therefore, using interview techniques as the primary data source, a phenomenological study of uncertainty among caregivers was conducted. Incorporating the findings of the phenomenology, the skeletal

framework of the concept was further fleshed out using techniques of concept correction to produce a more mature conceptualization of uncertainty.

In this section, I describe the flow of this qualitative project investigating the concept of uncertainty, with special emphasis on a particular threat to validity (called conceptual tunnel vision) that was identified and addressed during the phases of concept correction. Though in this article I employ a study of uncertainty for illustration, limited substantive findings regarding uncertainty are presented to retain a clear focus on the methodological issues.

Identification of the concept: Uncertainty

In an early study of caregivers' perspectives of placement (Penrod & Dellasega, 1998), uncertainty arose as a major theme of the experience. This grounded theory examined informal caregivers of older adults who were being cared for at home, then suffered a health crisis that resulted in hospitalization with impending discharge to nursing home care. Caregivers expressed uncertainty regarding the older adults' medical conditions and treatment plans, their prognosis for recovery to the pre-morbid status, nursing home selection/admission processes, and the anticipated length of stay in nursing home care. Through this study, it was concluded that, uncertainty refers to the gaps in information used in processing the decision to place the older adult charge. Uncertainty was universal among the caregivers, despite a range in the suddenness of the onset of the disabling incident and the length of time since the professional recommendation for placement was made (Penrod, 1996, p. 219). Within a decision-making framework, uncertainty was posited to be a knowledge deficit, marked by the linguistic pattern, "I don't know if…"

Later, while working with Dr. Janice Morse on the Comfort Project (NIH NINR 2 RO1 NR 02130-08), the concept of uncertainty again emerged. In this complex project studying comfort during significant threats to health, three primary concepts emerged: enduring, suffering, and hoping. Then, methods for linking concepts toward theory development were articulated and demonstrated using these three inter-related concepts (Morse & Penrod, 1999). In the process of disentangling, delineating, and then linking the concepts, a distinct state of uncertainty emerged. Uncertainty occurred when a person could see a future, but had no idea of how they could ever get there, and was described as a state in which the person "just exists, but he or she exists in an emotional state suffering her or his inability to move, to select an option, or to act" (Morse & Penrod, 1999, p. 148). A model of suffering, devised to demonstrate the cyclic relationship among the concepts of enduring, emotional suffering, and hoping, clearly delineated the state of uncertainty occurring between the present-oriented state of enduring and the more future-oriented state of suffering. In this study, we discovered that the person's level of knowing was a significant factor in transitioning from state to state. Uncertainty was prompted by recognition of the significance of the experienced threat to health without full acknowledgement of the breadth and depth of the altered course of health and life that they now faced.

These primary studies, supplemented by other studies and insights, began to focus a line of inquiry into the concept of uncertainty. Rather than being <u>selected</u> for study, the identification of uncertainty as a concept of interest <u>emerged</u> from preliminary work. This was an important lesson for a junior researcher: listen to data, and allow studies to prompt nagging questions rather than closing the door upon completion of the study.

Deconstruction of the concept: Concept analysis

These primary studies were significant in prompting further investigation of the concept of uncertainty. In the first phase of the study of uncertainty, a concept analysis was conducted to identify the state of the science surrounding the concept. Concept analysis is a form of deconstruction; that is, through an analytic examination of the literature, the concept is taken apart to identify what is known of its essential components.

When considering techniques for concept analysis, it is critical to recognize that the selection of analytic method is critical to the product of deconstruction. While many methods for concept analysis produce interesting (and, perhaps, significant) results, deconstruction requires an analytic method that systematically explicates the critical conceptual attributes as they are currently understood in the scientific literature. For this reason, criteria based analysis is superior to other analytic techniques that encourage imaginative thinking or created hypothetical cases to develop conceptual components.

In this study, the methods described and developed by Morse, Hupcey, Mitcham and their colleagues (Morse, 1995; Hupcey, Morse, Lenz, & Tason, 1996; Morse, Hupcey, Mitcham, & Lenz, 1996; Morse, Mitcham, Hupcey, & Tason, 1996; Penrod, Hupcey, Mitcham, & Morse, 2000) were utilized to deconstruct the concept of uncertainty. This method of advanced concept analysis enables a criteria based analysis of the multidisciplinary literature according to four integrated principles: epistemological, pragmatical, linguistical, and logical. The analytic process comprehensively addresses how the concept has developed with respect to these major perspectives of knowledge found in the philosophy of science. The analysis is then summarized

as the concept's maturity, a summary indicator reflecting the degree to which the concept fulfills the analytic criteria.

In the study of uncertainty, the multidisciplinary literature was analyzed to provide the most comprehensive view of the concept. Literature from nursing, anthropology, sociology, psychology, and medicine was included. Analysis detailed each of the parameters (epistemological, pragmatical, linguistical, and logical) and was summarized as the concept's maturity (Penrod, 2001*a*). In this case, the concept of uncertainty was determined to be partially mature, tending towards immaturity.

Through deconstruction of the concept through advanced concept analysis, the initial form of the concept (or skeleton) emerged. Yet, significant gaps in understanding persisted. For example, the conceptual components (or attributes) were not well defined, the strategies for managing or reducing the state of discomfort produced during times of uncertainty were not well addressed, and measurement issues abounded. Thus, while concept analysis is an important step in the process of building concepts, it is typically the preliminary investigation that opens research questions for further study. This is the function of deconstruction: to identify the conceptual skeleton in preparation for subsequent studies that add flesh (or deeper meaning) to the conceptual frame.

Fleshing out the skeletal framework: Concept refinement

Using the literature as data, concept refinement provides a method of extending the conceptual attributes through an inductive analysis of the literature. This analysis is guided by critical

inquiries posed by the researcher. In essence, one 'asks questions of the literature' to further expose the components of the concept of interest. In contrast to the previous analysis, this phase of analysis centers on inquiries guided by the researcher rather than the four analytic criteria described earlier. The product of this type of investigation is a theoretical definition that is extended, or refined, according to insights reported in the literature.

In the case of uncertainty, the refinement was conducted as a form of content analysis guided by a series of questions surrounding the gaps identified through analysis: conceptual components, strategies for managing or reducing the state of discomfort associated with uncertainty, and measurement issues. It is important to note that the data for this analysis are insights presented in the multidisciplinary literature (not conjecture); therefore it is crucial that an appropriate and adequate data set is available for the study. (See Morse & Field, 1996, for further discussion of appropriate and adequate data sets.) Through the process of concept refinement, the following theoretical definition of uncertainty was derived:

> Uncertainty is a dynamic state in which there is a perception of being unable to assign probabilities for outcomes that prompts a dis-comforting, uneasy sensation that may be affected (reduced or escalated) through cognitive, emotive, or behavioral reactions, or simply by the passage of time and changes in the perception of circumstances. The experience of uncertainty is pervasive in human existence and is mediated by feelings of confidence and control that may be highly specific (event-focused) or more global (a world-view). (Penrod, 2001*a*, p.241)

Though the refined conceptualization made the skeletal components more distinct, the framework of understanding this complex behavioral concept remained incomplete. The scientific definition of uncertainty in the multidisciplinary literatures was narrowly probabilistic. The role of information in the dynamic state of uncertainty was unclear. The paradoxical nature of the experience (that is, both opportunity and threat) was not well delineated. Finally, the

scientific concept and the ordinary concept (represented in anecdotal data in the literature and from personal experience) were not well integrated. Thus, subsequent study to continue to add 'flesh' to the conceptual skeleton was required.

Fleshing out the skeletal framework: Phenomenology

In order to fill in these conceptual gaps, the next study of uncertainty explored the lived experience of uncertainty using methods of hermeneutic phenomenology described by Van Manen (1990). The decision to conduct a phenomenological investigation was based on the nature of the gaps identified during concept refinement; these were questions of the lived experience of uncertainty.

Since informal caregivers had previously been identified as having profound experiences of uncertainty over a wide range of contexts, caregivers were once again studied to reveal the essences of the experience. Of particular interest, it was known that caregivers experienced many situations in which no decision for immediate action was required and in which the uncertainty was based on life events over which the caregiver had no control. Multiple individual interviews and one group interview were conducted with ten informal caregivers to gather data reflecting experiential descriptions of uncertainty. In addition to this primary data source, personal insights, etymological sources, idiomatic phrases, protocol writing, and phenomenological and philosophical texts were used as data sources in this exploration of uncertainty.

Through this study (reported in Penrod, 2001*b*), five essences of the lived experience of uncertainty were identified: Sensing control, Sensing confidence, Reading the situation, Regaining a sense of normal, and Shifting temporality. It is beyond the scope of this paper to discuss the phenomenological findings in detail; however, a brief overview of the findings will be provided for clarity.

Those bound in a state of uncertainty are in a condition of doubt regarding the outcome or meaning of a situation. Sensing control and Sensing confidence are the primary essences of experiencing uncertainty. Control is related to sensing an ability to influence the outcome of the situation, while confidence is related to sensing an ability to read a situation. Control and confidence are intertwined perceptions that fluctuate dynamically in response to situational cues and clues. Feeling a loss of control or confidence escalates feelings of uncertainty. Being in doubt about the meaning or course of a situation is a discomforting time. Reading the situation is the process by which caregivers began to assign meaning by processing evidence within their analytic frame. They 'read' the care recipient and they 'read' the self to collect varied forms of evidence, processed this information within a very individualized frame of reference, and then drew some conclusion (often of continued doubt).

Especially in times of great uncertainty, the caregivers identified reliable routines or patterns of behavior as a 'new normal.' Establishing a new normal is essential to the experiences of uncertainty. Patterned behaviors bolstered feelings of confidence, and, at times, control over an uncertainty. Caregivers learned and changed through each iteration of their 'new normal'—later, looking back and wondering how they ever made it through such tough times. This ability to

establish a new normal in the face of uncertainty that produced personal growth, or change way of being in the world, for these caregivers.

States of uncertainty are temporally bound and are focused on the evidence ascertained at that time. As a result, the behavioral state induced during uncertainty is most often present focused, centered on whatever evidence emerges during that time frame. Temporality shifts with the intensity of the uncertainty experienced. For example, during overwhelming uncertainty, time collapsed into the experience. There was no future, no past, just a seemingly unbearable present in which time seemed to halt.

Following the writing of the phenomenological text, a more analytic stance was assumed and an interpretive framework for understanding uncertainty was derived. Types of uncertainty (based on the interactive effect of sensing confidence and sensing control), modes of uncertainty (situational versus existential), goals (specific to the mode), and strategies used during times of uncertainty were defined. This exhaustive investigation of the lived experience of uncertainty revealed the essences of the experience and provided the basis of an analytic framework for understanding times of uncertainty.

Now, returning to the larger study of the concept of uncertainty, the completed phenomenology revealed the nature of the lived experience of uncertainty, the *wholeness* of the experience. But, at the same time, an important question was raised: Were all of the *attributes of the lived experience* of uncertainty components of the *concept of uncertainty*? This question reveals a

significant threat to the validity of building concepts using interview data; the threat of over-attribution or conceptual tunnel vision (J. M. Morse, personal communication, December 2000).

Addressing conceptual tunnel vision: Unraveling concepts

Let us step back momentarily to review the flow of this inquiry on uncertainty. First, the concept emerged through a series of unrelated studies. The concept of uncertainty reappeared in varied contexts, and warranted further investigation to more fully understand the concept. Next, a concept analysis was conducted to explore the state of science surrounding the concept. Since there was adequate and appropriate literature, a concept refinement using the literature as data was completed to more fully understand the concept of uncertainty through a refined conceptual definition culled through questions asked of the literature and reorganized into a more coherent whole. But, questions regarding the experience of uncertainty persisted and led the researcher toward a phenomenological investigation of the lived experience of uncertainty. Now, returning to the original goal of advancing of the concept of uncertainty, the threat of conceptual tunnel vision emerged as the researcher was faced with the wholeness of the phenomenological findings.

Conceptual tunnel vision means seeing the concept of interest in all aspects of the whole experience. It is a process of over-attribution. or of attributing all elements of the experience to the concept of interest. Stop for a minute to consider this threat. Human experience is a *complex interplay* of identifiable concepts. All of the elements of an experience *are not necessarily components of the concept of interest.* Understanding the *nature of an experience* does not *directly* reveal the *'flesh' of the conceptual 'skeleton' of the concept of interest.* Acknowledging

these facts helps the researcher to recognize the threat of conceptual tunnel vision to the validity of the research.

Prior to using the phenomenological findings to advance the concept of uncertainty toward greater maturity, it was critical to unravel these co-occurring or interrelated concepts from the complex tapestry of the experience of uncertainty in order to isolate the concept of interest. If one were to proceed without disentangling co-occurring concepts, a significant threat to validity (or truthfulness) of the conceptualization would arise. Thus, *the first step in addressing conceptual tunnel vision is recognizing the threat*. When immersed in a study of an experience, the concept of interest appears to encompass everything.

Once recognized, the threat of over-attribution or *conceptual tunnel vision can be addressed by returning to the data, examining behavioral manifestations, and exploring constructed meaning.* A careful analysis of interview data of the lived experience of uncertainty revealed multiple co-occurring concepts. As the interview data were reanalyzed (now attuned to the threat of conceptual tunnel vision), it became apparent that within the caregivers' experiences, there was evidence of the concepts of enduring, suffering (or emotional releases), trust, and normalization. Using techniques described by Morse and Penrod (1999) for linking concepts, these co-occurring concepts were disentangled from within the caregivers' experiences of uncertainty, and a new conceptual understanding came forth.

Yet, the process is incomplete without *validating the interpretation.* Once the inter-related concepts are disentangled from within the complex human experience, interpretation must be

verified using techniques of theoretical integration with the literature. Use the literature to identify evidence of co-occurring concepts (i.e., attributes and/or behavioral manifestations) reported in the interview data and the fit of this evidence with existing literature on these related concepts. Return to the literature on the concept of interest to determine if other researchers have revealed similar evidence or conclusions regarding the theoretical interplay among identified concepts. Reexamine published accounts of experiences of the concept of interest to determine if the interrelated concepts are evident in these accounts as well.

These procedures are critical for fully explicating the nature of a *concept* rather than the *nature of an experience*. In the case of uncertainty, the above recommendations were employed to reexamine the lived experience, now from the perspective of verifying evidence of co-occurring concepts. Once this process was begun, it became apparent that while the lived experience of uncertainty revealed significant insights regarding the concept of uncertainty, this experience was truly interwoven with other concepts. As the evidence (in the form of attributes and behavioral manifestations) characterizing other concepts emerged, they were verified in the literature on uncertainty and on the related concepts. For example, through this re-examination it became clear that:

- Varied types of uncertainty induce a range of behavioral states, centered primarily on enduring behavior;
- During times of uncertainty, processes of normalization are used to bridge the changed world with the everyday world; and
- Trust of another person influences how the uncertain person weighs the evidence, and may affect the conclusion or certainty versus doubt.

Disentangling co-occurring concepts and verifying their interrelationships minimized the threat to validity posed by conceptual tunnel vision. The insights gained through the process of addressing conceptual tunnel vision in the phenomenological study of uncertainty greatly enhanced the theoretical contribution of this work in subsequent concept advancement.

In concept advancement work, conceptual tunnel vision threatens the validity of subsequent projects, so demands the researcher's careful attention. Only after recognition of this threat to validity, followed by a careful analysis of interrelated concepts, and verification of the interpretation through theoretical integration with the literature can the flesh of the conceptual skeleton be isolated form the "noise" of the experience.

Fleshing out the skeletal framework: Concept correction

Only now, set with the theoretical conceptual definition derived though concept refinement and the clearly disentangled concepts within the *experience* of uncertainty, could the process of correcting the concept of uncertainty toward advanced maturity be undertaken. In this phase of the research, a form of visual mapping was used to lay out the conceptual components derived through each phase of the research. In this analysis of conceptual components, a comparative analysis of antecedents, attributes, strategies, goals of intervention, and worldview was conducted to further integrate findings toward concept advancement. Working through this analysis of the conceptual components permitted the correction of the concept of uncertainty to expand the theoretical definition in a manner that encompasses varied types and modes of uncertainty that are perceived in different life experiences. Key theoretical insights include:

- Uncertainty is a perception of doubt or not knowing that is brought about by cognitive and pre-cognitive ways of knowing.

- States of uncertainty are uniquely determined by an individual's perception of being in the world—while opportunities for uncertainty may abound, the state is highly individualized.
- Highly individualized perceptions of confidence and control create a dynamic flow of varied types of uncertainty and modes of uncertainty, varying in the intensity of discomfort.
- Strategies taken during an uncertain life event influence underlying sense of confidence and/or control and influence shifts in the types of uncertainty experienced.
- Techniques to enhance the sense of confidence and/or control perceived in a situation can influence the type of uncertainty experienced.
- The theoretical definition of the corrected concept moves toward a higher pragmatic utility because it takes a greater range of experiences into account and more closely captures the phenomenon of uncertainty observed and reported.

Thus, this project of advancing the concept of uncertainty produced a more coherent concept of broader scope in a manner that addressed a significant threat to validity: conceptual tunnel vision.

Summary

Using this discussion of the advancement of the concept of uncertainty, several points regarding techniques for building concepts using interview data become apparent. First, deconstruction of the concept begins the process of identifying the skeletal form of that concept. All methods of concept analysis are not equally effective in revealing the skeletal form of the concept. Since the skeletal form enables subsequent studies to flesh out conceptual attributes, it is critical to select a method that systematically analyzes the literature without conjecture or hypothetical creation of data.

When methods of concept advancement include qualitative studies of human experience that center on interview data, it is crucial that the researcher addresses the significant threat to validity posed by *conceptual tunnel vision*. Immersion in an experience or phenomenon of

interest tends to blind the researcher to co-occurring or inter-related concepts within the complex human experience—the concept of interest appears to encompass the whole of the experience. In order to minimize this threat to conceptual validity, researcher must first, *recognize* it by understanding that the nature of an experience does not directly reveal the flesh of the conceptual skeleton. Then, *address* it by returning to the data, examining attributes and behavioral manifestations, and exploring constructed meaning without conceptual blinders. Finally, *validate the interpretation* of inter-relationships using techniques of theoretical integration with the literature. Since conceptual tunnel vision poses such a significant threat to the validity of subsequent work in concept advancement, it is crucial that researchers take steps to minimize this threat.

SYMPOSIUM
Issues of Validity: Behavioral Concepts, Their Derivation and Interpretation

Analysis of Videotaped Data: Methological Considerations

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Using videotaped data as the sole source for a study produces unique challenges that have not been fully addressed in the literature. Our particular interest was the analysis of videotaped data in which the scene—that captured within the frame—is the sole source of data. The researcher does not have access to interviews or other interpretive data to provide the participants' perspective, therefore analysis relies on the actions of the participants as they occurred. When recording video data in this manner, nothing is manipulated or staged for the recording. The challenge for the researcher is to describe and to analyze the scene as it stands. How does one make sense of such data? And how can one be assured that the research interpretation is correct? We argue here that the level and accuracy of interpretation possible depends on the context—on what is being studied, and what is known about the topic of interest.

In this section, we will address issues inherent in analysis of sole source videotaped data, with particular attention to the selection and use of a scaffold for analysis. The example that we use is a study that came later in the research program: a secondary analysis of videotaped data to explore nurse-patient-family interactions in a trauma-resuscitation room of the Emergency Department (Morse & Pooler, 2002).

Model of suffering

Prior to this study, Morse and her colleagues had explored suffering for a number of years, developing the concept using phenomenology, grounded theory, participant observation, and linguistic analysis (Morse & Carter, 1995; Morse & Carter, 1996; Proctor, Morse, & Khonsari, 1996; Penrod, Morse, & Wilson, 1999). A model of suffering had been developed from these studies that revealed that suffering was comprised of two distinct states: *enduring,* in which emotions are suppressed and *emotional suffering,* in which emotions are released.[1] Studies using videotapes of trauma care demonstrated that nurses enhanced enduring when patients were in extreme distress and almost losing control (Morse & Proctor, 1998). From other studies and participant's descriptions, we were reasonably certain that we could identify behaviors of patients and family members who were enduring and those who were emotional suffering, by observing their behaviors and the type of emotions displayed. Nevertheless, many questions remained about those behaviors, as well as the interactions with and among those who were enduring, and those who were emotionally suffering. Thus, the purpose of this secondary analysis was to further describe the behaviors (i.e., overt signals) of those who were enduring or emotionally suffering, and to analyze the interactions among family members, the patient, and nurses, and identify appropriate responses to use when persons were in these states of suffering.

Analysis of videotaped data

Videotaped data presents unparalleled opportunities for understanding human behavior. Levels of analysis may range from *macro-analytic* (e.g., observing gross motor movement or patterns of behavior), or *micro-analytic* (e.g. focusing on the most transient touch). Analysis of data can be manipulated: played and replayed; sped up, slowed or paused; discussed, analyzed, and

reanalyzed, thus providing insights that otherwise would be unobtainable. Researchers have the opportunity to discuss certain scenes, to bring to the fore any disagreements regarding interpretation about what is going on, and to establish inter-rater reliability with coding schemes. Furthermore, with videotaped data, exact scenes may be used to illustrate one's emerging theoretical scheme. Showing, in addition to describing, is powerful and persuasive.

When data are not accompanied by interview data or written records, or when videotaped data has been obtained from participants who are pre- or non-verbal, or unable to verbalize (due to intubation, sedation, confusion, and so forth), issues of interpretation are risky. In these situations, it is impossible to conduct the analysis from the perspective of the participants, or to verify one's analysis. Without the benefit of interaction and shared meaning, one is only left with description or inference.

Our concern with this type of data and its analysis is shared with animal ethologists. Ethology is used to systemically observe, analyze, and describe behaviors within the natural context (Morse & Bottorff, 1990). How does one interpret videotaped data inductively, validly, and meaningfully? In this section, we will briefly explore styles of interpretation of videotaped data and then discuss the use of a scaffold to aid styles of interpretation to further develop/describe a concept.

Styles of interpretation

Human or animal ethology is a useful approach for analysis of sole source videotaped data (Eibl-Eibesfeldt, 1989; Morse & Bottorff, 1990). The analysis of data includes description of the

behaviors, interpretation of the actions, and inference about intent and meaning. Various levels of analysis place different values on description or interpretation. In the first level of analysis, often used, for example, by animal ethologists, priority is placed on descriptions of behavior, and interpretation is minimal or even absent. Conversely, at the highest level of inference, behavioral description is minimal and analysis is more interpretive, based on shared meaning as well as direct inference from the data. Between these two extremes, we have basic description in which we describe the behaviors and attribute obvious meanings. We will describe these three approaches using the example of observation of a handshake, and then describe a fourth approach—the utilization of a scaffold.

Detailed behavioral description/Minimal inference

This level of research is purely inductive. Researchers describe behaviors in extraordinary detail, often developing some type of microanalytical coding scheme, accounting for every possible movement. Inference is lacking, interpretation is minimal or absent, and the context is often ignored. For example, using this approach to analyze a handshake, the researcher would describe the detailed behaviors in which each participant extended the arm, grasped the hand, and moved it up and down. The nature and type and time of contact would be measured. However, the handshake would <u>not</u> be labeled as a greeting behavior and accompanying verbal utterances would be ignored. The handshake would be described as an *action* in a technical/mechanical sense, but this knowledge contributes little to our understanding of *meaning* of human behavior.

Inference extending from shared meaning

At this level of analysis, researchers work from careful macro and micro description and use their knowledge of human behavior to *infer* "what is happening." The basic description is followed by inference, with the inferences being derived from shared meaning and common experiences, prior research, or the literature. Context may be considered, and the accompanying verbal behaviors included in the analysis. In our handshake example, researchers would describe the action and label it as a greeting. Although this type of analysis is broader in scope and may be a useful strategy for incorporating superficial context and providing baseline data, it is not interpretive and rarely informative.

Theoretical inference

With this level of analysis, behavioral description and shared inference are extended with the use of *theoretical inference*, which is extended from meticulous description and shared inference, to include grounded interpretation and logical inference. Using the literature, the *intent* of the actions is identified and included in the analysis. In the example of the handshake, using inference, we ascertain the purpose of the action. But we go further – based on knowledge of shared meanings, we may also conjecture about the role of the participants (such as business associates), the relationship (strangers, friends, lovers, enemies), the function (greeting, leave-taking, sealing a deal), and so forth.

Threats to validity

The problem with conducting observational research that requires theoretical inference is that the greater the inference, the fewer the behavioral descriptors (or indices). This concern about

validity keeps observational research grounded at the lower levels of inference; however, it also has the disadvantage of restricting analysis to lower level concepts, therefore limiting both the scope of the theory developed and the significance of the research findings. Use of a theoretical framework for analysis would overcome some problems although, of course, it threatens validity by forcing the researcher to work deductively according to variables prescribed by the framework, targeting observations and controlling what the researcher sees as pertinent and relevant.

We suggest that the use of a *scaffold* overcomes these limitations by continuing the inductive process. When used with videotaped data, a scaffold overcomes both threats to validity and low level analysis, while also enabling the continued use of induction within the parameters of the scaffold.

Use of a scaffold

The major disadvantages of using a conceptual framework are those associated with deduction and qualitative inquiry. The use of a scaffold for analysis, however, does not dictate either the variables or the coding system for the analysis. Instead, it provides the researcher with the parameters of the problem or targets observations toward a general area. The researcher continues to work inductively: describing behaviors, questioning observations, verifying and confirming, and systematically creating or extending theory.

Example of analysis using a scaffold

We will now illustrate the use of a scaffold used in the secondary analysis of videotaped data in the trauma room of the Emergency Department (Morse & Pooler, 2002), using the Model of Suffering as a scaffold for analysis. The description of suffering behaviors was used to code the responses of family members in the trauma room and to analyze patient, nurse, and family interactions. Our research goal was that *if* we could determine observationally whether relatives were enduring or emotionally suffering, we would then be able to teach behavioral signals of suffering to nurses, and give recommendations for care.

Model of suffering

The interrelationships between enduring and emotional suffering are described in the Model of Suffering (Morse, 2001). Immediately after an event (such as injury, illness, or receiving bad news), the person begins enduring and remains enduring until he or she is able to acknowledge the incident. Once the context allows, and the person is 'strong enough' to suffer, he or she may enter emotional suffering. However, there may be movement back into enduring, or movement back and forth between the two states. Also of importance, enduring and emotional suffering may vary both in intensity and duration, according to personal (including cultural), situational, and contextual factors. From previous research, we know that interactions between those who are enduring and those who are emotionally suffering are distinctly different (Morse, Beres, Spiers, Mayan, & Olson, in review). Enduring behaviors demand physical distance. On the other hand, emotional suffering demands physical support, including touching and hugging. While enduring demands silent presence, emotional suffering, in contrast, demands responses from others, including consolation, commiseration, and empathy.

Developing descriptions

In this study, description of suffering behaviors derived from the Model of Suffering was used to analyze and code the responses of patients and family members in the trauma room. We first approached the analysis of the videotaped data by asking: Do patients or family members exhibit behaviors of enduring or emotional suffering? With this question in mind, an ethogram, or a detailed textual description of the behavior patterns, was developed inductively (see Morse & Bottorff, 1990). Videotapes were played and replayed to observe and describe, in detail, the behaviors of family, nurses, and patients. The research question was then re-asked and examined. It was apparent from the descriptions that both patients and family members demonstrated behaviors of enduring or emotional suffering, and these behavioral states could be identified and classified.

Once we identified each person as being in a state of enduring or emotional suffering (or neither), new and interesting questions could be asked: In family groups, were all of the members enduring or emotionally suffering? What was the pacing of the expressed emotions? Who supported whom? How did the context affect behaviors? What was the behavioral response of the nurse towards those who were enduring and those who were emotionally suffering? What was the focus of attention? What was the form and outcomes of these interactions? What were characteristics of family members who did not have behaviors of either enduring or emotional suffering? Using the ethogram and observational field notes, categories were developed inductively through analysis and classification of the behaviors. During the analysis, we assumed an ongoing attitude of openness and inquiry, continually asking questions such as: What is going on here? How does this interaction compare to that? What are the characteristics of this

interaction? These questions, in part, directed the development of the categories. Categories were then compared and contrasted according to behavioral patterns and common characteristics.

Let us now look at two categories as examples of the description and analysis. The first category is *Family Emotionally Suffering and Patient Enduring.* The patient is a policeman who has been shot and is going to the Intensive Care Unit. The family members are his wife and daughters. The conversation at this time is on the events of the shooting and the wife's concern about the outcome. In Figure 1, notice the posture of the two women on the left, who are quietly sobbing, showing emotional release of suffering. Their shoulders are rounded, they are close together, with hands at their faces. Because of his injuries, the patient has limited movement, but he has reached his hand up to his wife and is consoling her with words and touch: "It's okay, I'm going to be alright." In contrast, the daughter behind is enduring. She is standing straight, her hands at her side. She is watching her parents, but does not touch them, and does not make eye contact with her family in the several minutes of this interaction. Family members are attempting to ease the distress of the wife or limit distress by enduring behaviors.

Figure 1

The second example is the category of *Patient and Family Enduring.* Note that in this series of pictures that patient and family are enduring. Patients were quiet and maintained control, and relinquished themselves to the necessary care. Note in Figure 2 that family members stand apart and are at a distance from the patient's head. There were minimal interactions between patient, family, and nurse. These behaviors are indicative of enduring.

Figure 2

Discussion

A model or framework can be used as a scaffold to direct the area of interest and analyze behaviors, such as those manifested in critical events. The scaffold was extraordinarily useful in coding behaviors, revealing patterns and developing categories of behaviors. Although the outcome of this research was complete in itself, observational research and use of a scaffold may be continued, such as using the developed knowledge as a theoretical framework and coding scheme for quantitative analysis. Research may progress to a phase of confirmation, using the emerging variables as a framework. The framework could be tested on new cases, thereby transforming analysis from induction to deduction, and increasing certainty.

Notes

1. This foundation of studies provides more certainty than the broad conceptual categories (recommended by Spradley (1980) or Leininger (1988) which were mentioned in part 1). While the previous research do provide a deductive starting point, the scaffold is relatively known and verified.

Conclusions to Symposium

Consistently adhering to the dictum of induction forces each qualitative project to begin at the descriptive level, and disallows qualitative results to incrementally build on the foundation of previous research. We agree that the risks of commencing qualitative inquiry with a concept, rather than from data, are considerable, and this step must be taken cautiously. However, constantly forcing qualitative inquiry to commence from the level of description impedes the advancement of inquiry, in particular of theory development.

Some possible solutions to this quandary are suggested in this set of articles. For concepts that have a solid descriptive base, the investigator may elect to continue inquiry inductively, but "jump start" the research by using prior work as a skeletal framework (and building up from solid or minimal characteristics) or a scaffold (and working within established boundaries). A *skeletal framework* is defined as characteristics identified from previous inquiry that provides an internal structure that provides a starting point for observations and interview questions, and for analysis. The researcher proceeds by building on these structures or categories, padding then out or 'giving them flesh' and organizing the ways they fit together.

A *scaffold,* on the other hand, is the boundaries of the concept, or the delimiters that mark what is or is not an example of the concept. Of course, in many cases the boundaries are not a clear

cut line, but rather the boundaries merge with allied concepts as attributes are shared or characteristics are weak, but enough information in known to make the distinction about what is and is not an example of the concept. In this way, the scaffold delineates the concept, without making any assumptions about the interior attributes or characteristics, thus enabling inductive exploration of the internal compositions of the concept to take shape. Therefore, both of these strategies enable inquiry to take place, building data analysis inductively–the skeleton from the core of some of the characteristics, and the scaffold within the perimeters of the concept. Providing examples of the use of these inductive strategies, Spiers describes how 'pink elephants' may derail inquiry and interfere with validity. Hupcey describes how she first deconstructs and assesses the level of development of the concept of trust. She then constructed a skeletal framework, incrementally utilizing projects conducted with different participants in different clinical settings. Penrod illustrates how she systematically deconstructed uncertainty, and then fleshed out a skeletal framework to refine the concept and used phenomenology to further develop the concept. Threats to validity, in particular conceptual tunnel visions, were avoided. Finally she disentangles other concepts within the experience of uncertainty, using concept correction.

Analysis of videotaped data and issues of validity that occur when interpreting video as sole source data, are discussed by Morse and Pooler. Using a model of suffering developed from previous inquiry as a scaffold, these authors discuss styles of interpretation from video data: Detailed descriptions (but with minimal inferences), inferences extending from shared meaning and theoretical inference, and the threats to validity that extend from each of these styles. Using a model of suffering developed from previous works as a scaffold, Morse and Pooler illustrate

how the scaffold directs inquiry facilitating the identification of behavioral patterns among family members in the trauma resuscitation room—a new participant population.

These examples illustrate pragmatically how iductive processes may be maintained during analysis, how threats to validity may be avoided, and how new data may be added to create rich, significant and generalizable concepts. Thus inquiry proceeds validly and systematically.

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