

Risk: A Concept Analysis

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Abstract:

Shattell seek to analyze the concept risk, an essential element of theory development and research, and provide a new definition of risk. A new definition of risk that emerged from her concept analysis can provide clarity and direction for future research. She further claims that nurse researchers can look to this definition to expand what is known about health-seeking behavior as opposed to "risk" behaviors and seek to further the understanding of the cognitive and experiential process of risk identification.

Article:

Concept analysis is an essential element of theory development and research. According to Rodgers and Knafl (1993), "in the literature on research methods, the conceptual basis for a study often is discussed as the hallmark . . . of excellence in an investigation. In theory development literature, concepts are widely recognized as the 'building blocks' from which theories are constructed" (p. 2). The concept risk was chosen for analysis because of its broad use in the nursing literature and due to the minimal formal inquiry into the concept. The concept risk-which is used in theory, research, and practice-must be analyzed for consistency, adequacy, and meaning. The purpose of this paper is to analyze the concept risk using the Wilsonian-derived (Wilson, 1963) Walker and Avant (1995) method.

The aim of a concept analysis is to clarify the meaning of a particular concept of interest through the use of a specific approach or strategy. The Walker and Avant (1995) concept analysis method is the one I chose for its straightforward approach to analysis. The strategy outlined by Walker and Avant has streamlined Wilson's original 15 steps into the following 8:

1. Select a concept.
2. Determine the aims or purposes of analysis.
3. Identify all uses of the concept that you can discover.
4. Determine the defining attributes.
5. Construct a model case.
6. Construct borderline, related, contrary, invented, and illegitimate cases.
7. Identify antecedents and consequences.
8. Define empirical referents.

The concept analysis will proceed in the following sections according to these steps.
Selection of Concept and Purpose of Analysis

The concept risk was selected because of its wide use in nursing and due to the minimal formal concept analysis of it in the nursing literature. Only one concept analysis of risk was found in a search of CINAHL. Jacobs (2000) analyzed the concept risk as it related to risk for disease, more specifically, risk for cancer. In addition to this formal concept analysis of risk, an excellent discussion paper of the concept by Joseph (1993) shed light on practical considerations for nurses related to patient teaching. The purpose of this concept analysis is to gain clarity on the concept risk, expanding on the groundwork by both Jacobs and Joseph.

Uses of the Concept

Beginning with the Oxford English Dictionary (OED, 1989), the original use of the word risk dates to the 17th century, most specifically to 1661, with its origin from the French word *risque*. Harrap's Shorter French and English Dictionary (1967) delimits *risque* as a noun, adjective, and transitive verb (*risquer*). As a noun it is defined as to "run, incur, a risk, all-in, comprehensive, policy (insurance)" (p. 378); as an adjective it is defined as "risky, hazardous, business, daring, and song" (p. 378); as a transitive verb, it is defined as to "risk, venture, or chance" (p. 378). Originally, the concept risk was used primarily to mean loss or hazard to the person or self. In 1719, the concept took on an expanded definition to include the commercial loss of insured property or goods. In 1798, the concept was used in the law literature to describe the liability of such loss or damage. Much later, in 1964, the combined term risk analysis was used to describe the systematic investigating and forecasting of risk in business and commerce (OED, 1989). At this time, other variations and combinations began to be used in business and commerce such as risk aversion, risk factor, risk-bearing, risk-benefit analysis, risk capital, risk management, risk money, risk premium, risk rate, and risk-taking.

In addition to the historical use of the term and to current dictionary definitions, use of the term in literature is deemed appropriate. A review of the literature in nursing, sociology, psychology, philosophy, ethics, business and industry, art and architecture, education, linguistics, statistics, economics, religion, and popular media found the concept widely used but rarely defined. This literature review provided the following uses of the concept:

- * A danger to self or the potential for physical or emotional harm, injury or loss: for example, at-risk, risk factor, and high risk (Andersen & Berg, 1997; Bartley, Sacker, Firth, & Fitzpatrick, 1999; Chater, 1999; Frzier, 1999; Grinstead, 1999; Harrison, Dwyer, Maples, & Billmann, 1999; Klee & Morris, 1997; Manderbacka, Lundberg, & Martikainen, 1999; Raab, Gregerson, Shaw, & Snow, 1999; Rogers & Shaffer, 1999; Stinson, 1999; Wenger, 1997; Wilson, 1999).
- * Decision making, a way of being about decision making, or uncertainty: for example, risk averter, risk taker, risk assessment, risk adjustment, and risk management (Chin, 1999; Dimond, 2002; Dobrzykowski, 1997; Doyle & Dolan, 2002; Grimaldi, 1999; Heldt, 1999; Jaffray & Karni, 1999; McLain & Keenan, 1999; Priest, 1993; Raven & Rix, 1999; Sinclair-Desgagne, 1999; Tredget, 1999; Wong & Li, 1999).
- * Danger to property (Davisson, 1999).
- * Recuperating for loss in property or finances (Alltel workstation, 1998).

- * Insuring people and property (U.S. Department of Health and Human Services, 1997).
- * Forecasting financial loss or the possibility of financial loss, including a measurement tool or strategy: for example, risk-benefit analysis, risk management, risk technologies, risk factor, risk capital, risk money, risk rate, and risk-bearing (Blum, 1999; Dubay, Kaestner, & Waidmann, 1999; Roth & McDonald, 1999; Vaz-Oxlade, 1999).
- * Financial gain related to perceived high risk: for example, risk premium (Jochum, 1999).
- * Copyrighted material; for example, a board game RISK and computer software for the insurance industry (Instant data access, 1999).

Defining Attributes

Defining attributes of a concept are "characteristics of the concept which appear over and over again" (Walker & Avant, 1995, p. 41). From the extensive literature review and analysis, the defining or critical attributes of the concept are as follows:

- * A chance or potentiality of loss or harm
- * Cognitive recognition involving thought and perception about self and/or others. Decision-making process (not the actual decision, i.e., thought or action) based on probability or a weighing of the possibilities or potentialities.

Model case

A model case is a real-life example of the concept in which all the critical attributes are present (Walker & Avant, 1995). An example:

A home health nurse is making an initial visit to a 70-year-old homebound woman for wound care management. The patient has osteoporosis, diabetes, and peripheral neuropathy, making it difficult for her to ambulate freely. The nurse identifies several items in the home that put the patient at risk for falls (e.g., throw rugs on hardwood floors scattered throughout the house). The nurse weighs the fall potential against leaving or removing the rugs and discusses this with the patient.

In this case, there is a chance of harm or loss, a cognitive recognition, and a decision-making process based on weighing the possibilities or potentialities.

Borderline, Related, Contrary, Invented, and Illegitimate cases

Constructing borderline, related, contrary, invented, and illegitimate cases allows one to clarify what the concept is like, what the concept is similar to, but is not (except in the invented case). Borderline case. A borderline case is an example of the use of the concept in which some of but not all the critical attributes are present. The following is an example of a borderline case for the concept risk:

A psychiatric/mental health nurse practitioner is talking to a depressed 45-year-old woman about the possibility of starting antidepressant medications. After describing two different but similar antidepressant medications, the patient thinks about the two choices, weighing the options, and decides on the first medication mentioned.

This borderline case does not include the first critical attribute of chance or potentiality of loss or harm because both the patient and the psychiatric/mental health nurse practitioner do not see loss or harm as a possibility. The patient, however, did see the second and third critical attributes in her decision-making process, thereby making this an example of a borderline case.

Related case. A related case is a scenario that is similar to the concept but does not share the critical attributes. An example of a related case of risk is the concept of uncertainty:

A woman calls the registered nurse at her nurse practitioner's office to find out if her lab results are back from the liver function tests that she had at her last appointment. She is uncertain as to whether her results will show she needs to increase or decrease her medication.

Uncertainty was chosen to illustrate a related concept of risk because of the nature of the chance inherent in risk as well as the probability or odds playing (or as stated in the critical attributes above, "weighing of the possibilities or potentialities"). The decision-making process that is involved in risk is related to, but different from, uncertainty.

Contrary case. A contrary case is a clear example of an instance that is not the concept. An illustration of the concept of safety is an example of a contrary case for the concept of risk:

A 20-year-old college student is admitted to the hospital. Her mother, who is a physician, and her father, who is a nurse-anesthetist, stay with her throughout the hospitalization.

None of the critical attributes of the concept risk is present in this contrary case. There is no chance of harm or loss, no cognitive recognition, and no decision-making process based on weighing the possibilities or potentialities.

Invented case. An invented case is a case that has all the critical attributes but is used in an invented scenario:

In a civilization on the planet Saturn, the planetary beings (Saturnites) use the rings of the planet as an ultra-transportation mode to travel from one side of the planet to the other. The Saturnites jump to the rings and ride around the field of debris to get to the other side at the speed of light. If the Saturnites jump too far and miss the rings, they fly out into the atmosphere, forever lost. If their jump is too short, they slam back into the surface of the planet and must be reborn.

Saturnite 007 decides that it will wear its Capsule of Security (which helps it control its propulsion to the rings) because of the cognitive awareness of the chance of harm or loss and the probability of being lost in space.

This invented case has all the critical attributes of the concept of risk-chance of harm or loss, cognitive recognition, and a decision-making process based on weighing the possibilities or potentialities.

Illegitimate case. An illegitimate case is an example of an inappropriate use of the concept:

If I quit smoking and start exercising, I run the risk of being healthier.

In this case, there is no chance for harm or loss thereby deeming this an inappropriate use of the concept.

Antecedents and Consequences

According to Walker and Avant (1995), "antecedents are those events or incidents that must occur prior to the occurrence of the concept" (p. 45). An antecedent to the concept of risk is the cognitive ability to distinguish between two or more choices. The ability for abstract thought, more specifically cognitive reasoning, is an antecedent to the concept risk. If one is not able to use cognitive reasoning, one is not able to make a recognition or perception about the potential harm to self and/or others. For example, young toddlers cannot interpret and analyze information in their environment that put them at risk and, therefore, cannot understand that touching a hot stove will result in a burned hand. The toddler does not have the cognitive ability to evaluate the chance of loss or harm (in this case, the chance of getting burned) and would not know he or she is at risk. It is the adult who has the cognitive ability to understand and to declare that a toddler near a hot stove is at risk of being burned. Cognitive ability is an antecedent to the concept risk. Another antecedent to the concept risk is prior knowledge and/or experience (for an in-depth analysis of the concept "experience," the reader is referred to Watson 1991). In order to use the concept of risk, you must have some knowledge, or perceived knowledge, of the potential risk event. The perceived knowledge may be from any "way of knowing" but must be present prior to use of the concept of risk as defined by the critical attributes above. For example, in the example of the toddler and the hot stove, the adult (with the antecedent cognitive ability) has to have had some prior knowledge of the stove's ability to burn flesh when touched. This knowledge could have been gained from personal experience-that is, a history of being burned by touching a hot stove-or by seeing someone get burned by touching a hot stove. There has to be some perceived knowledge and/or experience related to the event prior to the use of the concept risk.

Consequences, according to Walker and Avant (1995), "are those events or incidents that occur as a result of the occurrence of the concept" (p. 45). A consequence of the concept of risk is a decision (thought) or behavior (action). The third critical attribute stated above, "decision-making process based on probability or a weighing of the possibilities or potentialities," would include thoughts about the decision (that is, what I term the decision-making process) but not an actual decision, which would be a thought reflecting an actual decision (e.g., "I am going to do this"). For example, in the model case of the concept where the home health nurse evaluated the home for safe ambulation, the nurse appraised the situation for the patient's risk for falls but did not actually make a decision about that risk. The nurse discussed her findings with the patient (after using her cognitive reasoning and prior knowledge or experience [antecedents], and the critical attributes of the concept [chance for loss or harm, cognitive recognition, and decision-

making process]). The actual decision as to whether to remove the rugs is a consequence of the concept risk. The decision comes after the designation of risk. This may be a new way of looking at the concept, in that the use of the concept risk is, in fact, a cognitive thought process and not the resulting thought, "I am at risk." Therefore, the resulting thought or statement or identification of risk is truly a consequence and not a critical attribute.

Another consequence of risk could be harm or loss. If there was a chance of loss or harm, a cognitive recognition of chance, and a decision-making process involving that chance, then the result could be harm or loss. It must be made clear that this consequence is a possibility, not a surety. In the example of the home health nurse's assessment of risk of falling, if the patient decided to keep the rugs in place and then subsequently fell, the patient could be harmed. Therefore, the fall (or harm) would be a consequence of the concept risk.

As made clear by Joseph (1993), the potential of no harm also could be a consequence to the concept risk. The recognition that there was a risk but no loss or harm resulted from the taking of that risk could result in "nothing happening," that is, no negative occurrence. This potentially could lead to more risk, and hence, to additional consequences of the concept (harm or no harm). This idea could be important to those interested in health promotion and disease prevention. If, for example, a person is repeatedly told by a healthcare provider to quit smoking, lose weight, and exercise because he/she is at risk for heart disease, cancer, etc., and he/she does not get cancer, heart disease, etc., then the no harm, or nothing happening, may serve to reinforce the negative behavior (smoking, obesity, sedentary lifestyle). If nothing continues to happen, that is, no signs of heart disease, the person not only may continue to smoke but may smoke more. Hence, the high-risk behavior could increase due to a consequence of the concept risk (no harm). Although somewhat counterintuitive and paradoxical, risk could contribute to further risk.

Empirical Referents

The final step in the concept analysis method is to define empirical referents of the concept. Empirical referents "are classes or categories of actual phenomena that by their existence or presence demonstrate the occurrence of the concept itself" (Walker & Avant, 1995, p. 46). In the nursing literature, the concept of risk is measured indirectly, most often by measuring behavior (Anderson, Nelson, & Wilson, 1998; Baker, 1995; Capezuti, Strumpf, Evans, & Maislin, 1999; Dolezal, Meyer-Bahlburg, Remien, & Petkova, 1997; Felton et al, 1998; Jenkins, 1988; Keller & Stevens, 1996; Kwiatkowski, Corsi, & Booth, 2002; Maes & Lievens, 2003; Neumark-Sztainer, Story, Dixon, & Murray, 1998; Rivara, Thompson, & Thompson, 1997; Robinson, Reed, & Lange, 1996; Woods, Reed, & Robinson, 1999). Measuring the concept of risk in this way includes behavior that can be conceptualized as a consequence (e.g., injury or negative health behavior) or an antecedent (prior knowledge of factors that make one at greater risk). According to the critical attributes stated above, an empirical referent must include a cognitive recognition and a decision-making process in the identification of risk. This way of measuring risk is different from that which can be found in the literature. Consistent with the concept analysis discussed in this paper, direct measurement of the concept of risk should be cognitive, not behavioral.

Conclusion

As a result of analyzing the concept risk, a new definition of risk emerged. This definition can provide clarity and direction for future research. Central to this new definition—a chance or potentiality for loss or harm, a cognitive recognition involving thought and perception about self and/or others, and a decision-making process based on probability or a weighing of the possibilities or potentialities—is a cognitive awareness either on the part of an individual or by an "other," which includes a decision-making process, as well as a chance of harm or loss.

This new way of defining risk has utility for the development of nursing science. Nurse researchers can look to this definition to expand what is known about health-seeking behaviors as opposed to "risk" behaviors and seek to further our understanding of the cognitive and experiential process. Questions may include the following: How does one identify a behavior or action as one of risk? How can nurses intervene in this process? How can nurses have an impact on an individual's decision-making process around risk? Why do individuals differ in their perception of risk? What does risk mean to individuals, families, and communities? These questions lead us to expand our science and to arrive at a new understanding of how risk manifests in nursing practice. If, in fact, we meet this challenge, our science, our discipline and our patients will benefit.

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