

Developing Focused Wellness Programs

Using Concept Analysis to Increase Business Value

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It is something to be able to paint a particular picture, or to carve a statue, and so to make a few objects beautiful; but it is far more glorious to carve and paint the very atmosphere and medium through which we look, which morally we can do. To affect the quality of the day, that is the highest of arts” ~Henry David Thoreau (EServer, 2003).

Occupational health nurses positively affect not only the quality of life of employee-clients, but also the families of clients and the community through various roles, responsibilities, accountabilities, and activities assuring health, safety, and wellness. Occupational health nurses focus on the health, safety, and wellness of their clients. Wellness programs are an important component of a holistic occupational health program. While striving to positively affect client health and safety, occupational health nurses are frequently challenged to demonstrate the business value of occupational health and wellness programs such as worksite physical fitness programs.

As the economic climate in the current business world places greater and greater emphasis on cost savings and budget cuts, wellness programs such as worksite physical fitness programs are often viewed as an easy cut. Thus, it becomes particularly important for occupational health nurses to use comprehensive methodology and sound business strategy in program planning and marketing as well as outcome measurement. One of the critical first steps in program planning often involves gathering the occupational

health and safety team together and brainstorming to define the type of program or product to be developed. Common questions in the initial brainstorming session may include:

- What services will the program include?
- How will the program benefit the customer?
- What pricing will be needed to cover the start up costs and management of the program?

Answering these common questions geared toward developing an initial business plan, including marketing strategy, begins with defining the product and service to be offered. New products and services often begin as abstractions with varying degrees of clarity. Without a clear, agreed upon definition of the product, the occupational health and safety team cannot have a clear understanding of what needs to be developed. The nurse must think creatively and be open to new ideas and methodology in planning, developing, and managing programs. Concept analysis can be a useful tool for the occupational health nurse to use in the initial planning, developing, and marketing of occupational health and wellness programs.

Concept analysis aims to provide clarity to an abstract idea (Walker, 1995), and is a process traditionally used in research and theory development. Similar to brainstorming, concept analysis is a process of asking questions to guide the nurse in formulating a working definition of an abstract idea, which serves as a basis for the development of a new product or service. Another benefit of this process is that potential outcomes are identified. This article discusses the process of concept analysis and provides an example of a concept analysis of fitness.

CONCEPT ANALYSIS PROCESS

Nurses use several approaches for concept analysis. One type of approach is advocated by Walker (1995). This eight step process includes:

- Selecting a concept.
- Defining the purpose of the analysis.
- Identifying uses of the concept.
- Determining the defining attributes.
- Constructing a model case to illustrate the concept.

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- Constructing additional cases (i.e., borderline, related, and contrary cases).
- Identifying antecedents and consequences.
- Defining empirical referents.

Concept Selection

Walker (1995) recommends selecting a concept for analysis that is of interest to the nurse and has significance to the nursing profession. The concept of fitness was selected for this analysis. Although it is a term often used by nurses, definitions of the term vary across the scientific literature. Fitness is an important concept in relation to occupational health and wellness programming. Nurses are uniquely positioned to influence the health and wellness needs not only of employees, but also of family and community members.

Nurses are in strategic positions to lead the way in addressing client fitness because of their holistic approach to client illness or injury and their focus on client communication (Konstantinos, 1998). In addition, services and programs at nurse managed health care centers tend to be focused on health promotion and prevention and are dictated by the needs of the community (Wachs, 1997). The concept of fitness also carries over to occupational health centers. In light of the Healthy People 2010 fitness objectives (U.S. Department of Health and Human Services [USDHHS], 2000), community needs potentially include learning about the benefits of and the ways to gain, maintain, and improve personal fitness.

An interim analysis of progress toward meeting the objective targets of the Healthy People 2000 initiative indicated the target of only 1 of the 13 physical activity and fitness objectives, implementation of worksite fitness programs, was met (Francis, 1999; USDHHS, 1998). Although this was a positive step and the analysis indicated a slight increase in the overall physical activity in adults, the prevalence of overweight adults increased and the percentage of sedentary adults remained constant. These results raise many concerns because physical inactivity is often documented as a contributor to chronic disease.

In the Healthy People 2010 initiative, the physical activity and fitness objectives are prioritized within the initiative's health promotion goal. The targets for these objectives have been raised (USDHHS, 2000). Additionally, the objective, moderate physical activity in adults, has been designated as a leading health indicator reflecting a major health concern in the United States. Given the high priority focus on these objectives and the threat of increased chronic disease in the general population from inactivity, nurses face increased challenges in educating and motivating clients concerning the need for strategies to gain, maintain, and improve personal fitness.

Analysis Purpose

The aim of the concept analysis focuses on the use of the end product of the analysis (Walker, 1995). The purpose of this concept analysis is to define and clarify the concept of fitness (i.e., formulate a working definition of fitness) to aid occupational health nurses in developing occupational health and wellness programs. A clarified

definition of fitness provides an objective basis for defining worksite health and wellness products and services, as well as processes to deliver and the outcome measures to evaluate these products and services. With an enhanced understanding of the concept of fitness, nurses can improve program planning, development, marketing, and evaluation. As such, nurses are better able to exert a positive impact on the fitness levels of their clients, which in turn will potentially lead to increased strength and endurance, maintained or increased production levels, fewer injuries, decreased absences, and decreased health related expenses.

Uses of the Concept of Fitness

As a way to eliminate bias about the use of a concept, Walker (1995) advocates the use of multiple and varied sources to identify all possible uses of a concept. For purposes of this analysis, the focus was on research articles available in the scientific literature. A literature search was performed using CINAHL, Medline, PreMedline, and PsychINFO databases. Initial database searches of the term "fitness" resulted in hundreds of research articles. These search results were limited to articles written in English, focused on adults, published between 1999 and 2001, and containing the term fitness in the title. From this pared list, articles were selected with the intent of representing female and male participants, occupational and non-occupational contexts, and a variety of journals.

The articles ultimately selected for this analysis focus on aerobic fitness, cardiorespiratory fitness, and physical fitness. In general, the usages of fitness focus on performance related characteristics such as an ability to perform an action with vigor (Bortz, 1999; Konradi, 2000; Lucia, 1999; Popper, 1999; Robbins, 2001; Williford, 1999) or a capacity for increased physiologic performance (Lucia, 1999; Robbins, 2001; Schuler, 1999; Williford, 1999).

Various sources were consulted related to the use of fitness. Merriam-Webster (1999) concisely defines the noun fitness as "the quality or state of being fit" and provides a short list of synonyms including condition, shape, and trim (Merriam-Webster, 1999). This is a broad definition for daily use. However, other health focused sources encompass this same notion of the capacity of being fit but expand on the notion. For example, the Healthy People 2010 initiative uses a performance based definition defining fitness as a set of attributes that enable performance of physical activity. The World Health Organization (WHO)/International Federation of Sports Medicine Committee (FIMS) (1995) adds to the notion of capacity for movement and defines fitness to also include the capacity to regulate and perform physiologic processes. In this case, optimal physiologic performance supports physical performance.

The American College of Sports Medicine (ACSM, 2000) notes that performance related definitions of fitness are prevalent in fitness related literature. In contrast, the ACSM embraces a definition of "health related physical fitness" as developed by Pate (1988). Pate defines fitness as a state characterized not only by the capacity for movement, but also, and perhaps more importantly, by

Attributes of the Concept Fitness

- Fitness is characterized by fitness test values.
- Fitness is characterized by an ability to perform an action with sustained vigor.
- Fitness is characterized by the optimal performance of physiologic processes.

the demonstration of “traits and capacities” that help prevent sedentary related morbidity. The notions of disease prevention and health promotion underlie this definition of fitness (ACSM, 2000; Pate, 1988) and coincide with nursing’s approach of providing care and services (Konstantinos, 1998; Wachs, 1997).

Attributes of the Concept of Fitness

The characteristics of a concept that repeatedly appear within the literature are considered the defining attributes of that concept (Walker, 1995). While these attributes may change over time, they differentiate concepts from each other. In a review of the selected literature, three common characteristics were identified as attributes of fitness (see Sidebar). The following discussion provides examples of each of these attributes.

Fitness test values. Uses of aerobic fitness, cardiorespiratory fitness, and physical fitness may overlap and be used to convey the same idea. The most common example of this type of overlap is the use of VO₂ max to characterize fitness. As defined by the ACSM (2000), this term describes a measure of the volume of oxygen used while exercising at maximum capacity. More specifically, it is the maximum amount of oxygen (measured in milliliters), used in 1 minute per kilogram of body weight; VO₂ max can be measured directly via measures of gas exchange or indirectly via fitness test performances. A higher VO₂ max value indicates an ability to exercise more intensely (ACSM, 2000). As a critical fitness measure, VO₂ max indicates increased capacity for physiologic performance (Branch, 2000; Hunter, 2000; Lucia, 1999) and can also be used as a key predictor of physical fitness (Smith, 2000). An increase in physiologic performance enhances the ability to perform vigorous actions (Bortz, 1999; Lucia, 1999; Popper, 1999; Robbins, 2001; Williford, 1999).

The literature also characterizes fitness as a combination of the values of performance related fitness tests focusing on body composition, cardiorespiratory fitness, muscle fitness, and flexibility (ACSM, 2000). A combination of these values may indicate an ability to perform vigorous actions (Lucia, 1999; Popper, 1999; Williford, 1999) or may demonstrate an increased capacity for physiologic performance (Branch, 2000). Additionally, these test values have been used to validate perceptions of fitness (Williams, 2001) and to highlight an inverse relationship between obesity and fitness level (Pronk, 1999; Robbins, 2001; Smith, 2000). Williford (1999) suggests physical conditioning can enhance these test values.

Ability to perform an action with vigor. Fitness is also characterized by an ability to perform an action with a sustained vigor. Indicators of the ability to perform actions with vigor include a high VO₂ max value (Branch, 2000; Lucia, 1999; Schuler, 1999), a body mass index (BMI) within normal limits (Branch, 2000; Williford, 1999), muscle fitness (Popper, 1999; Robbins, 2001; Williford, 1999), and flexibility (Popper, 1999; Williford, 1999). A national panel of experts notes that body mass index describes relative weight to height, significantly correlates with body fat content, and is used clinically to monitor weight changes and assess overweight and obesity (Expert Panel on Identification, Evaluation, and Treatment of Overweight in Adults, 1998). Body mass index is calculated as weight (kg) divided by height squared (m²). A BMI value of 18.5 to 24.9 kg/m² indicates normal weight, 25 to 29.9 kg/m² indicates overweight, and >30 kg/m² indicates obesity (Expert Panel on Identification, Evaluation, and Treatment of Overweight in Adults, 1998).

An increased capacity for physiologic performance, which may be measured via an increase in VO₂ max, enables and enhances the ability for a sustained physical performance (Bortz, 1999; Lucia, 1999; Popper, 1999; Robbins, 2001; Williford, 1999). On the other hand, performing sustained actions of varying intensities may further develop and enhance VO₂ max (Lucia, 1999) and muscle fitness (Popper, 1999), or increase the capacity of physiologic performance (Branch, 2000; Konradi, 2000; Popper, 1999; Robbins, 2001; Schuler, 1999; Williford, 1999). Thus, this fitness attribute is intertwined with the other defining attributes.

Optimal performance of physiologic processes. Additionally, fitness is characterized by the body’s ability to perform physiologic processes at optimum levels during periods of physical activity. Indications of optimal physiologic performance include an increased VO₂ max value (Branch, 2000; Lucia, 1999; Pronk, 1999; Schuler, 1999; Smith, 2000), a reduced heart rate (Lucia, 1999), and a reduced level of fatigue (Lucia, 1999; Williford, 1999). As noted previously, increased physiologic performance enhances the capacity for physical performance (Lucia, 1999; Robbins, 2001; Williford, 1999) and reduces the risks for chronic disease (Branch, 2000). Optimal physiologic performance can be developed through moderate to high intensity exercise or fitness training on a regular basis (Robbins, 2001; Williford, 1999), and be enabled by having a BMI value within normal limits (Branch, 2000; Pronk, 1999; Robbins, 2001; Smith, 2000; Williford, 1999).

A Model Case of the Concept of Fitness

A model case is a bona fide instance of a concept and it illustrates all the defining attributes of a concept within the context of a “real life” situation (Walker, 1995). Following is a model case of fitness, which includes all of its performance related attributes.

En route home, firefighter and paramedic (FFP) John witnesses a serious two car accident, stops his car, jumps out and rushes to the scene. He assesses that one

of the victims needs cardiopulmonary resuscitation (CPR), and begins performing CPR. A paramedic crew arrives in 5 minutes. John states a rating of perceived exertion (RPE) of 1 (on a 0 to 10 scale, 0 indicating no exertion and 10, extremely strong perceived exertion) and continues to perform CPR with high efficacy and without demonstrating fatigue for another 15 minutes while the crew tends to the other victims. After being relieved by another paramedic, John is not overly fatigued and states an RPE of 3. He continues to demonstrate a normal heart rate and to assist the crew.

In this model case example, John vigorously performs CPR while demonstrating minimal fatigue. Because of his optimal physiologic performance, he has minimal build up of lactic acid and maintains a uniform heart rate. He performs CPR with efficacy over an extended period because of his high level of cardiorespiratory fitness and well developed muscle strength and endurance (RPE is a reliable indicator used to monitor exercise tolerance, and it takes into account one's fitness and fatigue levels as well as environmental conditions [ACSM, 2000]). Having a significant level of strength and energy after performing CPR, he offers to assist with other tasks.

Other Cases of the Concept of Fitness

Walker (1995) advocates the use of other cases to help clarify and determine the importance of the defining attributes to a concept. Borderline, related, and contrary cases are presented here.

Borderline case. Borderline cases contain some of the defining attributes of a concept, but not all of them (Walker, 1995). The following is a borderline case for the concept of fitness.

En route home, FFP John witnesses a serious two car accident, stops his car, jumps out and rushes to the scene. He assesses that one of the victims needs CPR and begins performing CPR. A paramedic crew arrives in 5 minutes. Although John has weight trained regularly for the past 2 years and has been performing CPR with high efficacy at the site, he is demonstrating visible fatigue and calls out that he has an RPE of 6. After approximately 5 more minutes, John states an RPE of 9 and another paramedic quickly relieves him. John states he usually has to stop and rest intermittently while performing vigorous tasks.

In this borderline case example, FFP John vigorously performs CPR with efficacy for approximately 10 minutes. Although he has well developed muscle strength, his physiologic performance is less than optimal. As such, in this and similar situations, he experiences a build up of lactic acid and fatigue over relatively short periods of vigorous activity. Without possessing the defining attribute of optimal physiologic performance, John demonstrates a borderline case of fitness.

Related case. Related cases are developed for concepts similar to the concept being analyzed (Walker, 1995). These cases do not contain any of the defining attributes for the concept being analyzed and this may cause confusion. Related uses of fitness noted in the literature include:

- Fitness for practice (being certified to work professionally) (Bradshaw, 2000).
- Fitness for duty (having health conditions under control and the capacity to safely perform work tasks) (Kales, 1999).
- Perceived fitness (the perception of one's "aerobic physical fitness" status) (Plante, 1999).

The concept of "fitness for practice" is highlighted in the following related case.

Firefighter John received an official notification from the National Registry of Emergency Medical Technicians today indicating he passed his paramedic certification examination. He is now certified to work as a paramedic at his fire department.

In this related case example, the notification that John received registers him to practice as a paramedic in his state. John's fitness or competency to practice is a demonstration of his legal qualification to practice as a paramedic in accordance with the practice statutes of his state.

Contrary case. Contrary cases clearly exemplify what the concept is not about (Walker, 1995). Following is a contrary case demonstrating what fitness is not.

En route home, FFP John witnesses a serious two car accident, stops his car, gets out and walks quickly to the scene. While short of breath, he assesses that one of the victims needs CPR. After starting to perform CPR, John quickly becomes fatigued and performs CPR with barely a minimum level of efficacy. His heart rate hovers at 150 beats per minute and his shortness of breath increases. A paramedic crew arrives within a minute and relieves him.

In this contrary case example, FFP John is unable to perform a vigorous action even for a very short period of time. He lacks muscle strength and endurance and tires quickly. His low physiologic performance results in a high heart rate, increasing shortness of breath, and a build up of lactic acid with a minimal amount of vigorous physical activity. John is not physically fit.

Antecedents and Consequences of the Concept of Fitness

Identifying antecedents and consequences of a concept help to further refine the defining attributes of that concept. While antecedents are "events or incidents which must occur prior to the occurrence of the concept" (Walker, 1995), consequences are events that occur as a result of the concept and they can be helpful in identifying neglected ideas, variables, or relationships for further study (Walker, 1995). Antecedents and consequences are often components or outcomes of a fitness program.

Antecedents. Physical activity is an antecedent of fitness. Physical activities vary widely and do not need to be implemented within a formal or rigorous framework to result in fitness (Francis, 1999). Intensities of physical activities range from low to moderate to high (ACSM, 2000). Activities of moderate to high intensity include performing occupational related tasks (Lucia, 1999; Popper, 1999; Robbins, 2001; Williford, 1999) as well as walking (Konradi, 2000) and jogging or running (Branch, 2000; Hunter, 2000).

Consequences. Increased fitness is associated with higher levels of physical activity and, ultimately, increased health benefits (ACSM, 2000) such as reduced risks for developing chronic disease (Branch, 2000). Fitness consequences caused by increased physical activity include endurance (Branch, 2000; Hunter, 2000; Konradi, 2000; Lucia, 1999; Popper, 1999; Robbins, 2001; Williford, 1999), optimal health (Branch, 2000; Lucia, 1999; Pronk, 1999; Robbins, 2001; Schuler, 1999; Smith, 2000; Williford, 1999), enhanced quality of life and well being (Bortz, 1999; Konradi, 2000; Popper, 1999), and ability to handle daily stressors (Lucia, 1999; Popper, 1999; Robbins, 2001; Williams, 2001; Williford, 1999).

Empirical Referents of the Concept of Fitness

Empirical referents demonstrate how a concept can be measured or observed. In some cases the referents will be the same as the defining attributes (Walker, 1995). In this analysis, fitness can be measured or observed via performance related indicators of body composition (i.e., BMI), cardiorespiratory fitness (i.e., VO₂ max), muscle fitness (e.g., number of sit up and push up exercises), or flexibility (e.g., number of trunk flexions) (ACSM, 2000; Branch, 2000; Hunter, 2000; Pronk, 1999; Robbins, 2001; Schuler, 1999; Smith, 2000; Williams, 2001; Williford, 1999). Fitness can also be observed by the lack of fatigue in individuals performing actions with sustained vigor (Bortz, 1999; Konradi, 2000; Lucia, 1999; Popper, 1999), by optimal physiologic performance during physical activity and inactivity (Lucia, 1999; Robbins, 2001; Schuler, 1999; Williford, 1999), and by a reduced amount of cardiovascular and other chronic diseases (Branch, 2000).

APPLYING CONCEPT ANALYSIS TO WELLNESS PROGRAMMING

Concept analysis is a tool to help clarify an abstract idea. It provides a basis for the success of wellness programs. Effective wellness program planning and management demand a clear understanding of a program's concept (e.g., fitness). As such, before wellness programs are planned, the program's concept needs to be defined clearly. Occupational health nurses should use concept analysis as a tool to formulate a working definition of a concept, which in turn, serves as a basis for defining potential products or services and outcomes (i.e., empirical referents). In formulating a working definition of a concept, the associated program product, process to deliver the program, and program outcomes also become defined.

This concept analysis demonstrates a predominance of performance related attributes of fitness in the scientific literature. These attributes are grounded in the capacities for physical and physiological performances and their measures. This noted predominance may be caused by either bias in the literature selection criteria, the luck of the sample, or perhaps the goals of a majority of the researchers studying fitness. While this analysis has clarified the uses of fitness, albeit with a performance related focus, it has also highlighted the use of a health related definition of fitness and its link to health promotion. Understanding the concept of fitness as applied to the activities

of a particular population, for example sedentary, light, or heavy work (U.S. Department of Labor, 1991) or rigorous athletics, is a necessity for successful wellness program planning, implementation, and evaluation.

The performance related working definition of fitness that resulted in this analysis may make it more challenging to define fitness related programs and outcome measures meaningful in the workplace versus in an exercise or sports facility. Because health promotion is in the purview of nursing practice, the health related definition of fitness may be more useful to occupational health nurses in developing workplace fitness programs. To this end, the concept analysis presented here was a valuable process because it highlighted the existence of and differences between performance and health related fitness definitions.

It is important for the occupational health nurse to reach a mutual agreement with clients on a working definition of a concept (e.g., fitness) and what and when it will be obtained. The working definition serves as the basis for defining appropriate program goals and objectives. It is equally important to mutually agree on what results will be expected from the wellness intervention associated with the concept (e.g., how to evaluate a client's increase in fitness).

Different expectations are driven by different understandings of a concept. For example, a marathon runner's concept of fitness and expectations of a fitness program are most likely different from those of a person who may occasionally run on a treadmill. Without mutual agreement on a working definition of a concept and associated outcome measures, for example, the nurse may think program outcomes are positive, whereas clients may not be satisfied with the results. In turn, the clients may become frustrated and not attend programs, and this reaction may potentially cause the nurse to lose funding. Including clients in the concept analysis process and program planning and development process can increase buy-in from the clients and potentially increase program participation.

Concept analysis can be used in helping occupational health nurses demonstrate the business value of wellness programs. Through the use of concept analysis, program outcomes can be measured more objectively because program goals are based on objective criteria. Thus, for a worksite physical fitness program, measurable outcomes may, for example, include increased strength, increased endurance, or decreased BMI values. To gain management support and funding for the program, management must be convinced that increased fitness levels lead to maintained or increased production, decreased injuries, and decreased absences, for example. As such, through the use of the concept analysis process, outcome measures are defined and, in turn, provide a more objective basis of support in demonstrating the business value of proposed programs.

SUMMARY

Concept analysis is a useful tool in formulating a working definition of an abstract idea and in providing an objective basis for developing wellness program products, goals, and outcomes. This concept analysis illustrated the predominance of performance related attributes of fitness

in the scientific literature, and also highlighted use of a health related fitness definition encompassing the notion of health promotion and prevention. Clearly understanding a program concept as applied to a particular community or population is critical in planning for and developing successful wellness programs. The occupational health nurse should work closely with clients in formulating working definitions of concepts as well as in planning and developing wellness programs. Occupational health nurses can use concept analysis in helping demonstrate the business value of their wellness programs.

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IN SUMMARY

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- 1 Concept analysis is a useful tool in providing clarity to an abstract idea as well as an objective basis for developing wellness program products, goals, and outcomes.
- 2 To plan for and develop successful wellness programs, it is critical for occupational health nurses to clearly understand a program concept as applied to a particular community or population.
- 3 Occupational health nurses can use the outcome measures resulting from the concept analysis process to help demonstrate the business value of their wellness programs.
- 4 This concept analysis demonstrates a predominance of the performance related attributes of fitness in the scientific literature.

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