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THE JOURNEY FROM NONEXERCISER TO EXERCISER: A GROUNDED THEORY STUDY

by

Keri Kuniyoshi Medina, RN, MS

A dissertation presented to the FACULTY OF THE PHILIP Y. HAHN SCHOOL OF NURSING UNIVERSITY OF SAN DIEGO

In partial fulfillment of the requirements for the degree DOCTOR OF NURSING SCIENCE May 1996

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Abstract

The physiological and psychological health benefits of regular physical exercise are well-documented; however, drop-out rates from both supervised and unsupervised exercise remain high. Many potential influences on exercise behavior have been studied, but with largely inconsistent results, making it difficult to identify key targets for intervention. The purpose of this study was to explore the process through which nonexercisers become exercisers, and the contextual factors which affect movement through this process, in order to enable nurses to more successfully assist clients to incorporate exercise into their lifestyles.

The exercise experiences of 22 individuals who had successfully made the transition from nonexerciser to exerciser at some point in their adult lives were explored using grounded theory methodology. Study findings indicated that the process through which these nonexercisers became exercisers centered around the development of an "exerciser identity". Prompted by some critical experience to engage in self-appraisal, participants became committed to the idea of changing themselves, by means of exercise. Through the process of experimenting with, evaluating, and confirming the rewards of exercise participation, participants experienced a positive identity change, which made exercise involvement self-reinforcing. Exercising now seemed "normal" to these individuals--a part of who they were. The context and conditions surrounding exercise participation were found to be important influences on pre-existing identity, the quality of the exercise experience, and changes in exercise identity over time, but did not prevent nor guarantee successful movement through the process of developing an "exerciser identity".

These findings suggest the need for a significant shift in the focus of exercise research and intervention from behavior to identity. Exercise must be conceived of not just as an activity that people engage in, but as something that becomes a part of who people are, which can change over time. Future research efforts should continue to pursue the link between identity and exercise behavior, using dynamic, context-oriented methods.

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The research findings presented in this dissertation, as with all products of qualitative research, are the result of the joint efforts of many, many people. The thoughts and experiences, as well as the hearts and souls, of the 22 study participants provided the substance and spirit of the findings. The wonderful members of my dissertation committee--Dr. Diane Hatton, Dr. Jan Harrison, and Dr. Jenifer Mason--helped me to focus and develop that substance and spirit into its current form as a "fledgling" theory, while providing unfailing encouragement and support. The influence of the knowledge and philosophies of my classmates and colleagues can be traced throughout these pages; Dr. Sylvia Stewart, in particular, could always be counted upon to provide interested, insightful feedback and counsel, as well as support and energy.

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Chapter One - Overview

Health promotion efforts have been receiving an increasing amount of attention in the United States, in an attempt to prevent many of the chronic conditions that contribute to the nation's escalating health care costs. The 1990 government document Healthy People 2000 has identified increased physical exercise as a factor that will play a key role in increasing the span of healthy life for Americans (U.S. Department of Health and Human Services, 1990). Much research has been conducted in an effort to understand what motivates those who exercise, and thus to identify methods through which the goal of increased exercise can be accomplished.

Many potential influences on exercise behavior, or exercise determinants, have been studied, but with largely inconsistent results, making it difficult to identify the key variables to target for intervention (Dishman, Sallis, & Orenstein, 1985; King et al., 1992; Sallis & Hovell, 1990). A review of these studies suggests at least three possible explanations for such inconsistent research findings. First, definition and measurement of exercise and its proposed determinants has varied from study to study, thus making it difficult to make comparisons among studies, or draw solid conclusions from the body of literature as a whole (Dishman, 1994; Dishman et al., 1985; Sallis & Hovell, 1990).

A second possible explanation for the lack of consistency in exercise study findings involves the use of study designs that may be too static or simplistic to adequately assess the complex nature of the relationship between exercise and its determinants (McAuley, 1992; Sallis, Hovell, Hofstetter, & Barrington, 1992). Recently, it has become more common to conceive of involvement with exercise as a process (McAuley, 1992; Muhlenkamp, 1987) which occurs in stages (Sallis & Hovell, 1990), the determinants of which likely have reciprocal, interactive effects upon each other (Biddle,

1992; Muhlenkamp, 1987; Sallis, Hovell, Hofstetter, & Barrington, 1992). If this were to prove correct, it seems logical that studies which attempt to predict such complex behaviors based on one-time measurements of determinant variables would yield inaccurate and inconsistent findings.

Finally, the lack of consistent research findings could be a result of the acontextual manner in which the study of exercise and its determinants has been approached. Martens (1987) has expressed grave doubts about the ability of studies which focus on only a few isolated exercise determinants to form a coherent picture of human behavior in all its complexity. Liska (1984) points out the importance of not only estimating the effects of different variables, but also of estimating the extent to which these effects are dependent upon the existence of other, contextual conditions. To date, most of the studies which have examined the influence of context on the exercise process have been quantitative in nature. Such quantitative designs can only examine and measure a limited number of contextual factors in each study; most are not designed to identify any conditions necessary for the existence of demonstrated relationships. It might be expected, then, that such studies would generate an incomplete picture, and inconsistent outcomes.

A research approach better able to capture the process and contextual aspects of the relationship between exercise and its determinants, as defined by those participating in it, should provide a more complete understanding of the exercise experience and how it can be most effectively facilitated. Current research approaches have resulted mainly in the generation of long lists of demographic, cognitive, and affective variables that may possibly influence exercise behavior. Unfortunately, demographic variables such as gender, age, race, and class cannot be altered through intervention; without an understanding of how and why these variables impact on exercise behavior, no change in behavior can be effected (Facione, 1993). Likewise, the knowledge that cognitive and affective variables, such as exercise self-efficacy or attitudes, are correlated with exercise behavior is of limited use in planning intervention without an accompanying

understanding of how these perceptions and attitudes develop and can be altered to facilitate behavior change (Dishman et al., 1985). A research approach which places emphasis on process and context could rectify many of these difficulties, and yield results better able to guide future intervention.

Purpose of the Study

The purpose of this study was to explore the process through which nonexercisers become exercisers, and the contextual factors which affect movement through this process. It has been suggested that the process of becoming an exerciser involves passing through various stages (Sallis & Hovell, 1990); however, little research has focused on documenting the particulars of this process, or on exploring the contextual factors which influence a participant's movement from one stage to another--especially from adoption to maintenance. What, for example, enables someone who has repeatedly relapsed to finally become a successful maintainer? A more complete understanding of this process would enable nurses to more successfully assist clients, and themselves, in incorporating exercise into their lifestyles without compromising perceived quality of life.

The underlying assumptions of this study included: (a) exercise participation affects health and well-being in a positive manner, and should be promoted; and (b) although the meaning of becoming an exerciser is unique to each individual, patterns and similarities in the process and context of this experience do exist and can be identified. Philosophical_Perspective

A qualitative, grounded theory methodological approach was deemed the best approach to accomplish the purpose of this study. Grounded theory emerged from the symbolic interactionism tradition of social psychology and sociology. Symbolic interactionism regards all behavior as determined by the meanings that events have for people. These meanings are the result of a person's experience and social interaction. Since a person's experience is constantly changing, meanings also change; therefore, grounded theorists believe meanings and behaviors must be studied as a dynamic process (Chenitz & Swanson, 1986). Because it was designed to study and analyze complex interactional, social-psychological processes (Chenitz & Swanson, 1986; Hutchinson, 1986), grounded theory was well suited to this study. Such process analysis supplies "explanatory power which can be applied to nursing practice" (Fagerhaugh, 1986, p. 134).

Grounded theorists also believe that behavior must be observed and interpreted in context, since the context of the behavior is what creates the meaning (Bowers, 1988; Chenitz & Swanson, 1986); this philosophy is a second reason why grounded theory was an appropriate choice for this study. Finally, grounded theory attempts to generate theory which is "grounded" in the lived experiences of the participants, so that the meaning of events can be understood from their perspectives (Bowers, 1988; Chenitz & Swanson, 1986). In this way, researchers can uncover how participants define relevant concepts, instead of imposing preconceived definitions that could hinder the acquisition of meaningful results. It was expected that, by building theory "from the ground up" (Hutchinson, 1986), without preconceived ideas, the grounded theory method would facilitate fresh perspectives, which would then lead to the generation of new, creative, and more successful approaches to intervention (Murdaugh, 1989).

There are several assumptions inherent in the grounded theory method. First, grounded theory assumes the validity of the symbolic interactionism viewpoint--that behavior can be understood as its meaning to participants is uncovered. The grounded theory method also assumes that, because the emerging theory is "grounded" in the data, it is innately valid and relevant to those from which it emerged (Hutchinson, 1986). The constant comparative method, in which data are collected, analyzed, and rechecked over an extended period of time until all categories achieve "saturation", provides the basis for the method's assumption of validity and reliability (Hutchinson, 1986; Kus, 1986), or, in qualitative terminology, credibility and consistency (Atwood & Hinds, 1986; Krefting, 1991). Objectivity is assumed to be an illusion, in that it is a socially constructed phenomenon (Sandelowski, 1986). Instead, grounded theory values the subjective realities

of participants (Sandelowski, 1986), and the insight and ability of the researcher to give meaning to data (Strauss & Corbin, 1990). Such involvement on the researcher's part, however, means that the quality of the research rests upon a final assumption--that of the researcher's perceptiveness, self-awareness, competence, and skill in using the method (Field & Morse, 1985). The qualifications of this study's researcher and mentors, and provisions made for self-monitoring during the study, will be discussed in the section which details methodology.

Relevance to Nursing

The promotion of health has always been identified as a major goal of nursing; it is now assuming an even higher priority, as nurses expand their roles in advanced practice and the community setting (Edelman & Milio, 1990; Pender, Barkauskas, Hayman, Rice, & Anderson, 1992). The National League for Nursing has called for an increase in the number of nursing research studies concerned with health promotion, to help nursing keep pace with health care reform ("Getting Their Act Together," 1994). In addition, the National Center for Nursing Research (NCNR) has judged health promotion to be one of the areas in which nursing can make the strongest contribution to the health care needs of society (Hinshaw, Heinrich, & Bloch, 1988). This study, with its focus on health promotion and exercise, falls in line with these priorities.

The physiological and psychological health benefits of regular physical exercise are well-documented (Mersy, 1991; Plante & Rodin, 1990), and of significant interest to the nursing profession as it attempts to improve clients' quality of life, and reduce health care costs through disease prevention. Drop-out rates from both supervised and unsupervised exercise, however, remain high (Dishman, 1991; Sallis et al., 1990); thus, assisting clients with incorporating exercise into their lifestyles remains a major challenge for health promotion nurses. Research designed to enhance nursing's understanding of how successful exercise maintenance can be facilitated could help empower nurses, many of whom are beginning to experience a sense of futility in their struggle to promote positive lifestyle change in their clients (Fridinger, Johnson, Chng, & Choo, 1991). It was expected that the use of grounded theory methodology in this study would encourage the development of new, creative, relevant nursing intervention to replace current, preconceived strategies which, to date, have not proven very successful (Murdaugh, 1989).

This study, with its focus on positive lifestyle change in individuals who have not yet developed lifestyle-related disease, also proved compatible with nursing's call for a focus on health rather than disease (Kulbok & Baldwin, 1992). Because study findings were grounded in the contextual experience of exercise participants, they were also more holistic, and more considerate of the client's perspective of lifestyle change--both of which reflect the nursing profession's unique focus on health promotion (Smith, 1990). It is hoped that the insights generated from such a nursing perspective will enable nurses to assist clients in incorporating exercise into their lifestyles in a manner that will increase, rather than decrease, perceived quality of life.

Lines of Inquiry

The following lines of inquiry were pursued in this study:

- "What is the process through which a nonexerciser becomes an exerciser?"
- "In what context does this process occur? How did this context come into being? How and/or why does it exert its effects?"

Chapter Two - Literature Review

The body of literature on exercise behavior is extensive, and has generated a long list of possible exercise determinants. Because of inconsistencies among study findings, however, nurses still find themselves without sure guidance in developing interventions to assist clients in incorporating exercise into their lifestyles. It is beyond the scope of this chapter to review all of the studies on exercise behavior; readers are referred to the excellent reviews by King et al. (1992), and Sallis and Hovell (1990). This chapter will provide: (a) an overview of the various factors that have been studied as possible exercise determinants, beginning with those which have generated mixed findings, followed by those which have received the most research support; and (b) a brief review of the studies most similar to the proposed study in content and methodology. Possible Exercise Determinants Generating Mixed Findings

Variables studied as possible exercise determinants fall into the following general categories: (a) demographic, (b) cognitive, (c) affective, (d) behavioral, (e) environmental, and (f) factors related to the physical activity itself.

Demographic. Several studies indicated that physical activity declines with age (Folsom et al., 1991; Sallis et al., 1989; Schoenborn, 1986; White, Powell, Hogelin, Gentry, & Forman, 1987). However, McAuley (1992) found no significant differences in exercise frequency due to age, and Steinhardt and Carrier (1989) observed that age helped discriminate between exercise adherers and nonadherers at 1 month, but not 6 months after the start of an intervention program. Other studies showed the relationship between age and physical activity to vary by gender (Sallis, Hovell, & Hofstetter, 1992), by intensity of exercise (Sallis et al., 1985; Sallis et al., 1986), and according to whether exercise adoption or maintenance was being examined (Sallis et al., 1986). Dishman (1991)

concluded that, since the relationship between age and exercise is complicated by changes in biomedical factors, age is a selection bias rather than a cause of inactivity.

Studies seemed to be fairly equally divided on the question of whether a relationship exists between gender and exercise. Those indicating a relationship suggested that men were more likely to exercise than women (Folsom et al., 1985; Sallis et al., 1985; Schoenborn, 1986; Steinhardt & Carrier, 1989; White et al., 1987). Other researchers concluded that no relationship exists (Garcia & King, 1991; McAuley, 1992; McAuley, 1993; Sallis et al., 1989), or found gender differences to disappear or reverse when exercise participation was analyzed according to type/intensity of the activity (Sallis et al., 1986; Stephens, Jacobs, & White, 1985).

Higher educational levels were frequently related to increased exercise participation (Dennison, Straus, Mellits, & Charney, 1988; Folsom et al., 1985; Folsom et al., 1991; Matthews, Kelsey, Meilahn, Kuller, & Wing, 1989; Schoenborn, 1986; White et al., 1987). However, some studies indicated no relationship (Garcia & King, 1991; Sallis et al., 1989), or found education to be predictive of exercise behavior for women but not men (Sallis, Hovell, & Hofstetter, 1992). Studies assessing socioeconomic status, considered somewhat related to educational level, also suggest a conditional relationship. Schoenborn (1986) found that, with the exception of men earning less than \$7000/year, higher income people tended to be more active than lower income people. Ford et al. (1991) observed that lower socioeconomic status men spent more time walking and doing household chores, while higher socioeconomic status men tended to be more active in leisure-time physical activity. They also found higher socioeconomic status women to engage in higher levels of all types of activities than their lower socioeconomic status counterparts. In regard to race/ethnicity, which is thought to be confounded by both educational level and socioeconomic status (King et al., 1992), some found Caucasians more likely to be physically active than blacks (Schoenborn, 1986), while others found no difference in exercise participation by race (White et al., 1987). However, Folsom et al.

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(1991) noted that black men and women reported less leisure-time physical activity, but greater occupational physical activity. Gottlieb and Chen (1985) observed that Caucasians engaged in more individual, non-competitive, aerobic-type activities, while Blacks favored dancing and the competitive team sports of basketball and football, and Mexican-Americans were most likely to play baseball. Conclusions about the relationship between race/ethnicity and exercise, then, may need to be interpreted in light of the type of activity being assessed.

Cognitive. Knowledge about exercise has at times been associated with increased exercise participation (Biddle & Ashford, 1988; King, Taylor, Haskell, & DeBusk, 1990); in some studies, however, no relationship has been found (Hawkes & Holm, 1993; Sallis et al., 1989). Sallis et al. (1986) noted exercise knowledge to be associated with maintenance of moderate activity, but not vigorous activity. Findings were similarly mixed in regard to perceived benefits of exercise, with some supporting a relationship (Desharnais, Bouillon, & Godin, 1986; Slenker, Price, Roberts, & Jurs, 1984)) and others not (Dzewaltowski, Noble, & Shaw, 1990; Sallis et al., 1989; Sallis, Hovell, Hofstetter, & Barrington, 1992). While a few studies supported the importance of subjective norms--perceived expectations of salient referent individuals or groups (Godin & Shephard, 1990)--to exercise behavior (Pender & Pender, 1986; Riddle, 1980), the majority of studies did not find subjective norms to be a significant predictor of exercise participation (Dzewaltowski et al., 1990; Godin, Shephard, & Colantonio, 1986; Godin, Valois, Shephard, & Desharnais, 1987; Sallis et al., 1989).

The value placed on health has been supported as an exercise determinant by Abood and Conway (1992), and Godin et al. (1986), but not by Laffrey and Isenberg (1983). The effect that the value placed on health has on exercise participation is often thought to be related to perceived susceptibility to the health effects of lack of exercise. Study findings on perceived susceptibility, however, shed little additional light on the situation. Driggers et al. (1984) found knowledge of susceptibility to be related to

increased exercise levels, while Biddle and Ashford (1988) found that greater perceptions of vulnerability were more characteristic of nonexercisers than exercisers. Godin, Desharnais, Jobin, and Cook (1987) found knowledge of susceptibility to create only a short-term increase in exercise participation, which disappeared over a 3-month period. Neither is the issue clarified by an examination of perceived control over health/health locus of control. Some studies found perceived control to be related to increased exercise (Biddle & Ashford, 1988; Dzewaltowski et al., 1990), while others did not (Laffrey & Isenberg, 1983; Welsh, Labbe, & Delaney, 1991).

An early study of the relationship between behavioral intention and exercise (Riddle, 1980) indicated a high correlation between the intention to jog and jogging behavior. Godin, Valois, et al. (1987) found that, while intentions failed to predict immediate exercise behavior (within 3 weeks after a statement of intention), they did help predict exercise behavior 2 months later. Further studies, however, suggested that while intention does significantly contribute to the prediction of exercise participation, selfefficacy was an even better predictor (Dzewaltowski, 1989; Dzewaltowski et al., 1990). Because of this, and because intention to exercise is thought to be determined by attitude towards exercise, subjective norms, and, possibly, perceived control (Godin, 1994), attention has been somewhat diverted away from the study of intention towards the investigation of these other variables.

Affective. Research on the impact of attitudes towards exercise has also yielded mixed results, with some studies supporting its usefulness in predicting exercise participation (Dzewaltowski et al., 1990; Hamid, 1990), and others failing to support it (Godin, Valois, et al., 1987; Riddle, 1980). Sallis et al., (1986) found attitudes to be predictive of maintenance of vigorous activity, but not of adoption of vigorous activity, or either the adoption or maintenance of moderate activity. Hawkes and Holm (1993) noted exercise attitudes to be significant predictors of exercise participation for women only.

Self-esteem is frequently categorized as an affective variable, since it refers, not to what people perceive themselves to be, but to how they feel about what they perceive themselves to be (Coopersmith, 1967; Gergen, 1971). Most studies did not find self-esteem to be predictive of exercise behavior (Abood & Conway, 1992; Emery, Hauck, & Blumenthal, 1992); however, Vitulli (1987) did observe that self-esteem was given a relatively high status as a motive for maintenance of jogging.

Behavioral. The definition of the two primary behavioral variables studied, habit and past participation in exercise, vary somewhat from study to study. However, habit seems more related to recent exercise participation, whereas past participation more often refers to childhood and youth exercise participation. Study findings for both are mixed. The influence of habit was supported by Godin, Valois, et al. (1987), and McAuley (1992), but received no support from Gale, Eckhoff, Mogel, and Rodnick (1984). Childhood and youth exercise participation was found to be a significant predictor of exercise by Dennison et al. (1988), but not by Dishman (1988), or Sallis et al. (1989). Steinhardt and Carrier (1989) found youth participation to discriminate between adherers and nonadherers to a worksite fitness program at 1 month, but not at 6 months. They speculated that perhaps those who were active in their youth are less attracted to or dependent upon an organized worksite program, and might be engaging in exercise outside of what was being measured in the study. This speculation suggests the need to obtain a more complete picture of the situation before drawing conclusions on the determinants of exercise.

Environmental. Relatively few studies have examined the impact of physical environmental factors on exercise behavior. Sallis et al. (1990) conducted a study which suggested an association between proximity of exercise facilities and frequency of exercise; however a previous study had not demonstrated such an association (Sallis et al., 1989). A later study indicated that the neighborhood environment was a significant predictor of adoption of vigorous exercise by sedentary men, but not of adoption by

women, or of maintenance by either men or women (Sallis, Hovell, & Hofstetter, 1992).

Several studies have examined social environmental factors affecting exercise behavior, in terms of family/peer support. These studies will be reviewed in the next section.

Physical_activity_itself. Certain characteristics of the physical activity itself may affect exercise participation. McAuley (1993) found that subjects who perceived that exercise was less physically taxing reported greater maintenance of exercise; however, Garcia and King's (1991) results indicated that perceived exertion did not contribute to variance in exercise maintenance. King, Haskell, Taylor, Kraemer, and DeBusk (1991) noted a difference in exercise adherence between supervised exercise located at a senior center, and home-based exercise, with the home-based exercise achieving the greater adherence. It has been suggested that exercise type, frequency, and duration, as well as whether the activity is of a group or individual nature, or competitive versus noncompetitive may also be related to exercise participation (King et al., 1990; Sallis et al., 1986; Sallis & Hovell, 1990), but more research is needed to substantiate these impressions.

Overall, research findings regarding the majority of the possible exercise determinants which have been studied are mixed. One possible explanation for this could be related to the variety of ways in which exercise behavior and/or determinant variables have been defined and measured. For example, Sallis, Hovell, and Hofstetter (1992) measured exercise participation by how often subjects engaged in physical exercise in their free time for at least 20 minutes without stopping, which was hard enough to make their heart rate and breathing increase a large amount. Steinhardt and Carrier (1989) measured exercise participation by number of visits per month to a health and fitness center. Abood and Conway (1992) measured exercise in terms of total kilocalories expended per week, calculated according to frequency, duration, and type of activities engaged in. It is very difficult to draw overall conclusions from studies that are not

consistent in their definitions.

The same inconsistency can be noted in the way the determinant variables have been defined and measured. For example, at least five different tools have been used in studies of the relationship between exercise and self-esteem (see Abood & Conway, 1992; Biddle & Armstrong, 1992; Bonheur & Young, 1991; Vingerhoets, Croon, Jeninga, & Menges, 1990; Netz, Tenenbaum, & Sagiv, 1988), some of which measure global selfesteem, while others measure only specific dimensions of self-esteem. Study findings also seem to have varied according to how, when, or under what conditions exercise and possible determinants variables were assessed. Results frequently differed when data for men and women were analyzed separately, when time frames were altered, or when differences in type or intensity of exercise were taken into account. Dzewaltowski (1994) suggested that instead of spending time examining "if" variables are related to exercise behavior, researchers should be seeking to identify "when" and under what conditions relationships between variables and exercise participation exist.

Possible Exercise Determinants Receiving Greatest Research Support

Of the four variables that seem to receive the most research support as exercise determinants, two of them fall in the cognitive category (self-efficacy and perceived barriers to exercise), one is an affective variable (enjoyment of exercise), and the last is an environmental variable (family/peer support).

Self-efficacy. Self-efficacy has been defined as confidence in one's ability to perform a certain behavior (Bandura, 1986). Numerous studies have indicated selfefficacy to be a significant predictor of exercise participation (Desharnais et al., 1986; Dzewaltowski, 1989; Dzewaltowski et al., 1990; McAuley & Jacobson, 1991; Sallis et al., 1989; Sallis, Hovell, Hofstetter, & Barrington, 1992); in many of these studies, selfefficacy was the best predictor of all the variables included in the study.

Two studies, in particular, are impressive because of their relatively long period of follow-up, which suggests the usefulness of the self-efficacy concept for exercise

maintenance as well as adoption. The first study, conducted by Garcia & King (1991). followed 74 participants in a clinical trial examining the effect of regular endurance exercise on cardiovascular risk factors. A self-efficacy scale was completed at baseline, and 1 year after the start of the trial. Subjects recorded their exercise activities in monthly logs. Pearson correlations demonstrated a significant correlation between self-efficacy and exercise adherence at both 6 months and 1 year. The second study (McAuley, Lox, & Duncan, 1993), followed 44 participants in a 20-week exercise program designed for middle-aged, sedentary adults. Subjects were given fitness and self-efficacy measures at the end of, and again 9 months after the cessation of the exercise program. Exercise behavior was also assessed. Hierarchical multiple regression analysis indicated that selfefficacy was a significant unique predictor of exercise maintenance, as measured by frequency, duration, and intensity of exercise activity. In a previous study using the same sample, McAuley (1993) assessed for the existence of a relationship between selfefficacy measured immediately post-program, and exercise behavior 4 months postprogram. Hierarchical multiple regression analyses indicated that self-efficacy was able to predict exercise behavior over the 4-month follow-up period, even when controlling for aerobic capacity and previous exercise participation (based on exercise activity during the 20-week program).

A few studies were found that yielded mixed results. Sallis et al. (1986) assessed self-efficacy and exercise participation, among other variables, in 1411 California adults. One year later, subjects were again surveyed regarding their exercise behavior. Stepwise multiple logistic regression analyses suggested self-efficacy was predictive of adoption of vigorous activity and maintenance of moderate activity, but not of maintenance of vigorous activity or adoption of moderate activity. In a later study of 1719 San Diego adults in which exercise behavior was assessed 24 months apart (Sallis, Hovell, & Hofstetter, 1992), forward stepwise logistic regression analyses indicated that selfefficacy was a significant predictor of adoption of vigorous exercise by both sedentary men and women, and maintenance of vigorous exercise in men only. Valois, Shephard, and Godin (1986) used 2x3 ANOVA to assess for relationships between habit, self-efficacy, and exercise behavior in 157 University of Toronto employees. Exercise behavior was assessed at baseline, and then again 3 weeks, and 2 months later. Subjects with high self-efficacy did not report being more active than other subjects. In this study, however, self-efficacy was measured as "perceived physical ability", a dimension of the Physical Self-efficacy Scale developed by Ryckman, Robbins, Thornton, and Cantrell (as cited in Valois et al., 1986). This tool assesses confidence in ability to perform specific skills required in physical activity, whereas the self-efficacy tools used in most of the other studies assessed confidence in ability to exercise on a regular basis, even in the face of barriers to exercise. It seems likely that these tools were actually measuring two different concepts. The mixed findings of these studies re-emphasize the importance of consistent definition and measurement of variables, and of considering the conditions and context of the study when interpreting results.

Perceived barriers to exercise. Assessment of perceived barriers to exercise has been fairly consistent in helping to predict exercise participation. In a study of 124 joggers and 96 nonexercisers (Slenker et al., 1984), stepwise multiple regression analysis revealed that barriers to exercise accounted for the largest portion of predictable variance between the two groups (the relationship is inverse). Riddle (1980), also studying joggers and nonexercisers, found a significant difference in assessment of barriers/benefits between the two groups, based on one-way ANOVAs. Nonexercisers thought jogging would require too much discipline, take too much time, and make them too tired; in contrast, joggers were more likely to believe that regular jogging would have positive effects rather than negative. Multiple regression analysis was used to study the determinants of exercise in 2053 San Diego adults (Sallis et al., 1989). Perceived barriers to exercise was among the strongest correlates, along with self-efficacy, modeling, dietary habits, support from friends, and age. In a later study of 1739 San Diego adults, Sallis,

Hovell, Hofstetter, & Barrington (1992) determined perceived barriers to be a significant predictor of exercise change, using two-step hierarchical regression analysis with residualized exercise change as the dependent variable.

The most frequently cited barriers to exercise include lack of time (Johnson, Corrigan, Dubbert, & Gramling, 1990; King et al., 1992; McAuley, Poag, Gleason, & Wraith, 1990), lack of motivation (McAuley et al., 1990), and injuries (Sallis et al., 1990). It is possible that these stated barriers actually reflect a lack of interest in or commitment to exercise, since research indicates that regular exercisers report many of the same perceived barriers as nonexercisers (Dishman et al., 1985; Johnson et al., 1990; King et al., 1992). For this reason, it has been suggested that future research efforts explore how regular exercisers have overcome these perceived barriers, and succeeded in adopting an active lifestyle (Gauvin, 1990).

Enjoyment of exercise. Several studies have supported the importance of enjoyment to the maintenance of exercise participation. Currie, Amos, and Hunt (1991) conducted a qualitative study of 386 individuals who had made a positive behavioral change in their health habits within the previous year. Exercise was the one behavior where enjoyment of the new behavior was a major factor in successfully making the change. Another qualitative study (Gauvin, 1990) of 78 adults recruited from a downtown YMCA revealed that regular exercisers differed from less active individuals in that the aspect that they enjoyed most about exercise was the exercise activity itself. Gauvin speculated that people may only be able to pursue an exercise activity they do not really like for a limited time period; in order to maintain exercise, it must be enjoyed. Vitulli (1987) content-analyzed the results of an open-ended survey of 23 members of a local jogging association, and discovered enjoyment of running was ranked high as a motive for continued jogging. Wankel (1985) assessed the responses of 111 participants in a male employee fitness program approximately 8-10 months after they had joined the program. Independent t-tests and a multiple discriminant function analysis indicated that exercise

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maintainers showed a greater increase in positive reaction to the program over their period of involvement, and reported a greater liking for the program activities. Wankel interpreted these findings as supportive of the importance of enjoyment in exercise maintenance.

Garcia and King's study (1991) of 74 participants in a clinical trial of the effect of exercise on cardiovascular risk, however, did not find enjoyment ratings to contribute to the explanation of variance in exercise adherence over the one-year follow-up period. Part of the explanation for these contradictory findings may lie in the subjective nature of the concept of enjoyment. It is possible that the personal meanings and subjectivity encompassed in the concept of enjoyment cannot be adequately captured and analyzed using quantitative methods. Further qualitative study could help broaden current understanding of the relationship between enjoyment and exercise.

Eamily/peer_support. Numerous studies have substantiated the importance of family and peer support to exercise participation. The study by Sallis and his colleagues (Sallis, Hovell, Hofstetter, & Barrington, 1992), which was described earlier, found both family and friend support to be significant predictors of exercise change. Based on their study of 604 employees of the Lockheed Corporation in northern California, King et al. (1990) discovered that subjects who had not engaged in any regular aerobic exercise over the past two years reported less support for exercise, both at home and at work, than their more active counterparts (two-way ANOVA). A study conducted on 453 males between 23-25 years of age (Dennison et al., 1988) discovered, using stepwise multivariate discriminant analysis, that both current spousal encouragement of exercise and childhood encouragement of exercise by parents helped discriminate between active adults.

The importance of parental influence on the exercise patterns of children has also been documented. Gottlieb and Chen (1985) studied the exercise behavior of 2695 seventh-and eighth-grade students from 52 schools, in 22 cities and towns. Hierarchical

multiple regression analysis showed that parental exercise was significantly related to overall frequency of children's exercise. In a similar study of 33 low-income public preschool children and their parents (Sallis, Patterson, McKenzie, & Nader, 1988), parental vigorous physical activity was found to account for a significant amount of variance in children's physical activity levels. In their study of 222 three- to six-year-old Caucasian children and their parents, Klesges, Eck, Hanson, Haddock, and Klesges (1990) discovered that parental weight status was related to their children's physical activity levels. Regression-modeling procedures revealed that parental obesity was associated with lower levels of physical activity in children.

Studies that contradict these findings or that reflect a conditional relationship do exist, however. Sallis et al.'s study (1989) of 2053 San Diego residents, using multiple regression analysis, found friend support did help predict variance in exercise behavior, but family support did not. A later study (Sallis, Hovell, & Hofstetter, 1992) of 1719 San Diego residents, using forward stepwise logistic regression, found friend and family support to be significant predictors of adoption of vigorous exercise by sedentary women, but not of adoption by men, or of maintenance by either men or women. In Godin et al.'s study (1986) of 198 seventh- and eighth-grade students, ANOVA indicated no significant association between the children's perception of parental exercise patterns and their own habits. The preponderance of studies, however, appear to confirm the importance of the family/peer support variable as an exercise determinant; the dissenting studies could be a result of differences in how the support variable was defined or measured (parental weight versus children's perceptions of parental exercise patterns, etc.). It has also been suggested that individual and/or family developmental life cycle changes may influence exercise behavior through the variable of family/peer support (Biddle, 1992; King et al., 1992; Rudman, 1986); further research is needed in this area.

Although the variables discussed in this section have fairly strong research support as exercise determinants, in general, the studies reviewed here have the same

weaknesses as those mentioned in the previous section. Definition and measurement of exercise and the determinant variables have been inconsistent, and the exploration of the context of the exercise behavior being studied has been limited. An awareness of the concepts currently considered to be salient in the understanding of exercise behavior, however, provided the necessary theoretical background for the current study. Studies Most Similar to Current Study.

Studies of exercise as a process. Most studies of exercise behavior have attempted to: (a) identify factors that are associated with exercise participation (either adoption or maintenance); (b) identify factors that differentiate between regular exercisers and nonexercisers (either exercise drop-outs, or those who have always been sedentary); or (c) identify reasons for and/or barriers to exercise participation. These studies, which have produced inconsistent findings, have largely measured proposed predictor variables at a single point in time only, yielding a very static view of exercise behavior. Even studies which have tried to evaluate if there are differences between the variables that predict exercise adoption and the variables which predict exercise maintenance (Sallis et al., 1986; Sallis, Hovell, & Hofstetter, 1992; Steinhardt & Carrier, 1989) give little attention to the actual process through which adoption of exercise behavior does or does not eventually reach the maintenance level. A clear understanding of the changes and interactions that occur over time in the thoughts, feelings, and situational contexts of potential exercisers is lacking.

Only a few studies were found that utilized a process-oriented design to explore exercise behavior. One of these studies measured both exercise participation and several of its assumed determinants at two points in time, to test for reciprocal influences. Sallis, Hovell, Hofstetter, and Barrington (1992) measured exercise behavior and several potential predictor variables in 1739 San Diego adults at two points in time, 24 months apart. The first measurement included 21 potential predictor variables; the second included only the 6 out of the 21 variables (self-efficacy, friend support, family support,

perceived barriers, perceived benefits, and body mass index) that were considered dynamic, with the ability to change over time (as opposed to more static variables such as gender, socioeconomic status, or exercise history). A two-step hierarchical regression analysis, with residualized exercise change as the dependent variable, was conducted. The 21 baseline variables only accounted for about 2% of the variance, with self-efficacy as the only statistically significant predictor. The 6 "dynamic" variables, however, accounted for about 12% of the variance, with 4 of the 6 achieving statistical significance (self-efficacy, perceived barriers, family support, and friend support). While a 12% explanation of exercise variance is admittedly still small, the fact that these "dynamic" variables did vary with changes in exercise participation provides strong support for reciprocal causation between exercise behavior and its determinants, and the conceptualization of exercise participation as a process.

Marcus and her colleagues have conducted a series of studies to determine if Prochaska and DiClemente's Transtheoretical Model (also called the Stages and Processes of Change Model), initially developed to explain changes in addictive behaviors such as alcohol or tobacco use, can be applied to exercise behavior as well. The Transtheoretical Model maintains that behavior change is not accomplished by a single act or decision, but by movement through a series of stages from Precontemplation to Maintenance. Relapsing and recycling through the stages is common, with some individuals never arriving at the Maintenance stage (Prochaska, DiClemente, & Norcross, 1992). The model was tested using maximum likelihood confirmatory factor analysis and hierarchical model testing; results suggested that the model does translate to exercise behavior (Marcus, Rossi, Selby, Niaura, & Abrams, 1992). Marcus, Banspach, et al. (1992) studied 236 adults enrolled in a 6-week intervention program designed to encourage participation in physical activity. Current stage of exercise was assessed at registration; at the conclusion, telephone interviews determined exercise status. Stuart-Maxwell test of correlated proportions indicated that the percentage of people taking action was strongly related to

their stage at baseline, again providing support for the use of the theory with exercise behavior, and for the concept of exercise as a process.

The studies reviewed above succeed mainly in establishing that exercise behavior is dynamic rather than static--that there is a process involved. However, little research has focused on documenting the particulars of the process and how one moves through it. Although various points in the process are identified, the process through which an individual reaches Maintenance, instead of recycling back to Contemplation, is unclear. The Transtheoretical Model does identify at least 10 Processes of Change (Prochaska et al., 1992), such as reinforcement management, stimulus control, and helping relationships; however, these processes appear to be more behavioral change techniques rather than a description of the process through which the transition occurs. Many researchers have called for a deeper study of exercise as a process (Biddle, 1992; King et al., 1992). Specific recommendations include: (a) study of the process by which one loses interest in exercise (Sallis et al., 1990), (b) study of the circumstances surrounding the resumption of exercise after drop-out (Biddle, 1992; Sallis & Hovell, 1990), and (c) investigation of how the various cognitive determinants (such as perceptions and motivation) associated with regular exercise participation develop (Dishman, 1994; Dishman et al., 1985; Dzewaltowski, 1989). The utilization of less static and reductionistic research methods should better facilitate an understanding of exercise as a process, and how people successfully and/or unsuccessfully move through it (McAuley, 1992; Muhlenkamp, 1987; Sallis, Hovell, Hofstetter, & Barrington, 1992). Dishman (1994) encourages use of qualitative research methods in this area.

Studies of the context of exercise. It is possible, in some respects, to view all studies of the variables that influence exercise behavior as studies of the context of exercise. Certainly, the studies which have addressed the effects of variables such as socioeconomic status or family support on exercise behavior were attempting to explore the context of exercise. However, most of these studies have utilized a quantitative

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approach, and many, as noted previously, have generated conflicting results. Such conflicting results in themselves indicate that additional contextual factors may be operating to confound results. Quantitative analyses of the influence of context on the exercise process can only examine and measure a limited number of contextual factors in each study, yielding an incomplete picture. In addition, quantitative tools can only measure contextual factors in a limited way, restricted by the assumptions and preconceptions inherent in the tool; this may yield a distorted picture of context, further confounding the interpretation of findings.

Yet there are many studies to support the importance of contextual influences on exercise behavior. For example, follow-up interviews conducted with 55 staff nurses after a 12-week feasibility study promoting exercising at work ("Exercise May Evoke...," 1989) revealed that, contrary to the study's initial hypothesis that midday exercise would help nurses deal with the rest of the day's stressors, those who exercised during the shift felt "fragmented", "overloaded", and more stressed than previously. Only 5 out of the 55 nurses completed the 12-week at-work exercise program. Thus, it appears that the context of exercise, and its meaning to the individual engaging in it, greatly influences outcomes and participation.

Verhoef and Love (1992) surveyed 1113 urban women, aged 20-49 years of age, to explore the effect of social roles on women's exercise participation. Multiple logistic regression analysis indicated that being a parent, and experiencing feelings of role overload were significant predictors of exercise participation, even after controlling for marital and employment status, age, educational level, perceived health status, and perceived stress. These findings indicated that exercise participation is less likely within the context of being a parent and experiencing chronic stress due to perceived time pressures.

An ethnographic study of the health-promoting beliefs and practices of a group of refugees from El Salvador (Boyle, 1989) suggested that cultural contexts exert a major influence on participation in exercise. Of the 53 study participants, none reported

engaging in a regular program of exercise. However, 58% of them rated their physical fitness level as good; most attributed their fitness to an abundance of fresh air, and eating and sleeping well, rather than to formal physical exercise. Apparently, these Salvadorans did not view exercise to be of importance to their health, and thus did not make an effort to engage in it. Boyle concluded that culture and the social environment play a significant role in defining beliefs about health, which in turn, affect participation in behaviors such as exercise.

The importance of the effect of context on exercise behavior is acknowledged in Biddle's (1992) call for the study of exercise antecedents to take place in different settings and with different types of exercise. The problem with exercise research to date, however, has perhaps not been a disregard for the importance of context, but the inability to adequately address it using traditional quantitative methods. Martens (1987) advocates a more experiential approach to exercise research in which exercise is studied in the context of the whole person, rather than in terms of a few selected components. Liska (1984) argues for a focus on the extent to which relationships between exercise and its determinants depend upon the presence of other conditions. Such conditions, in the past, were dismissed as "confounders" but are now recognized as valid elements of the context of the exercise experience. Facione (1993) recommends that significant contextual factors should not only be identified, but also explored in an attempt to understand how and why they exert their influence on exercise behavior; such information can then most effectively inform intervention. It has been suggested that qualitative methods will lend a more holistic, participant-defined perspective to studies such as those recommended here (Beck, 1990; Dishman, 1994; Taylor, 1993).

Qualitative studies of exercise participation. Four studies were found that explored exercise behavior from a qualitative perspective. Two of these four focused mainly on motivation for exercise. In the first study, Conrad (1988) conducted 35 indepth interviews (method of analysis not stated) with participants of a corporate fitness

program, to determine what brought them to the program and what their goals for participation were. Responses indicated that participants' goals were decidedly fitnessoriented ("staying in shape" and "controlling weight") rather than health-oriented, and therefore did not predispose to participation in other healthy behaviors. In the second study, interviews with 78 adults who were either autonomous exercisers, fitness program enrollees, fitness program dropouts, or sedentary individuals were content-analyzed to detect differences in motivational components, based on participants' descriptions of their thoughts, feelings, and behaviors before, during, and after a workout (Gauvin, 1990). Autonomous exercisers were found to exercise primarily to stay fit and look good, whereas less active individuals gave a much wider variety of reasons for wanting to exercise. Autonomous exercisers also appeared to enjoy the exercise activity itself more than the others, and did not have to do anything to motivate themselves to exercise, as they viewed exercise as a part of their lives. These two studies shed light on the meaning of exercise to those who participate in it, but did not explore other contextual factors, or inquire into exercise as a process.

Gillett (1988) also focused more on context than process in her study of 38 moderately overweight, middle-aged women enrolled in a 16 1/2-week dance exercise program. During open-ended interviews, participants were asked what influenced them to adhere to the exercise program, or to drop out. Content analysis revealed eight participant-identified factors that facilitated program adherence: (a) group homogeneity in regards to age, fitness level, socioeconomic status, and sex; (b) opportunity to build social networks, which also produced a positive "peer pressure" effect to maintain attendance; (c) pleasurable feelings associated with increases in energy and fitness; (d) having a leader with a health-related background; (e) knowing that the exercise program would last for only a limited amount of time; (f) having made a commitment to an established goal; (g) a desire to change their body image; and (h) a desire to improve their physical health.

The only study that attempted to address both the context and process of exercise

behavior was conducted by Currie et al. (1991). They interviewed 386 individuals who had previously been identified through a postal survey as having made a positive behavioral change in their eating, smoking, weight control, alcohol consumption, or exercise habits during the previous year; 209 of these participants reported changes in exercise participation. Transcribed interviews were analyzed to identify predisposing factors, triggers, facilitating factors, and inhibiting factors involved in the process of change for each of the five health-related behaviors. While relatively few predisposing factors were identified for exercise, receiving new information or advice, and concerns about weight and appearance were the most frequently reported triggers for change. Occupational, disease-related, access-related, family-related, and seasonal factors were reported to affect levels of exercise both positively and negatively. Exercise was found to be the one behavior where enjoyment was a key factor in behavior change. While this study made some progress in the exploration of exercise as a process, it was unable to achieve much depth in its analysis, given its attempt to encompass such a broad variety of health behaviors. In addition, this study focused on only one part of the process--the transition into maintenance. A more comprehensive and definitive description of the process of becoming a regular exerciser is required, as well as an examination of how identified determinants and contextual factors differentially impact upon the various stages of the process. Finally, how and why these determinants and contextual factors came into being and exert their influence on exercise behavior must be explored to enable a complete understanding of the process.

Summary

A wide diversity of potential exercise determinants has been studied in an attempt to better understand what motivates participation in exercise. These studies have yielded mixed results, making it difficult to draw conclusions from the body of literature as a whole. It is possible that inconsistent definition and measurement of exercise and other study variables, and a lack of attention to the context and process of the exercise

experience have contributed to this situation. Of the many possible determinants which have been explored, self-efficacy, perceived barriers to exercise, enjoyment of exercise, and family/peer support seem to have the most relevance to the understanding of exercise behavior. Even the studies which support these concepts, however, suffer from some of the above-mentioned problems.

A focus on process and context in the study of exercise behavior, as well as on the perspectives and definitions of the exercise participant, can be more effectively achieved through qualitative than through quantitative methods. To date, however, qualitative studies of exercise behavior have not taken full advantage of the method's potential in this area. This study explored the process and context of becoming an exerciser, using the grounded theory method, to address this gap in the literature.
Chapter Three - Methods

This chapter will provide a brief overview of the grounded theory method, followed by a description of the sampling procedures, human subjects treatment, data collection, and analytical procedures used in this study.

The Grounded Theory Method

Method_description. This study was conducted in accordance with the grounded theory method, as described by Strauss and Corbin (1990). When exploring a problem or phenomenon, grounded theory studies do not identify a guiding theoretical framework, other than that of symbolic interactionist theory, since the aim is to let the theory emerge from the data. The literature is reviewed, not to provide hypotheses for confirmation, but to create a "theoretical sensitivity" in the researcher, which will foster insight and the capacity to understand and give meaning to data. This review of the literature continues throughout the entire process of data collection and analysis (Chenitz, 1986).

Grounded theory studies utilize a "theoretical sampling" procedure, in which sampling decisions are guided by consideration of what information is needed to help clarify and build the evolving theory, rather than by a concern for statistical representativeness (Miles & Huberman, 1994). The intensive focus and depth of the data collected is a more important determinant of study quality than large sample sizes (Allan, 1989).

Data are collected by means of interview, participant observation, and/or review of pertinent documents, and analyzed through a process called coding. During coding, data are examined in an effort to identify key concepts or categories, the relationships between them, and the processes that account for the variation in interaction around the problem or phenomenon (Chenitz & Swanson, 1986; Strauss & Corbin, 1990). Data collection,

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coding and analysis, hypothesis generation and verification, and literature review are conducted simultaneously, with each step informing, and being informed by, the others; this is called the "constant comparative method" (Glaser & Strauss, 1967). Retention of all study materials (such as field notes, coding and theoretical memos, etc.) and documentation of all sampling and analytical decisions establishes an "audit trail" that allows evaluation of the quality of the work (Huberman & Miles, 1994).

Qualifications of researcher and mentors. Because the quality of grounded theory research is dependent on the researchers' insight and competence in using the method, a description of the backgrounds and qualifications of those involved with this study will be presented in this section. The primary researcher is a doctoral candidate in the Doctor of Nursing Science program at the Philip Y. Hahn School of Nursing, University of San Diego. An examination of the ontological, epistemological, and methodological bases for qualitative research and the grounded theory method is incorporated throughout this program's course of study. The researcher conducted a small grounded theory project as part of the core qualitative methods course, and also completed an independent study course focused on grounded theory methodology, ethical concerns, issues of validity/reliability, and publication.

The researcher was guided throughout the conduct of this study by her Dissertation Committee, who provided counsel on both methodological and contentoriented concerns. The committee also served as a panel of experts who helped to evaluate the process of analysis. The dissertation chair, Diane Hatton, DNSc, is an associate professor at Philip Y. Hahn School of Nursing, University of San Diego. She has done grounded theory research in the areas of cross-cultural and community health nursing, and on perspectives of health and illness. Janet Harrison, EdD, is a professor at the Philip Y. Hahn School of Nursing, and has done both qualitative and quantitative research in the areas of leadership and administration. The final committee member, Jenifer Mason, DrPH, is an assistant professor at Loma Linda University's School of Public Health. Dr. Mason is also an exercise physiologist, and has served as program director at the Kenneth Cooper Aerobics Center in Dallas, Texas. Sample

The purpose of this study was to explore the process by which nonexercisers become exercisers; however, the terms "exercise" and "exerciser" have been defined in widely varying ways throughout the literature (Dishman, 1994; Sallis & Hovell, 1990). Since the goal of this study was to explore the exercise experience from participants' perspectives, it was decided to allow potential participants to determine for themselves whether or not they should be defined as "exercisers". Therefore, the study sample was selected from among those individuals who considered themselves to be regular exercisers,

and have been so for at least 1 year. In addition, they had to consider themselves to have been nonexercisers at one time in their adult lives (21 years of age or older).

It has been suggested in the literature that the determinants of exercise participation may differ between those with and without heart disease (King et al., 1992; King & Tribble, 1991); therefore, only participants who had no self-reported history of heart disease were included. Professional athletes and other individuals who earn their living through participation in physical activity were also excluded, as their motivations for exercise may differ as well.

Recruitment of study participants began with acquaintances of the researcher who were known to exercise, contacts at the School of Public Health in the area, and with members of a local cycling club. Entry into the local cycling club was accomplished by obtaining the approval of the club president to recruit study participants via announcements at club meetings, and advertisements in the club newsletter (See Appendix A). A similar advertisement appeared in the newsletter of the local School of Public Health. From there, a snowball sampling strategy, in which potential participants were identified by those who had already been interviewed, was used to identify additional participants, as guided by the evolving analysis (Miles & Huberman, 1994). Because theoretical sampling is based on the needs of the evolving theory, the exact size of the sample to be recruited was not known ahead of time. Sampling continued on a concurrent basis with data analysis and literature review, until it was concluded that theoretical saturation had been achieved; by that time, 22 participants had been interviewed.

The 22 participants included 13 males and 9 females. They ranged in age from 26 to 71 years, although the majority of them were in their 30s, 40s, and 50s. From an ethnic/racial standpoint, 18 of the participants were Caucasian, 2 were Asian, 1 was Hispanic, and 1 stated he was part Native American. All lived within a relatively limited geographic area in Southern California. Eleven of the participants were employed in the health care professions. Only three had what could be considered "blue collar" jobs. Among the other 8 participants were a photographer, a statistician, an engineer, a probation officer, a criminal specialist, and 3 computer engineers/systems analysts.

At the time the interviews were conducted, 10 of the participants were married, 5 were divorced, 6 had never been married, and 1 was separated from his spouse. Nine of the participants had no children, 8 had dependent children, 5 had adult children, and 1 had both dependent and adult children. Only 5 had a history of chronic health problems, which included hypertension, back pain, emphysema, thyroid cancer, and breast cancer. Three of these 5 were diagnosed with their health problems before they began to exercise, while 2 were diagnosed after they had already become regular exercisers. All became exercisers through a self-initiated process of change; none had been instructed to exercise by a health care provider, or were enrolled in any type of formal exercise program.

The number of years participants had been regular exercisers varied from 1 year to 20 years, with 16 of the 22 having exercised between 1 and 10 years. The age at which they became regular exercisers ranged from 22 to 61 years; however, 13 of the participants stated that they had made the transition in their 30s. All of the participants engaged in some type of aerobic exercise; however, 9 of them were also involved in weight

training. Participants' criteria for "regular exercise" differed from once a week, to five days per week, with three days per week being the most commonly cited. All participants except one reported exercising at least three days per week; 6 exercised 5 days per week, and 6 actually engaged in exercise every day.

Twelve of the participants reported having had a least one episode of relapse from an exercise program in the past. Participants reporting mostly positive past experiences with exercise were approximately equal in number to those reporting mostly negative past experiences. The data did not indicate that the nature of past experiences had consequences for relapse.

See Appendix B for a more detailed descriptive breakdown of study participants. Human Subjects Considerations

Approval of study procedures was obtained from the University of San Diego Committee on the Protection of Human Subjects prior to commencement of the study (see Appendix C for documentation). The researcher then contacted all potential participants by telephone to assess interest in study participation. The purpose and procedures of the study were explained, and participants given the opportunity to ask questions. An interview appointment was arranged with those who agreed to participate in the study, at which time verbal explanations were again made, any remaining questions answered, and written informed consent obtained (see Appendix D). Participants were assured that confidentiality would be protected, that participation was completely voluntary, and that they could withdraw from the study at any time without negative consequences.

Participant involvement entailed: (a) participation in an initial interview; (b) review of the interview transcript to check for accuracy; (c) participation in any followup interviews deemed necessary; and (d) review of a summary of the preliminary analysis, to provide feedback so that the developing theory could be clarified, confirmed, and/or corrected (the member-check procedure). Total time involvement for each participant was estimated to be approximately 2-3 hours.

The major risk to participants in this study was related to privacy and confidentiality. The following steps were taken to protect the privacy and confidentiality of participants: (a) audiotapes and transcriptions of interviews were identified by number, so that names did not appear on or in these materials; (b) tapes, transcriptions, and computer disks containing interview data were kept in a locked file drawer to which only the researcher had access; (c) participants were provided a transcript of their interview to review, so that, if they desired, they could mark out any information they wished to be excluded from the study; and (d) when findings were written up for publication, the data were presented in such a way that individuals were not recognizable (Field & Morse, 1985; Morse, 1994).

The potential benefits to participants of this study included: (a) increased selfawareness; (b) a validation of their experiences, and therefore, of their self-worth; and (c) a sense of purpose and satisfaction resulting from having shared information that may contribute to helping other people accomplish goals similar to theirs (Hutchinson, Wilson, & Wilson, 1994). Many of the participants made comments after their interviews that suggested that all three of these benefits had been experienced.

Data Collection and Procedure

Data collection was accomplished primarily through semi-structured interviews. Interview questions were designed to access participants' thoughts and feelings about their exercise history and current exercise patterns, with a focus on the process and context of their "journey" from nonexerciser to exerciser. As the interview data were coded and analyzed, the questions were modified so that emerging categories and hypothesized relationships could be clarified and validated (see Appendix E for copies of the interview guide, in both its initial and final forms). Interviews were audiotaperecorded, and then transcribed as close to verbatim as possible, in preparation for data analysis.

Management of Researcher Bias

This study had the potential to be limited by the personal values, assumptions, and biases of the researcher. In order to facilitate self-awareness, and increase the credibility and consistency of the study, the researcher attempted to identify and examine these values, assumptions, and biases prior to study commencement. In order to provide an understanding of the background from which the researcher interpreted the data, these values, assumptions, and biases will be shared at this time.

Because I am a former "exercise relapser" who successfully made the transition to "exerciser" about 5 years ago, my own experience had the potential to color my views on exercise motivation and participation. I am an avid participant in mountain biking and ultimate frisbee, and have completed 4 marathons. I value exercise, and feel it has greatly increased my quality of life. I find it difficult at times to understand that many people think having to exercise decreases their quality of life! My long-range goal is to develop an intervention plan that will assist sedentary people to incorporate exercise into their lives in a way that will not only improve their health, but also their subjective enjoyment of life. My bias going into this study, based largely on my own experience, was towards self-esteem issues (such as appearance, physical performance, and mastery) as one of the key determinants of exercise behavior.

To maintain a reflexive self-awareness throughout the course of this study, I kept a field journal to record any thoughts and feelings, problems, and frustrations generated by contact with participants. This process was intended to bring to light any additional preconceived assumptions, the awareness of which would enable alteration of data collection and analysis approaches to maximize the credibility of the resultant theory (Krefting, 1991). Two additional biases were noted upon review of the field journal. First, I had felt frustrated throughout a few of the initial interviews because I had been expecting to hear dramatic accounts of extensive relapse history, followed at last by successful behavior change. My first participant's descriptions of her exercise experience did not follow this pattern, and I tried over and over to get this individual to tell me her "story" before I finally gave up and ended the interview. This experience repeated itself in two more of the next four interviews. As I began to analyze the data, however, I started to realize that not every exerciser had problems with relapse, and that some exercisers achieved behavior change through relatively mundane, everyday experiences. Once I recognized this, I began to really listen to what participants were telling me, instead of continually "fishing" for their "story"; I was then able to start identifying the factors that had influenced their behavior patterns.

I also realized, as the analytic process continued, that I had been expecting to find significant differences between genders and ages in the process of becoming an exerciser; this was the second bias identified through the field journal. Acknowledgement of the lack of differences between the "journeys" of men and women, and the different age groups, facilitated recognition of the role of gender and age as part of the context and conditions of exercise, rather than a "determinant".

In addition to the continued reflexive analysis encouraged by the field journal, the following steps were also taken to address issues of credibility and consistency: (a) use of a panel of experts (Dissertation Committee) to help in the selection of participants, and in assessment of the degree of fit of the developing theory with the actual data (Atwood & Hinds, 1986); (b) use of the member-checking procedure, in which the preliminary analysis was shared with participants for purposes of clarification, correction, and/or confirmation (Corbin, 1986; Sandelowski, 1986); (c) comparison of analytical findings to current literature (Morse, 1992); (d) establishment of an "audit trail" via coding and theoretical notes and memos, to enable analytical decisions made throughout the study to be tracked and evaluated (Huberman & Miles, 1994); and (e) use of peer examination (Krefting, 1991). The two individuals primarily involved in the peer examination process were both doctorally prepared (one in the area of nursing, and the other in public health/health promotion), and themselves regular exercisers. The peer examination process

is also to include publication of findings, to enable broader peer review (Field & Morse, 1985).

Data_Analysis

Data analysis proceeded according to the constant comparative method described earlier, in which data collection, coding and analysis, hypothesis generation and verification, and literature review are conducted simultaneously (Bowers, 1988). Initially, the raw interview data were reviewed line by line, and broken down into codes, according to their substantive nature. These codes were grouped into clusters by similarities and differences, and identified as concepts, or categories (see Appendix F for an example of how codes were collapsed into categories).

The interview guide was modified several times, in an effort to collect data that would allow categories to be "densified"; some categories were merged together, while others were subdivided or expanded. This process continued until all categories were "saturated", and no new information about them was forthcoming.

About mid-way through the process of "densifying" (Corbin, 1986) the different categories, the "breakthrough" interview took place. During this interview, the participant stated that she had never really thought of herself as an exerciser until she had been recruited for this study:

I had never really thought of myself as an exerciser, you know what I mean? I know I do, now, exercise regularly, but--I never really categorized myself as that.... So when Sylvia said "I have a friend who is doing a paper on regular exercisers"--she doesn't know that all those years I would not want to go to school on the days we got weighed, and I hated the physical fitness tests. All those years of experiences that add up to make who you think you are--all she saw was someone who walks.... I didn't realize this until right now, either! That's probably what stops a lot of people, because they have all that baggage from their whole lives.

This interview called attention to the possibility that identity might be a factor in the process of becoming an exerciser. Previous interviews were reviewed, and support for the significance of identity in the behavior change process was discovered. The literature on the concept was examined, as were writings discovered in lay publications, such as Runner's World. Further exploration of the role of identity was conducted during the following interviews. Eventually, it was concluded that the process of becoming an exerciser was virtually synonymous with the development of an exerciser identity. At this point, the exerciser identity became the core category of the emerging theory. Selfesteem--which had previously been thought of as the key to the process, as acknowledged in the discussion on the researcher's biases--was recognized to be only one portion of the process that participants were describing.

Relationships between the identified categories were sought, in an attempt to identify the process, or sequences of action/interaction, surrounding the development of an exerciser identity (Corbin, 1986; Strauss & Corbin, 1990). The process was explored from several different perspectives, as it was recognized that each different perspective offered a different view of the relationship between the categories. Hypotheses were generated, and then refined and verified through review of the interview transcripts, through fresh interviews, and then finally, through the member-check procedure.

The aim of this "constant comparison" of data, analytical product, and current literature at each level of analysis, was the construction of a consistent, credible theory, well-grounded in the data. Analysis continued even through the actual "writing up" of the emergent substantive theory. The results of this analysis will be presented in Chapter Four.

Chapter Four - Findings

Analysis of the interview data collected from the 22 study participants, as described in Chapter Three, generated a distinctive picture of the process through which a nonexerciser becomes an exerciser. The key elements of this process, the context in which it took place, and the conditions which seemed to affect movement through the process will be presented in this chapter. (For a schematic representation of the process of developing an exerciser identity, see Figure 1.)

The Process: Developing an "Exerciser Identity"

The process through which these nonexercisers became exercisers appeared to center around the development of an "exerciser identity". These people did not just change their behavior; they took on a new identity. Exercise became something that helped define who they were. This idea was reflected in several statements made by participants: "Exercise is me--it's a part of who I am"; "I need to consistently do this to be me--the best me that I can be"; "In the summer of '91, I knew I was a cyclist--that's what I do."

With all participants, the process of developing an exerciser identity began with an Identity Appraisal phase, then progressed to Identity Emergence/Reorganization. Many participants continued further, into a phase which was designated Identity Expansion. During each of these phases, specific changes in participants' perspectives occurred. Identity_Appraisal

In the Identity Appraisal phase, two major events occurred: (a) self-examination; and (b) the generation of a mental set of commitment to change--in this case, to become regular exercisers.

Self-examination. The Identity Appraisal phase appeared to begin as participants

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encountered some type of critical experience that caused them to engage in serious selfexamination. There may or may not have also been some chronic dissatisfaction with an aspect of their lives, such as their weight or appearance. The critical experience, however, seemed to be the catalyst that made participants stop to examine their lives. Catalysts seemed to fall into two categories: "eye-opening" experiences, and life transitions.

"Eye-opening" experiences were incidents that caused participants to see themselves in a new light. Sometimes a scary event--such as being diagnosed with hypertension, or finding out a significant other has had a heart attack--made them sense their vulnerability in terms of health status. In some cases, the "eye-opening" experience was a humiliating one--such as overhearing an unkind comment about their appearance, or performing poorly in a physical task. The experiencing of age-related changes in appearance, functional ability, or health caught the attention of some. For others, the "eye-opening" experience was actually a positive incident that made "better things" and a better self seem possible--for example, actually being able to run fast enough to catch a "skinny person". These critical experiences led participants to compare their current conceptions of themselves with their ideas about who they wanted to be, who they could be, or who they should be.

The experience of coping with some type of major life transition was the other main catalyst to self-analysis. The transitional experience most frequently cited by participants was the break-up of a marriage or relationship with a significant other. Participants also spoke of being affected by transitions such as the cessation of smoking or drinking, changing career plans, entering "mid-life", or taking on a new role that brought with it new expectations, such as being a role model. Such transitions seemed to force participants to appraise who they were, how they were changing in response to the life transition they were experiencing, and whether or not they were satisfied with the direction in which their life was heading.

As a whole, the participants related feeling very dissatisfied with the outcome of

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their self-analysis. One man remarked, "I thought to myself, 'This is not acceptable!'" Another said, "That kind of woke me up.... and I thought, 'I have a problem! I'm going to have to change that!'" The result: they all made the decision to attempt to change themselves. Because they all felt that exercise was a legitimate means to achieving the self that they desired--for example, a healthier self, or a more attractive self--exercise suddenly assumed a higher priority in their lives.

Mental_set_of_commitment_to_change. The theme of commitment, and of making exercise a priority, was heard clearly throughout each interview. Over and over, participants emphasized the need for seeing exercise as important and valuable enough to be willing to invest time and effort into working around perceived barriers. A 34-year-old married man said:

You gotta want it bad enough. It's all in how bad you want it. So you make time, get up earlier, maybe cut your lunch hour by a half-hour, maybe get off work a half-hour earlier, if you can.... You can work in your exercise around your work, if you want it bad enough.

A 47-year-old married man with both adult and school-aged children expressed similar thoughts:

You have time. It's just budgeting your time is what you have to do. The gym opens at 5 a.m... You can make time one way or the other, if you really, really want to.

A 26-year-old college student remarked:

You know, people make excuses about exercising. I just tell them, "Well, obviously exercising isn't that important--it's not a big priority. If it was, you wouldn't make any excuses.... It would be your number 1 through 5 priority!"

Likewise, 35-year-old woman with 1 grade-school aged child stated:

These people that say they don't have the time--that confuses me, because

you make time. If you want to do something that you love--kids, husbands, regardless, you'll do it. You'll find a way to do it.

Even a 71-year-old grandmother declared:

I was always in the house doing housework. Taking care of grandkids. Running to the store.... Then I decided, "Do something for yourself." That's what people have to do, really. If you can wait on everybody else, you need to take an hour for yourself.

This commitment also involved being willing to persevere--to stick with exercise long enough to experience its benefits, many of which have a relatively delayed onset. Once such benefits were actually experienced, commitment was strengthened, and exercise became self-reinforcing; however, the initial commitment had to be present in order to trigger the cycle.

Many study participants described episodes of relapse from exercise efforts prior to becoming successful regular exercisers; these relapses were reflective of a lack of commitment to their decision to exercise at that time. Many participants spoke of knowing they should exercise, but not really wanting to do it. Because of this, they would make excuses for not doing it ("I'm too busy", "I'm too old"), or allow themselves to be distracted by other activities. At the time, it seemed to them that the barriers to exercise were virtually impossible to work around. Looking back now, they agree that it was not really those barriers that kept them from exercising; it simply was not a high enough priority for them at the time.

I suppose that saying that I didn't exercise when my kids were little because of time is kind of wrong, because I believe that we all have time to do things that we want to do. I mean, we all find time to get dressed before we go outside, for example!... The key is not that you don't have time--it's that you don't deem it important.

I used to say I didn't have time to exercise.... It was a cop out. There is

time if you allow it and you find it.... I just didn't seem to have the desire. Assigning a relatively low priority to exercise was also reported by participants who did not have a history of relapse: "I just didn't pay attention to exercise"; "It didn't seem worth the effort back then"; "Before I started exercising, I used to think it was kind of silly". This phenomenon, then, was common to all the participants prior to their involvement with regular exercise.

Several participants also reported feeling that they would not really be able to successfully incorporate exercise into their lifestyle.

I didn't see myself, in any form, able to be a person who exercised, because I always had a very poor self-image, as far as PE goes.

Even though I stopped [exercising] at certain times, it's still not the same thought as I had before--"Oh, well, I couldn't do it." Now I knew, "Well, I can do it." It was just a matter of re-setting up the routine and starting to do it again.

This belief in their inability to change usually prevented participants from trying very hard--they were not committed to the effort. One participant said he had just resigned himself to being overweight. Others had unrealistic expectations of what exercise would do for them; when these expectations were not immediately fulfilled, it was interpreted as evidence that they could never change, and exercise was abandoned. Several described an "all-or-nothing" type of attitude where if they "messed up" once, they figured they had "blown it" and quit.

For these participants, attempts to begin an exercise program at a time when exercise was not seen as a priority, or at a time when they did not really think they could do it, failed because of a lack of commitment. All participants, however, eventually overcame this lack of commitment, and were able to successfully move through the process.

How did this necessary mental set of commitment come into being? It seems

likely that the particular critical experience that had triggered Identity Appraisal played a key role in creating this desire and motivation for exercise. However, participants also commented on additional prerequisites for strong commitment, such as being knowledgeable about exercise, seeing exercise as an attainable goal, and valuing themselves enough to feel justified in doing something "for myself":

Well, I read a lot, so I knew I couldn't notice anything drastic immediately; I knew I'd have to stick with it at least 6 months to notice anything. So I didn't give up.

Seeing these guys doing 500-700 miles in a race, I thought, "They can do it. Somebody is out there doing this--they trained and were able to do it." So I thought, "Maybe I can." And it took a long time--it took awhile, but it was--I knew somebody else had done it so I figured...

If your goal is to be the best you can be in everything, then you will avail yourself of everything within your reach to make that possible. I suppose it has to do with what you think of yourself, a lot.... whether you think you're worth spending time on.

The strength of their desire to attain their ideal self seemed to determine the degree of commitment to their decision to begin exercising. For most, the impact of the critical experience translated into a high degree of commitment. Then, once the decision to exercise was made, participants moved into the Identity Emergence/Reorganization phase. Identity Emergence/Reorganization

The Identity Emergence/Reorganization phase is so named because what actually occurred during this part of the process of developing an exerciser identity varied according to the differing backgrounds and previous identities of the individuals involved. Prior to their entry into the process, some participants had positive past experiences with physical activity, some had negative experiences, and some either did not have much previous experience with physical activity, or felt indifferent to their experiences. For those individuals who had no negative past experiences to overcome, the main activity of this phase was the emergence of the exerciser identity. For those who did have negative past experiences, the main activity of this phase was the <u>reorganization</u> of their identity from "one who is not good at exercise" to "regular exerciser".

During the Identity Emergence/Reorganization phase, participants progressed through four different stages in relation to exercise: (a) Experimentation, (b) Evaluation, (c) Confirmation, and (d) Identification.

Experimentation. This part of the process of developing an exerciser identity was characterized by exploration and searching. Acting on their decision to exercise, participants began to experiment with different kinds of exercise activities, schedules, and support systems, trying to find a program that had a good "personal fit" with their preferences and lifestyles. In some cases, there was an environmental cue of some sort that helped get them going: a friend invited them to go biking, or they suddenly acquired access to exercise facilities or equipment. Others began by trying an activity that they had engaged in during their youth, or that they had heard was effective for accomplishing their purpose.

Throughout these initial efforts at exercise, participants took note of their immediate positive and negative reactions to the experience, and made adjustments in their exercise programs in order to make them more compatible with their lives and preferences. This type of "personal fit" appeared to be determined by numerous factors. For example, the exercise program had to be compatible with the participants' health status--with chronic health problems, recurrent injuries, and physical abilities. Exercise also had to fit with their lifestyles, in terms of work schedule, family obligations, and community activities. Some activities were considered boring, or too physically taxing; others were seen as enjoyable or fun. Individual concerns regarding safety and privacy were also considered, along with personality factors and personal preferences. Activities were adopted or rejected based on their level of intensity, on whether they were indoor versus

outdoor activities, structured versus unstructured, competitive versus noncompetitive, relaxing versus challenging, or were of a social versus an individual nature. Whether the individual was a "morning person" or a "night person" also influenced perception of personal fit.

The length of this Experimentation period varied from individual to individual. At some point, however, all participants began to evaluate their involvement in exercise.

Evaluation. To some extent, evaluation of exercise activities began from the moment exercise was initiated. For all participants, however, there came a time when the value of their involvement in exercise was weighed on a more serious level. As one woman put it, "it's got to pass the 'so what?' test." The essential question during the Evaluation period appeared to be, "Do the rewards of exercise outweigh the costs?"

There were several types of exercise outcomes that were viewed by participants as rewarding enough to motivate continued participation. These "rewards" of exercise included: seeing progress towards their initial goals (the reasons why they had started to exercise in the first place), experiencing other benefits that improved their quality of life, finding exercise to be enjoyable, and experiencing feelings of accomplishment and mastery in their chosen activity.

Progress towards initial goals--such as losing weight or lowering blood pressure-was mentioned frequently as a meaningful reward for exercising. Participants referred to such progress as "getting results". Many spoke of the deep satisfaction they experienced as they saw how much closer they were to being the person they wanted to be. A 38year-old man made this comment:

I like that feeling of being pumped up. I like seeing the results of what I'm doing. That is very much a motivator. Getting things that--since I've been heavy all my life--"Yes! I can get into this size clothes!" I never thought that I would be the size that I am, and I want to maintain that.... The weight loss and clothing thing is so nice to me!

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Similarly, a 43-year-old woman said:

It wasn't hard at all, once I started seeing a difference in my legs and my butt. I was bending over in the kitchen, and my son said, "Mom, your butt looks smaller." It was like, "Oh, that was the nicest thing anyone ever said to me!" Once you start getting results, you really feel motivated.

Thus, the perception of "getting results" contributed greatly to positive judgements, and seemed to engender fresh motivation in participants.

For many, however, "getting results" necessitated a great deal of patience, as the time required to see progress ranged anywhere from a few days to several months, depending upon what the initial goal was. Fortunately, many of them mentioned discovering additional, unanticipated benefits along the way that became valued in their own right, because they were perceived to improve the quality of participants' lives.

I did begin exercising because I didn't want to get old as quickly and have chronic diseases.... I started jogging two miles a day, and I hated it. I did it only because it was good for me. Then one day I decided, "I'm going to go more than two", and once I got past that two miles, it was great! The endorphins kicked in, or whatever, and then it was fun. I could run forever!... So I do not run for prevention anymore. I run because it makes me feel good. I run because it gives me energy, because it frees up my mind. I run because it makes me look good.

I started exercising for health, and weight loss.... but then I found that it was very helpful with stress management, and that I felt better--not just health--but just felt better.... And I found that I walked with my kids, and we talked! And we don't always talk without walking--it's a really good time to talk.

In a few cases, these additional, unanticipated rewards kept participants exercising even when no progress towards their initial goals was seen: That's why it was such a hard start--because it didn't make any difference. I didn't lose weight.... But I think as I kept doing it, it seemed to help me in relation to getting sick, and that's a big deal for me not to. I feel better. So even though my weight is still a concern, it's more my well-being in general that keeps me going.

The list of such perceived benefits of exercise mentioned by participants was quite extensive (see Appendix G), and included physical, mental, and psychological/spiritual components.

Enjoyment was another frequently mentioned reward of exercise. Because the term "enjoyment" is rather subjective, participants were asked to explain in more detail why they enjoyed it. Their responses encompassed both physiologic and psychologic aspects. The physiologic aspect of enjoyment involved the experiencing of sense pleasure. Many participants talked about endorphins, and the "adrenaline rush" they experienced during exercise. Some of the cyclists enjoyed the sensation of speed. One woman who was involved in dance savored the aesthetics of the dance movements, and enjoyed exercise as an art form. Several participants mentioned enjoying the results of exercise--feeling good, feeling fit, and the feeling of being able to engage in their chosen activity without effort. These people wanted to engage in exercise because they enjoyed the physical sensations associated with it.

Psychological enjoyment often stemmed from an increase in self-esteem. Several participants mentioned especially enjoying activities they were skilled at. Another stated that he enjoyed exercise because he enjoyed being different from other people. One appreciated the sense of freedom he experienced while exercising; freed from obligations to others, he enjoyed this time that was strictly for himself. Many spoke of the camaraderie among exercisers, and of their enjoyment of being around people with similar interests, who accepted them no matter what their level of skill was. These people enjoyed exercise because it made them feel good about themselves. The other main source

of psychological enjoyment from exercise was the enjoyment of being outdoors, among nature. The feeling of peace, and of being "at-one with the world" was considered to be an extremely rewarding aspect of exercise.

Not all participants, however, enjoyed exercise.

It's a habit, and I feel a loss when I don't do some kind of activity. But I don't look forward to it. I don't wake up in the morning and think, "Oh, whoopee! I get to do this!"... It's sort of like an endurance test. It's become a habit, but if I had my druthers, I'd rather go out and eat than exercise! Almost always, I don't like to go out the door and do it, for some reason. But I've made an intellectual choice and I do it even though I don't feel like it, and I'm always glad I did it when I'm done. But it's still like, "Do I really want to do this tonight?"

For these individuals, it seemed that the physical, mental, and psychological benefits they experienced from exercise were reward enough for them to continue exercising, despite the fact that they did not really enjoy it. Thus, enjoyment emerged as a significant, but not mandatory element in the facilitation of the development of an exerciser identity.

Almost every participant expressed a sense of reward at seeing their performance in their chosen activity improve over time.

I must have gone four different Saturdays up that hill.... And each time it was a little farther, and a little more accomplishment. So that was the only thing that kept me going--I knew I was getting a little bit better and a little farther each time.

Improvement in performance seemed to be pursued, not just for the feelings of accomplishment and mastery it generated, but because participants sought to know what they were capable of.

I always challenge myself to do better, and it's just against me and not so much a competitive thing against other people. I want to better different aspects of my cycling. Now that I can see, "Yeah, you can do a double century".... It's totally awesome to me because I never thought I would ever, ever be able to do that, and I did it. Now I'm looking to see, "What's going to be my next challenge? What can I do now?" I feel happy when I'm running. I feel like I've got a goal.... I remember when we were training for the marathon, how happy I was with myself. I just felt like, "I am becoming, I am doing, I am accomplishing." There is a real satisfaction in that.

This testing of the limits of their abilities seemed to be a part of participants' bigger search to discover their identity and their potential; it proved rewarding as they discovered that they could change, and come closer to their ideal selves.

All of the study participants described experiencing at least one of these different types of exercise rewards; some described experiencing two or three types. These rewards seemed to make exercise self-reinforcing--the more participants exercised, the more rewards they experienced, which in turn made them exercise more so they could reap even more benefits. When exercise was seen as rewarding, it increased participants' commitment to it--it made them really_want to exercise even more. It could even be argued that participants were not so much committed to exercise, as they were committed to obtaining the rewards of exercise.

Many participants did report having certain negative feelings about exercise both before and after they became regular exercisers. From a physical standpoint, some described exercise as uncomfortable, physically taxing, or boring. Psychologically, some felt exercise required great discipline, engendered guilt when it was missed, and lowered self-esteem when goals were not met or performance was poor. Additional undesirable aspects included exercise-related injuries, safety concerns, the cost of certain activities, and the amount of time it required. Although some of these negative feelings never disappeared, even after regular exercise was successfully adopted, participants currently felt that the negative aspects of exercise were balanced out by the positive aspects. Because the mental set of commitment was maintained, movement through the process of developing an exercise identity did not halt.

All the participants, at the time they were interviewed, had evaluated exercise positively enough to have engaged in it on a regular basis for at least a year. However, those with a history of relapse from exercise spoke of how previous negative evaluations had contributed to those relapses. Thus, the Evaluation period appeared to be the turning point in their exercise histories: positive evaluations of exercise increased commitment to exercise, and led to continued exercise involvement, while negative evaluations decreased commitment, and led to exercise drop-out.

Confirmation. After having judged exercise to be valuable and, therefore, continuing to engage in it, participants began to notice several interesting changes in their perspectives on exercise that confirmed their positive evaluations of it. First of all, they began to miss it if they did not do it. Physically and psychologically, they noticed the difference: "If I don't exercise, I feel sluggish the rest of the day. Kind of headachy, no energy"; "I really feel out of sorts, out of joint, totally not with it on days that I'm not able to exercise--to miss it feels abnormal both mentally and physically."

Participants also described growing feelings of empowerment and control associated with their involvement with exercise. One 44-year-old man made the following observation:

When I'm able to keep my weight down, of course I always feel better about myself.... It's almost like it gives me a sense of power over these things--some control--because I'm able to overcome this by the action I take to do the exercise that I do. I think it builds esteem. I think it builds confidence. It gives me an edge.... My thoughts about myself--my ability to fulfill a commitment to myself--have changed.

A 56-year-old woman commented:

I think the exercise and the diet change really made me more of an independent person, so I'm stronger.... I'm not willing to compromise myself into anything that I don't think is the best. A few years ago I wouldn't have done that. I would have settled for it because I would have said, "This is what you deserve". It's a whole life change.

Similarly, a 48-year-old man explained:

When you set yourself a few goals, and then you reach them, it seems like you're hooked. Once you've attained that goal, it's like, "I did that. I can do anything."

Motivating themselves to get out and exercise was no longer a problem for most participants at this point. Part of this may have been related to the positive feelings of empowerment and increased self-esteem discussed above. As one participant stated, "I started getting better than other cyclists.... I've succeeded at something. Now it's not a problem for me to motivate myself." In addition, most participants' motivation to exercise had, by this time, broadened beyond their initial reasons; many could no longer give a single reason why they continued to exercise, because they had discovered so many good things about it.

Participants described exploring their personal physical potential and coming to terms with their limitations during this time.

When I first started riding, I was going to ride long distances and be real fast. Well, that idea's changed! I have come to the realization that Lance Armstrong has no worries.... We accepted the fact that we do have some limitations, and enjoyed it more.

You start out by thinking, "I'm going to just get out there and run marathons!" But reality sets in, and you realize that in order to stay at something, you need to be more moderate about it.

Now more knowledgeable about their physical and psychological capabilities,

participants felt confirmed in their potential to be successful exercisers, and to change themselves and their lives. Concerns regarding possible relapse had diminished by this time, but had not always completely faded. Participants explained that ups and downs in their exercise life still occurred at times, but that the positives outweighed the negatives, confirming their decision to continue exercising as a wise one.

While participants had, up to this point, experienced change in their exercise behaviors and attitudes, their identities had not yet changed to match them. The Confirmation period appeared to be a span of time during which participants went through the motions of exercise, with growing convictions in regards to their abilities, but without really conceiving of themselves as "exercisers" yet. The point in this process at which the change in identity occurred has been designated as the Identification period.

Identification. The length of time that participants had exercised regularly before they developed an identity as a regular exerciser ranged from "almost immediately" to 10 years, although most participants cited a time somewhere between 6 months to 3 years. Part of the reason for such wide variation in timing may have been related to differences in participants' definitions of a "regular exerciser", and differences in their own physical identities up until that time.

Some participants defined a "regular exerciser" in strictly literal terms: In my definition, a regular exerciser is someone who has some kind of a program or plan, not just intermittent, when the spirit moves.... I think if you'd asked me "Are you a regular exerciser?" the first year I started jogging, I would have said, "Yes", because it was regular.

In these individuals, an exerciser identity developed as soon as they saw that they were exercising on a regular basis.

Other participants had distinctive pictures in their heads about what a "regular exerciser" was:

My idea of an exerciser is somebody who's at the gym four or five times a

week, or runs marathons.... I never thought of myself as a "regular" exerciser. I'm just a guy who likes to go cycling. It never really occurred to me that it was regular, or anything special.

When you look fit physically, I think that's regular exercise.... Even if people exercise three to five times a week, if their body is not showing the benefits of exercise, I don't consider them a regular exerciser. So for me, I didn't consider myself until I started running regularly and I had lost about 10 pounds, and I looked more fit.

Before I did exercise, I used to think that those people [who did exercise] had natural ability and that I didn't. I don't think I ever realized how much they worked to get there.

Those with these kinds of specific ideas usually took longer to develop an exerciser identity. They either had to wait until they fit their personal mental picture of an exerciser, or something had to happen to bring that picture more in line with what their own exercise experience was.

Finally, those who had previously held negative conceptions about their physical abilities had to overcome those images before they could fully adopt an exerciser identity:

I never got to play sports or anything--people look at you and say, "You can't do it", and you believe it. It takes a long time to get over that. That's maybe what stops a lot of people, because they have all that baggage from their whole lives. Not being good at sports, not being someone who likes to exercise--when you have all those years of who you think you are kind of weighing you down.... But you don't have to be athletic, or you don't have to be a certain kind of person that you always thought of yourself as being. It's just something that you do--you put on your shoes and go out the door.

While some participants appeared to develop an exerciser identity through mental

processes independent of outside feedback, others only seemed to become aware of their status as a regular exerciser as a result of validation from others. A 48-year-old man, who estimated that he had been exercising for about one year before he began to think of himself as a regular exerciser, made this comment:

It was probably not until the people that I worked with could see a difference in my attitude, and even just the fact that I looked better than I did a year ago, and they would say, "What's going on?" Then that's when I realized, "Gee, I do exercise three or four times a week, and I do stick with it."

Interestingly, two of the participants appeared to have made the transition from Confirmation to Identification as a result of validation received during this study.

Once the exerciser identity had been established, and especially after it had been validated by others, that seemed to further promote exercise participation, which in turn strengthened exercise identity in a mutually reinforcing way. Exercise had become a habit--a part of who these people were. Doing it now seemed "normal", although they acknowledged that it was not normal for most people. Many participants spoke of changes in their perspectives of exercise, and of meanings redefined: muscle soreness and sweating were now regarded as positive things, and individuals sought to attain "a good tired" feeling.

All the participants in this study had successfully developed this kind of exerciser identity. In addition, some continued on into the Identity Expansion phase. Identity Expansion

There were four basic attributes which characterized those participants in the Identity Expansion phase. First, they were always trying to improve at their chosen activity, looking for new challenges, and aiming towards higher goals. Participants discussed their plans to increase the frequency, duration, and/or intensity of their exercise, or to work towards "milestone" achievements such as triathlons or "double century"

bicycling events. This desire for improvement may provide a partial explanation for the second attribute of this phase--an increasing involvement in the "culture" of their chosen sport. Participants reported engaging in such activities as reading books and magazines about their sport, investing in equipment and clothing, joining clubs to network with others involved in the sport, and learning the "lingo" of the sport.

The third attribute of the Identity Expansion phase involved changing other lifestyle habits--such as diet, sleeping habits, work/study habits, or smoking--to improve exercise participation and performance. One man described it this way: "Exercise reworks all areas of your life.... Everything becomes a part of it." A female participant referred to this as "the ripple effect", and speculated that the increased sense of control resulting from becoming a successful exerciser prompted decisions to change other undesirable habits as well: "I was able to change this. Now that I know I can be in control of me, I'm going to change other things, too!" Similarly, another man commented that after he became involved with exercise, "things seemed more easily attainable, for some reason."

Finally, participants in this phase began trying to share their exercise experience with others, serving as role models, recruiters, or mentors. It was as if they had benefitted so much from exercise, that they wanted others to be able to experience it as well: "They become almost evangelical. They've got their family doing it, and their friends are doing it!"

In this phase, then, expansion occurred in participants' exercise identities in several ways: their exercise goals escalated, their involvement in the "culture" of their chosen activity increased, change extended into other lifestyle habits besides exercise, and exercise was shared with others rather than participated in individually. The exercise identity appeared to assume more importance to the overall self-concept.

It must be remembered, however, that Identity Expansion was not a mandatory part of the process of developing an exerciser identity. While approximately half of the participants in this study did exhibit these attributes, those that did not were also

successful regular exercisers. There is a possibility that, given enough time, all the participants might move into Identity Expansion, but that cannot be assumed from the data collected during this study.

As noted previously, the amount of time required to progress through the phases from Identity Appraisal to Identity Emergence/Reorganization, and possibly to Identity Expansion, varied widely from individual to individual. There appeared to be no set timetable. In fact, the phases did not even appear to be mutually exclusive; some degree of overlap was seen to exist, and it was not always possible to pinpoint exactly when movement from one phase to another occurred. Such individual variations might be explained, to some extent, by the differing backgrounds and pre-existing identities participants brought with them as they began their journey from nonexerciser to exerciser. Factors which influenced these pre-existing identities will be discussed in the next section.

Context and Conditions for the Development of an Exerciser Identity

While the basic process through which they developed an exerciser identity was similar for all participants, there remained unique aspects to each individual's "story" and experience. The amount of time required to move through the process, and the ease or difficulty of that movement appeared to be influenced by differences in the background, resources, and life experiences of each participant. Specifically, there were two contextual factors and five conditions which affected how the process of developing an exerciser identity was experienced by the individual. The contextual factors, which were the broader, more general elements, included: (a) socio-cultural influences, and (b) the physical environment. The conditions, which were more specific to the individual participants, included: (a) socioeconomic considerations, (b) health/physical status, (c) knowledge base, (d) life stage, and (e) past experiences. While none of these factors prevented or ensured movement through the process, they did have a significant impact on how the experience was perceived.

Contextual Factors

Socio-cultural influences. The quality of an individual's experience with exercise seemed to be colored by the cultural, religious, or generational views on exercise that surrounded him or her. Efforts to engage in exercise received approval or disapproval depending upon prevailing attitudes regarding exercise--whether or not being fit or slim was considered important, whether exercise was viewed as productive or simply a leisure activity, and whether exercise was congruent with gender and role expectations. A 44-year-old man explained:

My brothers, uncles, and stuff--they would look at my sports activities as a waste of time. How come I don't have a part-time job, how come I'm not working, how come I'm not doing this or doing that? So there was always that emphasis on work rather than play.

Another man, who is now 40 years old, observed:

I think I was interested in the cosmetic benefits, and that may have been one of the reasons why I thought at the time, "Well, this is vain", and it was easier to drop it when I felt like there was a conflict for time.... I decided it's better for me to read my Bible!

A 40-year-old woman recalled:

The thing that started me losing weight and exercising was a physician who worked with my father, who said, "How could she ever be a nurse and be that fat?"

Another woman, now 43 years old, made the following comment:

Girls didn't play sports when I was growing up. We were just supposed to look cute. If you didn't do that, then you pretty much had no reason to live!

The attitudes of family, friends, colleagues, and acquaintances also impacted the affective experience of the participants in this study. Many told of individuals who had

inspired, supported, and encouraged them in their attempts to exercise. Most also spoke of people who belittled them, or tried to sabotage their exercise efforts; respondents usually attributed these actions to jealousy or guilt. One participant referred to such people as "butterfly stompers'--you have that little dream and they want to make sure it doesn't happen.... They want to see you fall back down to their level." As is evident from these quotes, socio-cultural attitudes and social interaction at times supported, and at times impeded efforts to become a regular exerciser.

The physical environment. The physical environment seemed to affect the exercise experience mostly in terms of concerns over safety and health. One participant had been attacked while running; the psychological consequences of that experience had permanently affected her choice of exercise types and settings. Other participants spoke of having things thrown at them while exercising, or being confronted by "flashers". Heavy traffic, loose dogs and cats, bad weather, darkness, and smog were also of concern to many.

On the other hand, the chance to be outdoors was one of the things that many participants especially valued about exercise--the peace of the early mornings, the beauty of the sunrise and of nature, and the feeling of freedom. Thus, environmental conditions affected not only safety and physical comfort during exercise, but also enjoyment. <u>Conditions</u>

Socioeconomic considerations. Participants reported that availability of resources such as time, money, transportation, exercise facilities, and equipment definitely affected the ease or difficulty of their transition from nonexerciser to exerciser. Time was by far the most frequently cited consideration, influenced from a socioeconomic standpoint by such things as work hours and job-related travel A large amount of job-related physical activity was seen as a deterrent to exercise by some, but others felt that exercise was even more important in those situations, to keep them fit enough to avoid injury at work.

Health/physical_status. Dissatisfaction with general health status, physical

conditioning, and appearance were frequently part of the initial catalyst to begin an exercise program; these considerations continued to be a primary influence throughout the Experimentation period as well. Participants described having tried and abandoned many different forms of exercise because they were not compatible with chronic health problems, old or recurrent injuries, disabilities such as visual impairment, or their level of physical coordination. In addition, participants' perceptions of the degree of "athleticism" with which they were genetically endowed had a major impact on their personal expectations, and on their confidence in their ability to become exercisers.

Knowledge base. There were two types of knowledge that seemed to influence movement through the process of developing an exerciser identity: (a) theoretical knowledge, and (b) experiential knowledge. Theoretical knowledge was of a strictly cognitive nature--information about such things as the benefits of exercise, the relationship of a sedentary lifestyle to disease, and so forth. This type of knowledge played a key role in all of the participants' decisions to use exercise as the means of "changing themselves", but was usually not very useful in providing motivation: "You know you're supposed to be exercising, but 'I think I'll study', or 'I think I'll go here or go there."

Experiential knowledge, on the other hand, involved a more personal understanding of the benefits of exercise or the impact of lifestyle-related disease, from their own or a significant other's first-hand experience.

I got scared. I saw my dad die with heart trouble, and I saw my oldest brother with diabetes and the youngest died with lung cancer.... I could see which way I was going--and I thought, "You have a choice here." About seven years ago, my father-in-law had a stroke and a heart attack.... And I thought, "You're going to die and I'm going to be alive! I'm going to change my ways."

I hadn't run for almost 15 years. And just to start doing it again, I

remembered how much I had enjoyed just getting out and running.... There was a sort of fresh determination, and it held out long enough for the good feeling to take over.

This kind of experiential knowledge seemed to have both a cognitive and an affective impact, and proved much more motivational than theoretical knowledge alone.

Life_stage. The "life stage" of the participant affected movement through the process of developing an exerciser identity, not because any one stage was more conducive to becoming an exerciser, but because different life stages presented different types of obstacles that participants had to work around in order to become successful exercisers. Marital and family status, as well as school, work, and community involvement had a significant impact on the time, resources, and self-expectations of participants entering into the process. Because these kinds of life circumstances changed over time as participants moved through different life stages, those who had been exercising for a number of years spoke of how their exercise habits had altered over time in response to these changes; thus, the "personal fit" of an exercise program emerged as a continual, dynamic process in itself.

While several participants spoke of having had a "mid-life crisis" that precipitated their decision to exercise, the concerns regarding appearance, functional ability, health, and longevity that they expressed were shared by others in every age group. Thus, age did not seem to be as important a factor as life circumstances.

Past experience. Finally, the past experience of each participant emerged as an important contextual influence on the quality of his or her experience throughout the process of developing an exerciser identity. Positive or negative experiences with physical activity, weight management, or health--either as a child or as an adult--affected their perceptions of who they were, what they were capable of, and what their life would be like. A 40-year-old woman spoke of how early positive experiences with running influenced her:

I basically started even being interested in exercise just before I was in college.... I was good at running and found that I could do well, and so I became interested that way.

Another 40-year-old woman told of a very different kind of experience:

When I was young, my family were all expert ping-pong players, but I always served the orange juice! I was always the bystander, the "cheerer on" of other people.... My teachers felt sorry for me. I was one of those "non-ability" kinds of people--"Maybe she could do something else!"

Similarly, a 41-year-old male remarked:

People say they could never tell now that I was overweight as a child, but you always feel like you're overweight. I didn't play sports.... I thought I couldn't and I didn't try it--didn't try very hard.... I fell off so many routines of trying to do exercise, that I always thought I would fall off of it.

Such experiences quite likely also helped to shape participants' personalities, in terms of personal preferences, and ways of interacting with the world. According to a 48-year-old man:

I was the 240-pound ninth-grader that was only 5 feet, 2 inches tall. I was just massive. Naturally, I got left out of baseball and all the sports.... To this day I totally don't do anything that is team-oriented because of this. Back in the old days it was like, when I wanted to play, they wouldn't let me. Now I don't want anything to do with a team. It's just me against the mountain. It's not anything to do with anybody else because there are so many negative feelings about that.... To this day I'm a loner, and I believe it was because of that--being left out of the group.

Interestingly, positive past experiences did not seem to ensure an easy or quick transition from nonexerciser to exerciser; likewise, negative past experiences did not

always mandate a difficult or slow transition. The consequences of an individual's past history for the quality of his or her experience throughout the process of developing an exerciser identity could not be fully explained, except within the context of the other six factors discussed in this section.

The Process In Its Context

Although the process of developing an exerciser identity, the context in which it occurred, and the conditions which inhibited and facilitated it have been discussed separately here, in reality, these are not separate elements, but an integrated whole. This section will provide a brief overview of the relationship of these elements to one another.

The context and conditions helped to shape the pre-existing identities of the participants. Prior to entry into the process of developing an exerciser identity, the combined effect of these contextual factors and conditions had produced a mental set which lacked commitment to exercise. At some point, the participants underwent some type of critical experience that triggered self-examination and Identity Appraisal. This self-examination resulted in the emergence of a mental set of commitment to exercise, as a means of bringing participants' perceived identities into closer alignment with their ideals.

Their commitment to exercise enabled participants to persevere long enough for two things to happen. First of all, through experimentation, they discovered a program compatible enough with their backgrounds to provide a good personal fit. Secondly, they discovered, among the broad scope of exercise outcomes, benefits they perceived as greatly rewarding. These two elements--personal fit and the perception of rewards--were, in large part, determined by the participants' individual context/conditions. Personal fit and the perception of rewards also contributed to a positive evaluation of the exercise experience. As they continued to exercise, participants experienced confirmation of the wisdom of their decision to exercise, and of their ability to be successful as exercisers. Over time, an identity as a regular exerciser was established. The consequence of this whole process: continued regular exercise involvement, which in turn, altered the

conditions (such as health/physical status, knowledge base about exercise, or past experiences with exercise) in such a way that exercise became self-reinforcing. Thus, the process of developing an exerciser identity emerged as a dynamic phenomenon which must be studied as an integrated whole.

The exerciser identity, itself, also was discovered to be a dynamic phenomenon; over time, its strength and scope seemed to grow. This was especially true for those who entered into the Identity Expansion phase. Also, as the participants' individual context/conditions changed, the exercise program evolved in order to ensure continued personal fit.

When considered in this integrated manner, a clearer picture of the process through which a nonexerciser becomes an exerciser emerges. The theoretical and practical implications of the ideas presented here will be discussed in the final chapter.
Chapter Five - Discussion and Conclusions

The findings of this study, as described in Chapter Four, have profound implications for the study of exercise involvement. This chapter will attempt to: (a) briefly identify these implications; (b) discuss their significance in regards to the current literature on identity, and on exercise; and (c) discuss their significance for future nursing research and practice.

Implications of Study Findings for the Study of Exercise Involvement

Study findings indicate that the process through which nonexercisers become exercisers revolves around the development of an exerciser identity. Contextual factors and conditions were found to be important influences on both pre-existing identity, and movement through the process of identity change. The consequence of the development of an exerciser identity was continued exercise participation, which in turn, altered the contextual factors and conditions, making exercise participation self-reinforcing.

Such a conceptualization of the process of becoming an exerciser has several implications for the study of exercise involvement. Most importantly, it requires a significant shift in focus from behavior to identity--from what people do, to who they are and how they feel about themselves. Exercise is not just an activity people engage in; it becomes a part of who they are. Viewed from this perspective, the focus of study becomes a much more intense, personal, and individual issue. This shift in focus has the potential to improve understanding of the exercise experience. For example, if it is recognized that people who are trying to become regular exercisers are not just changing their behavior but are also changing their identities, it becomes easier to understand why it takes a considerable amount of time. It becomes easier to understand why information alone is usually not sufficient to induce the

adoption of regular exercise. It also explains why those who become exercisers so passionately feel that exercise has changed their lives and their outlooks--because it really has.

A shift in focus from exercise behavior to exercise identity would most likely necessitate a corresponding shift in the types of contextual factors usually examined in studies about exercisers. A research approach directed at further exploring factors related to the adoption of an exercise identity, instead of exercise behavior, might yield more consistent, and more enlightening, results. Indeed, the findings of this study also suggest a need to alter the method used to study the exercise context as well. Most studies, up to this time, have selected a limited number of contextual factors to measure, in hopes of identifying the "determinants" of exercise. This study demonstrated that there was not any one set of characteristics or situational factors that "determined" exercise for everyone; neither did there appear to be "barriers" that could not be overcome, if the commitment was great enough. Different dimensions were important in the experiences of different individuals; all dimensions proved meaningful for some people, but not all people. This observation suggests that the effect of context on each individual must be assessed in a more wholistic and personalized manner. Also, as Dzewaltowski (1994) counseled, more attention should be directed towards determining when, rather than if, these dimensions affect exercise participation.

The emergence of the process of developing an exerciser identity as a phenomenon which occurs, and changes, over time also has implications for future research designs. Efforts need to be made to better capture the dynamic nature of the process, as well as the reciprocal and interactive effects of exercise contexts, behaviors, and identity. It could very well be argued that many of the thoughts, feelings, and situations described by the participants served as both predisposing conditions and consequences of exercise participation. This confirms that future research must move towards a more dynamic approach, if an accurate vision of the phenomenon is to be obtained.

On a more general level, study findings suggest a strong, reciprocal link between an individual's context/conditions, behavior, and identity. Change in any one of these areas results in change in the other two areas as well. Such a conceptualization has implications for understanding identity or behavior change of any kind, and should be further explored.

Potential Contributions from the Identity Literature

The shift in focus from exercise behavior to exercise identity, discussed above, suggests that the identity literature should be explored for concepts which might further the understanding of exercise participation. The body of literature on the concept of identity is extensive, as there is much overlap between research and theory on identity, roles, self-concept, and self-esteem. A brief overview of the differences between these related concepts might prove helpful in understanding their potential contributions to the study of exercise participation.

In general, theorists use the terms "self" and "self-concept" to refer to all aspects of individuals' thoughts and feelings about who they are and what they are like (Epstein, 1973), whereas "identity" and "self-schema" refer to individuals' ideas and feelings about themselves in relation to a specific role, situation, or personal characteristic (Burke, 1991; Stein, 1995). Most theorists define "self-esteem" as the evaluative aspect of the selfconcept--how people feel about what they perceive themselves to be, either as a whole, or in relation to one of their many identities (Bandura, 1986; Coopersmith, 1967; Gergen, 1971). All of these concepts seem to have the potential to improve understanding of the process of developing an exerciser identity, as revealed in this study. This section will attempt to: (a) briefly review the identity-related concepts that might help explain the relationship between self/identity and behavior, in general; and (b) review the current status of theory and research on self/identity and exercise behavior, specifically. The Relationship Between Self/Identity and Behavior

The motives of the self. Self theorists hypothesize that all human behavior stems from the three primary motives of the self: (a) the self-knowledge motive--to preserve a

consistent, stable, predictable sense of self; (b) the self-esteem motive--to maintain or increase a sense of excellence in all areas; and (c) the sense pleasure motive--to maintain or increase the level of sensual gratification, and avoid pain (Aronson, 1992; Banaji & Prentice, 1994; Campbell, 1984). Most self theorists believe that, should any of these three motives conflict, the self-esteem motive would take precedence over the other two (Campbell, 1984). From the perspectives of the self theorists, then, behavior is motivated, either consciously or unconsciously, by the desire to maintain or increase self-esteem.

This conception of the relationship between behavior and the self may help provide a better understanding of the process through which participants in this study became exercisers. The self-analysis which took place during the Identity Appraisal phase induced a drop in participants' self-esteem levels. Since the primary motive of the self is to maintain or increase self-esteem, participants took steps to reverse this decline: they began an exercise program in hopes that it would change the things they did not like about themselves, and thereby increase self-esteem. Exercise was seen as a high priority, because, according to self theorists, the need for self-esteem is a high priority. The exercise experience was then evaluated based upon its degree of success in boosting selfesteem.

The concept of self motives might also help explain participants' positive and negative reactions to the exercise experience, and the effects of these reactions on continued exercise participation. Those activities that resulted in an increase in selfesteem were deemed rewarding or enjoyable, and were continued; those that lowered individuals' self-esteem, were not evaluated positively, and thus were abandoned. Likewise, those activities that seemed to increase sense pleasure were continued, while those that were perceived as uncomfortable or boring were more likely to be dropped. However, in accordance with the hypothesis that the self-esteem motive takes precedence over the sense pleasure motive, many participants chose to continue exercising despite its

discomforts, because it successfully increased their self-esteem.

Most self-theorists believe that those identities which are most successful at increasing self-esteem become more "central", or more important, to the individual's overall self-concept (Campbell, 1984). This might help explain the expansion and increased importance of the exerciser identity that occurred during the Identity Expansion phase; as exercise began to raise self-esteem levels, the exerciser identity became more valued, and was allowed to develop more fully. It is also conceivable that personal fit was determined by the compatibility of exercise with the participants' other roles and identities.

The reciprocal relationship between identity, behavior, and context. As just noted, most behavior is believed to be determined by identities and self-concept, through the action of the self motives. The next question, then, becomes "What determines an individual's identity/self-concept?" Current theory holds that identity/self-concept arises from at least three different sources: (a) reflected appraisals, defined as the ideas people have about what other people think of them; (b) social comparisons, which involve the use of others as benchmarks for self-evaluation; and (c) comparison of perceived identities with personal values or ideals, which are thought to have their basis in societal standards (Campbell, 1984; Dickstein, 1977; Shavelson, Hubner, & Stanton, 1976; Schwalbe & Staples, 1991; Wylie, 1961). Thus, it can be inferred that identity/self-concept is essentially determined by social context and experiences (Burke & Reitzes, 1991; Gecas, 1982). Indeed, this belief is one of the central tenets of symbolic interactionism.

Symbolic interactionism, upon which the grounded theory method is based, holds that the self is a product of social interaction (Blumer, 1966; Mead, 1934). Individuals develop ideas about themselves as they interpret cues they receive from others (Bowers, 1988), and measure themselves against the values that society has communicated to them. Behavior is directed towards bringing feedback about the self in line with qualities that are valued by society. Thus, symbolic interactionists believe that self-concept, and

consequently behavior, are socially controlled (Blumer, 1966).

If identity, as well as behavior, is determined by social context, then changes in that context--such as the experiencing of major life transitions--can result in changes in identity, which in turn, trigger changes in behavior (Banaji & Prentice, 1994). One hypothesis as to why major life transitions and events have such an impact on identities is based on the close relationship between roles and identities. Roles help to determine identities. Life events and transitions usually involve changes in roles. Therefore, life events and transitions engender changes in identity (George, 1993; Kiecolt, 1994).

In addition to being affected by contextual factors, identity is thought to be impacted, in a reciprocal manner, by behavior. Once a behavior associated with an identity has been performed, it will, in turn, strengthen and validate that identity, so that the identity and the behavior become mutually reinforcing (Anderson & Cychosz, 1995). For example, the more one exercises, the more one thinks of oneself as an exerciser; in turn, the more one thinks of oneself as an exerciser, the more one will exercise. In addition, the behavior may effect changes in the situational context which then make the context more conducive to maintenance of the behavior. Thus, the relationship between identity, behavior, and context is a truly reciprocal one, with each factor influencing, and being influenced by, the others (See Figure 2). It is a dynamic process, not a static phenomenon.

Several studies were found that support this reciprocal relationship between identity, behavior, and context. Olshanksy (1985) studied couples who had taken on the identity of self as infertile. She found that the condition of being unable to conceive led to informal and formal changes in couples' identities, and triggered the adoption of certain behaviors to free themselves from this undesired identity. In this study, the behavior change was the result of efforts to avoid a change in identity. Willms' (1991) study of individuals who had successfully quit smoking documented how significant life events precipitated changes in smoking behavior, resulting in changed identities and perceptions of a "new self". In this study, the behavior change was the cause of the identity change,

The results of these studies, as well as the current study, mirror the theory found in the identity literature regarding the reciprocal relationship between context, identity, and behavior. This theory helps explain the impact of the contextual or background factors on the pre-existing identities of participants prior to their entry into the process of becoming an exerciser. It also explains why initiation of the exerciser identity development process was frequently precipitated by some kind of life event or transition. Finally, it supports the observation that changes in exercise behavior, identity, and context/conditions were mutually-reinforcing, with all three elements influencing, and being influenced by, each of the others.

Status of Theory and Research on Identity and Exercise Behavior

Given that identity theory seems so well-suited to explanations of exercise behavior, the literature on the relationship between identity and exercise is surprisingly sparse. A literature search revealed only two relevant concepts, "exercise identity" and "exercise self-schema", neither of which have been substantially developed.

Believing that role-identities function to motivate behaviors that are consistent with those identities, Anderson & Cychosz (1994) developed an instrument to measure the importance of an individual's exercise identity to overall self-concept. Selected items from this instrument were then used in a study, involving 511 medical center employees, which examined the relationship between exercise identity and exercise participation (Anderson & Cychosz, 1995). Regression analysis indicated that exercise identity was significantly associated with exercise participation, as measured by type of exercise, and minutes of exercise per week. They concluded that a mutually reinforcing relationship exists between exercise identity and exercise behavior. No attempt was made to formally define the term "exercise identity", or to determine the process through which it develops.

Kendzierski (1994) proposed the idea of exercise self-schemas--underlying beliefs about oneself in relation to exercise, based on past experience--as a determinant of exercise behavior. Individuals who considered involvement with exercise to be extremely selfdescriptive, as well as extremely important to their self-image, were categorized as "exerciser schematics". Kendzierski conducted a series of studies, using undergraduate students, which suggested that individuals with exerciser schemas exercised more frequently, were more likely to have exercised in the past, and were more committed to exercising in the future than those with nonexerciser schemas, or those who were aschematic regarding exercise (Kendzierski, 1988; Kendzierski, 1990). These studies confirmed the link between an exercise self-schema and exercise behavior, but shed no light on the nature of the link, how the exercise self-schema develops, or how exercise involvement attained such importance in the perceptions of exerciser schematics. Analysis

This brief review of the identity literature demonstrated its theoretical compatibility with the findings which emerged from the present study. The interactive effects between identity, contextual factors, behavior, life transition, self-esteem, and motivation that were noted throughout this study were found to have been previously articulated in the identity literature. However, although identity theory had been examined in relation to behavior change in general, its application to the study of exercise behavior, specifically, has not been pursued to its full potential. The findings of this study suggest that a deeper exploration of the role of identity in exercise behavior is warranted.

Analysis of Current Exercise Research and Theory in Relation to Study Findings

A review of the literature on the determinants of exercise behavior was presented in Chapter Two of this paper. This section will be limited to a discussion of: (a) what the findings of this study indicated in regard to these various determinants, and (b) how study findings compare to selected theories currently used to explain exercise behavior. Findings Regarding Exercise Determinants

Demographic. The process of developing an exerciser identity appeared to be the same, regardless of age or gender. Although participants of different ages and genders may have had different types of obstacles to work around, the process itself remained constant. The nature of the study, however, did not allow comment on differences in actual participation rates between men and women, and between different age groups in the general population. In addition, the study sample was not diverse enough to permit any conclusions about the potential effects of educational level, socioeconomic status, or ethnicity on exercise participation.

Cognitive. Knowledge about exercise proved necessary to participants' initial decision to use exercise as a means of achieving their goals, but was not sufficient, by itself, to motivate continued participation. Subjective norms were mentioned by only two participants, both of whom said that the only outcome generated by these perceived expectations of others was guilt feelings, not exercise involvement. Perceived susceptibility seemed to play a role in the experiences of several participants, triggered by such factors as being diagnosed with a health problem, seeing a significant other develop a health problem, or having a 40th birthday. Such feelings of vulnerability, however, were not consistently found throughout the study sample, implying that the usefulness of this variable must be determined on an individual basis.

The intention to exercise did not seem enough to induce exercise, unless it was also accompanied by the intense desire--the wanting to exercise--that provided the motivation. The variable of perceived importance of exercise, or value for exercise, captures the desire to exercise slightly better, although most participants displayed more of a value for the results and rewards of exercise, than for exercise itself. A value for health motivated only a few participants. Most exercised to improve their appearance rather than to improve their health, although improved health was viewed as a welcomed side benefit.

The concept of "rewards", rather than "perceived benefits", emerged as important in this study; the difference between the two terms is subtle, but important. Many participants emphasized that, even though "I knew I should exercise, because it's good for me", they could not make themselves do it until they had found something in the exercise experience that they considered rewarding. In addition, several commented that simply knowing about exercise benefits was not nearly as motivating as actually having experienced them. The term "reward" seems better able to capture both the motivational and the experiential elements suggested by these narratives, while "perceived benefit" implies a more cognitive, knowledge-based phenomenon. In addition to changing how the variable is defined, current research designs--which have been measuring "perceived benefits" only at the beginning of a study before exercise has even begun--must also be changed if the impact of this variable on exercise behavior is to be adequately assessed. Perhaps then, more consistent research results could be obtained.

Perceived barriers did not receive the same support in this study as it has in the literature. The perception of barriers did not determine whether participants exercised or not; in fact, all participants reported perceiving barriers to exercise. It was their attitudes towards those barriers that seemed important. These people wanted to exercise badly enough that they found ways to work around perceived barriers. The important factor, again, seemed to be the desire to exercise, not the perception of barriers.

Self-efficacy was confirmed as an important influence on exercise behavior. The belief that they could succeed in making changes contributed a great deal to participants' commitment to exercise; as they continued to exercise, self-efficacy was increased, and the two became mutually reinforcing. This finding suggests that self-efficacy must be measured over time in order to obtain a complete understanding of its relationship to exercise participation. Although established as an important variable, however, self-efficacy without the desire to exercise was not enough; a few participants spoke of having

abandoned exercise programs in the past, even though they felt capable of continuing, simply because they did not like it and so did not want to continue. Likewise, the desire to exercise, without the belief that one could be successful at it, was not sufficient to induce regular exercise. Both elements were necessary for successful movement through the process.

Affective. The importance of attitudes, or subjective feelings about exercise, was solidly supported by the necessity for participants to "really want to exercise" in order to be successful. Attitude seemed important not only in the initial decision to exercise, but also in continued exercise involvement, as evidenced by its influence on willingness to work around perceived barriers. Participants spoke of both positive and negative feelings about exercise. Positive feelings were generated mostly as a result of the perceptions of rewards from exercise. Negative feelings were most frequent during the Experimentation period, before personal fit was achieved.

Enjoyment of exercise emerged as an important, although not mandatory condition having consequences for exercise behavior. It was confirmed to be a very subjective phenomenon, meaning different things to different people. Study findings offered a more in-depth picture of why exercise is perceived as enjoyable than is currently found in the literature.

The importance of self-esteem to the process of becoming an exerciser and developing an exerciser identity has already been discussed. In addition, an understanding of the process, as revealed in this study, may help explain the inconsistent research findings on the relationship between self-esteem and exercise reported in the literature. Most of the participants spoke of some kind of critical experience that had caused them to be dissatisfied with who they were--that decreased their self-esteem. This was usually the trigger that prompted them to begin exercising. However, it also seemed necessary that participants still have enough self-esteem or value for themselves left to enable them to feel justified in doing something "just for themselves". Given this type of "high-low"

self-esteem situation, and the fact that self-esteem levels generally increased as participants progressed through the process, it is understandable that quantitative measures of self-esteem, utilized in static research designs, have yielded confused findings.

Behavioral. Many, although far from all, participants mentioned that exercise became easier for them once it had become a habit. Habit did not, however, seem to be a determining factor in whether individuals exercised or not; it simply affected perceived difficulty levels. Past experiences and participation, either as children or adults, also appeared to affect the nature of participants' experiences as they moved through the process, but did not "determine" whether or not exercise was continued. Positive past experiences were not consistently associated with easy passage through the process; nor were negative past experiences consistently associated with exercise drop-out, or difficult passage through the process. It appeared, then, that neither of these behavioral variables could truly be considered "determinants" of exercise, in the way the term is used in the exercise literature.

Environmental. Both physical and social environmental factors also appeared to be contextual factors or conditions, rather than determinants of exercise participation. Participants all managed to work around unfavorable physical environments; however, it is possible that this might be a more important factor for individuals from a lower socioeconomic background than the individuals in this study. The social environment--which included both family and peers--was noted to have the potential to be both helpful and harmful to exercise efforts. Support from significant others was desired and appreciated, but not mandatory. Again, if participants "really wanted to exercise", they did it regardless of whether or not they received social support. The presence or absence of support, however, did alter the context and nature of the exercise experience.

The physical activity itself. Positive and negative reactions to various exercise types and situations were usually discovered during the Experimentation period. These

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reactions did not appear to determine continued exercise participation versus drop-out, but instead, served mainly to guide in the development of individualized exercise programs suited to each exerciser's personal preferences. Thus, the nature of the physical activity itself seemed to be important only in terms of determining personal fit.

Analysis. The findings from this study suggest that the behavioral, environmental, activity-related, and most likely also demographic variables found in the exercise literature are not "determinants" of exercise in the truest sense of the word. While they definitely do have an impact on the quality of the experience, they do not "determine" whether or not an individual will become an exerciser. Participants seemed to find ways to work around negative aspects of all of these types of variables, if it was a high enough priority for them. Therefore, study findings placed these aspects into the role of "contextual factors" or "conditions". This observation is not meant to imply that contextual factors or conditions are not important. Indeed, as the findings of this study indicated, a full understanding of the process of developing an exerciser identity cannot be obtained by studying selected variables, taken out of context. Using the terms "context" and "conditions" merely indicates that the influence of such dimensions may differ from individual to individual, and is not absolute.

Some of the cognitive and affective dimensions--especially those such as selfesteem and self-efficacy, which relate to thoughts and feelings about the self or a specific identity--seemed to more predictably affect exercise participation than did the other categories of dimensions. This seems logical, given the emphasis on identity that emerged during data analysis. However, this does not necessarily qualify these dimensions as "determinants" either, since they were noted to have reciprocal interactions with exercise behavior and identity, and so could be considered both predisposing conditions and consequences of exercise. These dimensions should be further explored to learn more about their role in the development of the exerciser identity.

The "bottom line" factor seemed to be the concept of "really wanting to exercise"-

-really wanting to change themselves or some aspect of their lives. Whether this would be considered part of "attitude towards exercise"--usually seen as an affective variable, or "value for exercise"--which is usually considered a cognitive variable, is not clear. Probably the concept contains elements of both, and more, and thus should not be made to conform to either of the previous categories. Regardless of how it is conceptualized, this idea of "really wanting to exercise" emerged as the major impetus for movement through the process of becoming an exerciser and developing an exerciser identity. All other dimensions that received any kind of support in this study seemed to relate back to this one phenomenon. Knowledge about exercise, the perception of rewards, self-efficacy for exercise, perceived susceptibility, self-esteem issues--all these appeared to impact exercise behavior through their effect on how much participants "wanted to exercise" and change themselves. It is recommended that attempts be made to validate the importance of this concept through further research.

Comparison of Findings to Selected Theories Frequently Applied to Exercise Behavior

The research questions posed in this study were framed around the perception of exercise participation as a process which involves movement through various stages. This perception was most strongly supported by Prochaska and DiClemente's Transtheoretical Model--mentioned briefly in Chapter 2--which has recently been applied to the explanation of exercise behavior. During the course of data analysis, concurrent literature review identified another theory--the Theory of Personal Investment, proposed by Maehr and Braskamp in 1986--that incorporated many of the concepts that were emerging from the analysis. This section will present a evaluation of these two theories, in light of the findings of this study.

Transtheoretical Model. As noted previously, the Transtheoretical Model maintains that behavior change is not accomplished by a single act or decision, but by movement through a series of stages: Precontemplation, Contemplation, Preparation, Action, and Maintenance. Relapsing and recycling through the stages is common, with some individuals never arriving at the Maintenance stage (Prochaska, DiClemente, & Norcross, 1992). The theory also identifies a list 10 processes of change, which are described as activities people use to assist in the modification of their behavior (Gorely & Gordon, 1995). These strategies were gleaned from many different psychotherapeutic systems, thus explaining the term "transtheoretical" in the name of the model (Prochaska et al., 1992). More recently, the concepts of decisional balance (evaluation of the pros and cons of behavior change) and self-efficacy have been incorporated into the theory (Prochaska & Marcus, 1994).

The stages of change, as described in the Transtheoretical Model, identify various points in the process of behavior change, but do not offer much detail about what is involved in the process, or what determines movement between those points. Perhaps this is necessary to enable the model to be applied to many different kinds of behavior changes--the cessation of negative behaviors as well as adoption of positive ones. Because this study focused on changes in exercise behavior only, it was able to explore the process of change in more detail, offering a better understanding of what occurs during each phase of the process of becoming an exerciser, and how movement between the phases is facilitated or inhibited.

The 10 processes of change identified in the Transtheoretical model (consciousness raising, self-reevaluation, self-liberation, counterconditioning, stimulus control, reinforcement management, helping relationships, dramatic relief, environmental reevaluation, and social liberation) were not intended to further describe the process of behavior change, but were thought of more as strategies which individuals used to assist them in making the change. The inclusion of these 10 strategies in the model tends to emphasize a behavioral modification perspective, whereas the process of change described in this study suggests a more experiential, motivational perspective. People became exercisers, not through behavioral modification techniques, but through changing their ideas about themselves; this observation has important implications for future practice. It can be argued that the concept of "rewards" from exercise has a behavior modification slant to it; however, behavior modification tends to focus on the use of extrinsic rewards, while the rewards of exercise described in this study were all inherent in the activity itself. The only one of the 10 processes which received support in this study was the more experiential process of "self-reevaluation", defined in the model as "assessing how one feels and thinks about oneself with respect to a problem" (Prochaska et al., 1992, p. 1108). This process of self-reevaluation seems similar to the self-analysis which occurred during the Identity Appraisal phase. Unfortunately, the Transtheoretical Model does not follow-up on this concept, and so the roles of identity and self-esteem--which were key elements of this study--are not acknowledged in this model.

The importance of the concepts of decisional balance and self-efficacy, recently added to the Transtheoretical Model, received solid support from this study. However, the phenomenon of "really wanting to exercise", is not specifically addressed. Perhaps if a more affective element were to be added to the relatively cognitive concept of decisional balance, the model's explanatory power could be improved.

Theory of Personal Investment. The Theory of Personal Investment, proposed by Maehr and Braskamp in 1986, was examined closely during this study's ongoing literature review because it was the only prominent health behavior model that incorporated a concept of self somewhat similar to that uncovered in this study. Briefly, the model proposes that behavior is determined by the personal meaning that a situation holds for an individual. Personal meaning, in turn, is determined by: (a) sense of self--thoughts and feelings about one's competence, personal control, goal-directedness, and identification with certain groups and individuals; (b) perceived options--alternatives and opportunities perceived to be available in the situation; and (c) personal incentives--motivational considerations such as task mastery, ego concerns, social affiliation, or extrinsic rewards (Duda & Tappe, 1988; Gill & Overdorf, 1994).

The importance of all three of these elements, as well as the focus on the

subjective nature of individuals' experiences, was corroborated by this study. The theory's concept of sense of self, however, seems more limited in its definition than the concept of self/identity generated during this study, focusing mainly on self-efficacy, personal control, and associative aspects of self. In addition, the model seems mainly concerned with how the existing sense of self directs one's actions, hypothesizing that individuals will choose to behave in ways consistent with their sense of self. It does not give much consideration to how individuals effect behavior change. It is not a process model; it has been used primarily to predict behavior, rather than to understand behavior change. Likewise, it does not address changes in sense of self or identity.

The Theory of Personal Investment appears to be relatively cognitive--a decisional balance model that incorporates some of the more cognitive elements of self theory. Like the Transtheoretical Model, it fails to capture the phenomenon of "really wanting to exercise", which was demonstrated to be so critical in this study. More attention to the process-oriented and affective aspects of identity and health behavior could enhance this model considerably.

Implications for Nursing

Nursing Research

While the findings of this study provided some new insights into the process through which a nonexerciser becomes an exerciser, they also generated some new questions. It is hoped that these questions will stimulate research to validate the current findings, and extend the developing theory.

In addition to confirming the elements in the process and the conditions that affect movement through it, future research should address the following questions:

- Does the process remain the same for individuals with different socioeconomic, educational, ethnic, and geographic backgrounds from the study participants?
- 2. Is the process different in those who are attempting to become exercisers

because they were told to do so by health care providers? If not, how can self-analysis, which for study participants was the spontaneous result of some "critical experience", best be facilitated in clients? Is the "critical experience" mandatory, or can self-analysis be prompted in some other way?

- 3. What is the most useful way to assess the existing identities, self-concept, and self-esteem of clients? What is the most valid way to measure change in these dimensions?
- 4. Is it mandatory to create a mental set of commitment <u>before</u> exercise is begun, or can it be left to develop after exercise has already been initiated?
- 5. How can an exerciser identity best be facilitated?
- 6. What kinds of individuals continue on to the Identity Expansion phase, and are those individuals less likely to relapse?

Exploration of the applicability of study findings to other populations would best be accomplished using a qualitative method similar to that used in this study. Then, once an acceptable means of assessing self-concept/identity and self-esteem is established, it might be useful to conduct a prospective, triangulated study of nonexercisers who are attempting to become exercisers, to further validate and expand the theory. After the theory is better developed, the effectiveness of interventions suggested by study findings in the facilitation of long-term changes in exercise participation should be explored. Nursing Practice

The purpose of this study was to explore the process through which nonexercisers become exercisers, in order to enable nurses to more successfully assist clients in incorporating exercise into their lifestyles. Although study findings still require further research validation, a preliminary exploration of their implications for nursing practice may be attempted.

First of all, study findings suggest that the goal of nursing intervention with clients

who are trying to initiate exercise programs should be the development of an exerciser identity. Because this development will be affected by clients' previous identities, careful assessment of their backgrounds is required to understand each one's unique perspective. This assessment should include an evaluation of the seven contextual factors and conditions identified in this study, as well as of clients' existing identities/self-concept, goals, and priorities. Such information will provide the basis for individualized exercise prescriptions and strategies that can be modified on a continuing basis, according to client feedback and needs.

Strategies for promoting the development of an exerciser identity should be directed towards the facilitation of: (a) the development of a mental set of commitment to exercise, (b) the achievement of personal fit, (c) persistence and patience until rewards are experienced, (d) positive evaluations of the exercise experience, and (e) the strengthening and support of the exerciser identity once it starts to develop.

On a societal level, nurses should consider becoming more involved in public health campaigns to increase the general public's level of knowledge about, and value for exercise. Cultural, religious, job-related, and other types of community groups and organizations must continue to be recruited to serve as support systems for potential exercisers. Involvement in social/political activism might be necessary to ensure that all individuals have access to a safe physical environment in which to exercise, either indoors at a community facility, or outdoors. In these ways, nurses may hope to begin altering the balance of contextual factors and conditions in a direction more favorable to exercise. Finally, as the ideas presented in this study are validated and developed through further research, these approaches should be modified and expanded until appropriate and effective intervention can be provided on both the individual and collective levels.

Conclusions

The findings of this study indicated that the process by which nonexercisers become exercisers is through the development of an exerciser identity. Concurrent

analysis of the literature on both exercise behavior and identity/self-concept suggested that future research efforts continue to pursue the link between identity and exercise behavior, using dynamic, process- and context-oriented methods. The ideas presented in this study, as well as their implications for nursing practice, should be validated, refined, and extended through further research.

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Figure 1. Schematic representation of the process of developing an exerciser identity .



Figure 2. The reciprocal relationship between identity, behavior, and context.

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Appendix A

Participant Recruitment Advertisement

ATTENTION REGULAR EXERCISERS

Have you ever heard someone say, "I just can't make myself get out and exercise. How do you do it?" Actually, that's a very good question! Researchers have discovered a lot about why people drop-out from exercise, but not a lot about what keeps them at it.

So... how do you do it? If you are someone who has successfully made the transition from nonexerciser to exerciser, and would be willing to share your story with a club member who is doing research on exercise participation, please contact Keri Medina at 796-0691 (or E-mail her at kmedina@ccmail.llu.edu). Your story could help others like you discover the fun and benefits of physical activity!
Appendix B

Characteristic	Sample breakdown
Age	20s - 1
	30s - 6
	40s - 9
	50s - 4
	60s - 1
	70s - 1
Gender	Male - 13
	Female - 9
Ethnicity	Caucasian - 18
	Asian - 2
	Hispanic - 1
	Native American - 1
Family Status	Married - 10
	Divorced - 5
	Single - 6
	Separated - 1
	No children - 9
	Dependent children - 9
	Adult children - 5 (table continues)

Descriptive Data on Study Participants

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Characteristic	Sample breakdown	
Occupation	Nursing faculty - 4	
	Nursing student - 1	
	Nursing assistant (retired) - 1	
	Physician - 1	
	Respiratory therapist - 1	
	Physical therapy assistant - 1	
	Medical technologist - 1	
	Social worker - 1	
	Computer engineer/analyst - 3	
	Photographer - 1	
	Statistician - 1	
	Engineer (retired) - 1	
	Law enforcement - 2	
	Elevator repairman - 1	
	Maintenance/handyman - 2	
Chronic health problems	None - 17	
	Hypertension - 1	
	Back pain - 1	
	Emphysema - 1	
	Thyroid cancer - 1	
	Breast cancer - 1	

(table_continues)

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Characteristic	Sample breakdown	
Type of exercise (some participants		
engaged in more than one type)	Running - 6	
	Walking - 6	
	Cycling - 8	
	Aerobics - 3	
	Rowing machine - 1	
	Stairstepper - 2	
	Stationary bike - 2	
	Swimming - 2	
	Basketball - 1	
	Calisthenics - 3	
	Dance - 1	
	Kayaking - 1	
	Weight training - 9	
Frequency of exercise	1-2 days/week - 1	
	3 days/week - 3	
	4 days/week - 3	
	5 days/week - 6	
	6 days/week - 3	
	7 days/week - 6 (table continues)	

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Sample breakdown	
1-5 years - 9	
6-10 years - 7	
11-15 years - 4	
16-20 years - 2	
20s - 3	
30s - 13	
40s - 3	
50s - 2	
60s - 1	
Yes - 12	
No - 10	
Positive - 9	
Negative - 9	
Mixed - 4	

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Appendix D

Informed Consent To Participate In Study

This form provides verification of my informed consent to participate in the study, "The Journey from Nonexerciser to Exerciser: A Grounded Theory Study", being conducted by Keri Kuniyoshi Medina, RN, DNSc(c), a doctoral candidate at the Philip Y. Hahn School of Nursing, University of San Diego. I understand that the purpose of this study is to explore the process through which nonexercisers become exercisers, and the factors which affect movement through this process.

By consenting to be included in this study, I agree to:

1) Participate in a tape-recorded initial interview, lasting approximately 60-90 minutes, focused around my experience with exercise;

2) Review a transcript of the interview to check it for accuracy;

3) Participate in follow-up interviews, if it is deemed necessary (probably no more than one); and

4) Review a summary of the preliminary analysis, and provide feedback to confirm, clarify, or correct it.

Should there be any questions that I do not wish to answer, I may refuse. My total time involvement is estimated at approximately $2 \frac{1}{2} - 3 \frac{1}{2}$ hours.

I understand that the following steps will be taken to protect my privacy and confidentiality:

1) Audiotapes and transcriptions of interviews will be identified by number, so that my name will not appear on or in any of these materials;

2) Tapes, transcriptions, and computer disks containing interview data will be kept in a locked file drawer to which only the researcher has access;

3) I will be provided with a transcript of my interview which I may review and, if I so desire, mark out any information I wish to be excluded from the study; and

4) When findings are written up for publication, data will be presented in such a way that individuals are not recognizable.

I understand that I will derive no benefit from being in this study, aside from the possibility of increased self-awareness; however, the information and experiences I share may help other people who have goals similar to mine succeed in becoming exercisers. I have talked with the researcher about this study and have had my questions answered. I may contact her at (909)796-0691 if I have more questions at a later time. I understand that participation in this research is voluntary and that I have the right to refuse to participate or withdraw at any time without negative consequences. There is no agreement, written or verbal, beyond that expressed in this consent form.

I, the undersigned, understand the above explanations and on that basis, I give consent to my voluntary participation in this research.

Signature of Subject

Date

Location (e.g. San Diego, CA)

Signature of Principal Investigator

Date

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Appendix E

Interview Guide--Initial Form

- a. What kind/how much exercise do you engage in during a typical week?
- b. Tell me about the times in your life during which you would categorize yourself as a nonexerciser.
- c. Tell me about any past efforts you may have made at beginning an exercise program. What were your reasons? What positive and negative thoughts/feelings did you have about it? What do you think caused you to think/feel that way? What impact did this experience have on you?
- d. Did you ever start an exercise program and then "relapse"? If so, what were the circumstances surrounding this relapse?
- e. What are your current thoughts/feelings about exercise? What do you think has caused you to think/feel this way?
- f. How is your current experience with exercise different from your experiences in the past during which you did not exercise regularly? Why do you think you are able to exercise regularly now, as compared to before? (If a specific factor is mentioned, ask how/why this factor influence them in this way?)
- g. Were there any other significant changes in your life around the time you were going through the process (both nonexercising and exercising phases) of becoming an exerciser?
- h. How have your thoughts/feelings changed throughout this process of going from being a nonexerciser to a regular exerciser? What do you think has caused this change?
- i. How would you describe the ease/difficulty of this transition?
- j. How, if at all, have other people influenced your transition?
- k. Tell me about any positive and/or negative experiences you had with exercise as a child. What were the attitudes of your family/peers/teachers regarding exercise?
- 1. What do you think about just before/during/after you exercise?
- m. Would you say you enjoy exercising? If so, what do you enjoy about it/why do you enjoy it?
- n. Demographic data: age, gender, ethnic/cultural background, occupation (including amount/type of job-related physical activity), marital/family status, religion, and history of chronic health problems.

Interview Guide--Final Form

- a. How long have you been a regular exerciser? What kind/how much exercise do you do in during a typical week? What do you consider "regular" exercise?
- b. Tell me about the times in your life during which you think of yourself as a nonexerciser. Did you ever start an exercise program and then stop/quit? What were your reasons for starting? Why did you stop? How did this experience affect you?
- c. What are your current thoughts/feelings about exercise, both positive and negative? What do you think has caused you to think/feel this way? (If mention "feel better", ask what is meant, and why they think this is so)
- d. Why do you think you are able to exercise regularly now, as compared to before? What made you finally decide that exercise was a priority? Why did the barriers that stopped you before not stop you this time?
- e. Have your thoughts/feelings changed throughout this process of going from being a nonexerciser to a regular exerciser? In what way? What do you think has caused this change?
- f. Have you made progress towards your initial goals re: exercise? Have your goals changed?
- g. When did you first begin to notice any benefits from exercise? How did you keep yourself going until you noticed benefits?
- h. When did you first start to think of yourself as a regular exerciser? Have there been any "milestones" or turning points in your exercise experience? How likely do you think it is that you might stop exercising?
- i. Were there any other major changes or events in your life around the time you were going through the process of becoming an exerciser? (personal/professional/social life)
- j. How would you describe the ease/difficulty of this change?
- k. How, if at all, have other people influenced your change? (both specific people, and people in general)
- 1. Tell me about any positive and/or negative experiences you had with exercise as a child. What were the attitudes of your family/peers/teachers regarding exercise? (if had mostly negative experiences, ask what made them decide to try to exercise anyway?)
- m. What do you think about while you exercise? What about after you exercise?
- n. Would you say you enjoy exercising? If so, what do you enjoy about it/why do you enjoy it?
- o. What advice would you give to people who want to start exercising? How can we make exercise a priority for people?
- p. Many people say "no time"--how do you feel about that, and how do you fit it in?
- q. Anything about your exercise experience that we didn't address? Any other questions I should be asking?
- r. Demographic data: age, gender, ethnic/cultural background, occupation (and amount of physical activity involved), religion, marital/family status, chronic health problems?

Appendix F

Example of How Codes were Collapsed into Categories

Codes	Intermediate clustering	Final category
Getting results		
Meeting goals	Progress towards goals	
Weight loss		
Decreased stress		
Increased energy	Benefits	
Improved mood		
Improved memory		
Aesthetics		Rewards
Runner's high	Enjoyment	
Camaraderie		
Enjoyment		
Improvement		
Challenge	Mastery	
Competence		
Winning medals		

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Appendix G

Benefits of Exercise Delineated by Participants

Physical Benefits

- Eitness. Increased endurance, increased energy levels, increased muscle strength, improved performance in other sports/physical activities, quicker reaction time, increased flexibility.
- 2. Appearance. Weight loss, lowered percentage of body fat, improved physique.
- Cardiovascular health. Decreased blood pressure, improved circulation, decreased risk of heart disease.
- 4. General health. Improved immunity, decreased risk of chronic illnesses, retardation of aging process, prevention of osteoporosis, prevention of back injuries, increased longevity, assistance with changing other health habits (such as smoking), improved quality of sleep/decreased need for sleep.

Mental Benefits

Increased mental alertness, quicker mental processing, improved concentration, improved memory, increased creativity, improved decision-making.

Psychological Benefits

- Self-esteem. Increased self-esteem, increased self-confidence, increased sense of power and control, sense of accomplishment and success.
- 2. Mood. Decreased depression, improved mood, "leveling out" of emotions.
- Stress management. Improved coping with physical and mental stress, time to work through problems, time to "escape" from problems.
- Affiliation. Bonding time with significant others (if exercise is done together), opportunity to make new friends, camaraderie with those having similar interests, positive attention from others.
- 5. Spirituality. Increased self-awareness, time for meditation/spiritual devotions.