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PREVIEW

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Psychosocial factors influencing adolescents' intent to exercise

Owens-Nauslar, JoAnne Louise, Ed.D.

The University of Nebraska - Lincoln, 1992

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PREVIEW

PSYCHOSOCIAL FACTORS INFLUENCING ADOLESCENTS'
INTENT TO EXERCISE

by

JoAnne Owens-Nauslar

A DISSERTATION

Presented to the Faculty of
The Graduate College in the University of Nebraska
In Partial Fulfillment of the Requirements
For the Degree of Doctor of Education

Major: Interdepartmental Area of Administration,
Curriculum and Instruction

Under the Supervision of Professor Frederick C. Wendel

Lincoln, Nebraska

August, 1992

DISSERTATION TITLE

PSYCHOSOCIAL FACTORS INFLUENCING ADOLESCENTS'

INTENT TO EXERCISE

BY

JoAnne Owens-Nauslar, Ed. D.

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GRADUATE COLLEGE
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PSYCHOSOCIAL FACTORS INFLUENCING ADOLESCENTS'
INTENT TO EXERCISE

JoAnne Owens-Nauslar, Ed.D.

University of Nebraska, 1992

Advisor: Frederick C. Wendel

The purpose of this study was to analyze the relative contribution of selected determininants relative to adolescents' intent to engage in physical activity. The determinants of intent to adopt a behavior were behavior (b), intention to exercise (I), attitude (Aact), and subjective norm (SN) from the Fishbein Model of Human Behavior (Fishbein, 1967).

The theoretical model was applied to self-reported data collected from students attending seven Nebraska middle and high schools. Parents of students completing the questionnaire were requested to complete a similar questionnaire on physical activity, attitudes, beliefs, and behaviors.

Data were analyzed for the 345 students of both genders in grades 7, 9, and 11. The variables for analysis included genders, physical activity behaviors, and components of the Fishbein model of behavior prediction. Means and standard deviations were computed for each variable for descriptive purposes. Pearson product-moment correlation coefficients and stepwise multiple regressions were used to analyze the data.

The results did not fully support the theoretical model for human behavior proposed by Fishbein. Attitude (Aact) consistently explained a significant

($p < .01$) fraction of the variance in intentions to exercise. The normative structure component $\Sigma NB \cdot MC$ of the Fishbein model failed to explain the subjective norm (SN) of the students tested.

Forty-four percent of the variance in intention to exercise was explained by attitude and subjective norm. The parents' variables, such as intentions, current physical activity habits, or prior experience did not significantly ($p > .01$) contribute to the explanation of intentions to exercise.

Despite limitations of the model investigated, a substantial amount of information was obtained about intentions to exercise and exercise-related beliefs held by a sampling of Nebraska students. Students' attitude toward the behavior had an impact on behavioral intentions to exercise.

PREVIEW

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J.O.N.

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CHAPTER I

INTRODUCTION

Despite beliefs that "(1) children are pure and open to positive influences; (2) . . . easily acquire attitude and habit patterns; and (3) 'good' attitude and habit patterns formed in childhood will last a lifetime" (Leventhal, 1973, p. 577), few and limited efforts have been made to develop suitable health education programs for school children (Green, 1981; McAlister, 1981). Evidence is lacking that children and youth are more likely than adults to learn, believe, and do what is good for health (Green, 1981; Leventhal, 1973). Children and youth often adopt poor nutritional habits, irregular exercise routines, and show a substantial prevalence of numerous health problems (Iverson, 1981; Kovar, 1979; Williams & Wynder, 1976). The Canada Health Survey (1981) indicated that even before reaching the age of 16 years, 16.0% and 32.8% of young Canadians, respectively, were drinkers of alcohol and daily cigarette smokers.

Poor health habits of children and youth have an impact on future health status. Belloc (1973) showed that the mortality rate in a sample of California residents studied for five and one-half years was related to seven health practices, independent of income and health status. This conclusion was reinforced by Breslow and Enstrom (1980) who reported observations of the same sample over a period of nine and one-half years. Wiley and Camacho (1980) also studied the same sample to demonstrate that maintenance of

health over a period of nine years was associated with five health-related characteristics: (a) being a nonsmoker, (b) drinking between 1 to 45 alcoholic drinks per month, (c) sleeping between seven to eight hours per night, (d) deviating from ideal weight for height (WT/HT) by -10% to +29%, and (e) participating in moderate or heavy physical activity during leisure hours.

Mechanic and Cleary (1980) reported on a 16-year study of factors associated with the maintenance of positive health behavior among a sample of 350 children first surveyed in 1961. Their results suggested that individuals reporting poor health status were (a) less likely to use seat belts, (b) more likely to smoke, (c) less likely to seek preventive care, (d) less active physically, and (e) less engaged in deliberate exercise. Being female and having more education were, however, the only statistically significant factors related to the index of positive health practices. The desired trait of positive health behavior in the work force explain in part why both private and governmental organizations have placed emphasis upon promoting health through the schools (Green, 1981; Henderson, Barkanovic, & Enelow, 1974; Iverson, 1981; Kolbe & Iverson, 1981; Kreuter & Christenson, 1981; Stone & Robinson, 1979; Upton, 1981).

The promotion of regular physical activity could contribute materially to the emphasis by private and governmental organizations to promote health through the schools (Godin, 1980; Godin & Secours, 1980). Studies have confirmed, however, a persistent low level of habitual physical activity in the

general population (Canada Fitness Survey, 1982; Fitness Ontario, 1981; Ross and Gilbert, 1985), a characteristic which becomes progressively more pronounced as persons age (Cunningham, Montoye, Metzner, & Keller, 1968; Hobart, 1975; Shephard, 1978a, 1978b).

To validate theories about lack of exercise after school years, Engstrom (1974) began a longitudinal study of leisure time physical activity habits of Swedish school children in 1968. His findings showed that physical activity occupied a large part of available leisure time in Swedish children under 15 years of age. Only 5 to 10% of Engstrom's sample reported not engaging in any sporting activity during their leisure hours. Young Swedish boys spent a mean of five hours per week in physical activity, while the equivalent figure for young girls was three and one-half hours per week. Five years later, in 1973, Engstrom (1979) found the mean leisure time spent on physical activity by the same group, now aged 20 years, had dropped by 50% for the boys and 60% for the girls. Researchers Shepard, Lavalley, and Lariviere produced study results and concluded that the level of physical activity is much lower among North American than among Swedish youth. The decrease of physical activity commenced at age 11.7 for Swedish youth and 10.8 for North American youth. Both Canadian-French and Canadian-English speaking youth devoted 13 hours per week to television watching while Swedish youth watched television 11 hours per week (Shephard, Lavalley, Lariviere, et al., 1975). A further decrease of habitual physical activity occurred as the population reached

maturity (Canada Health Survey, 1981; Government of Quebec, 1974, 1980; President's Council on Physical Fitness and Sports, 1973).

What causes a decrease in the physical activity of students and what can be done to correct such a trend? Some authors have suggested that the time allocated to leisure activities is influenced by social life and peer influence (Engstrom, 1979; Seiwacz, Ajzen, & Fishbein, 1980). Societal norms are alleged to be determinant factors as to how individuals interact in a social environment. The attitude of individuals toward physical activity stems from the interaction of peer influence and societal expectations. The decision to engage in physical activity depends on the relationship between attitudes and the societal expectations for use of leisure time.

Theoretical Perspective

Leventhal (1973) and McAlister (1981) argued congruently that a theoretical model of health behavior is needed to guide what is said and done to change the processes generating attitudes and behavior. More data and more rigorous theories are needed to develop (a) programs that will induce short and long-term change and (b) general as well as specific health attitudes and practices (Kreuter & Green, 1978; Roberts, 1980).

Although models have been developed to facilitate understanding of factors influencing voluntary health-related behavior, considerable disagreement remains concerning the optimum model (Becker, Haefner, & Kasl et al., 1977; Berkanovic, 1976; Cumings, Becker, & Maile, 1980; Green, Kreuter, Deeds, &

Partridge, 1980; Haggerty, 1977; Langlie, 1977). Researchers have not been unanimous concerning (a) the variables influencing behavior and (b) the rules linking the variables in a causal sequence leading to behavior. Becker et al. (1977), Cumings et al. (1980), and Green et al. (1980) have made efforts to identify those variables affecting health-related behavior.

Cumings et al. (1980) used a panel of judges to classify a set of 109 variables from 14 models and categorized the variables based on similarity. The analysis revealed six categories: (a) accessibility to health care (e.g., availability and cost of services); (b) quality of care; (c) perception of symptoms and threat of disease (e.g., susceptibility to disease); (e) knowledge about disease; (f) social network characteristics (e.g., social norms, social structure); and (g) demographic characteristics (e.g., social status, income). While this study is of interest in developing a unified theoretical framework for explaining health actions, the study did not address questions about possible causal associations or processes among variables.

Green et al. (1980) identified three classes of variables that were labeled (a) predisposing, (b) enabling, and (c) reinforcing factors (see Figure 1). Predisposing factors (e.g., beliefs, attitudes) are antecedent to behavior and act as reasons or motivations for the behavior. Enabling factors (e.g., personal skills, availability of resources) are also antecedent to behavior and allow a motivation or aspiration to be realized. Finally, reinforcing factors (e.g., reward, incentive) are subsequent to behavior and contribute to the persistence or

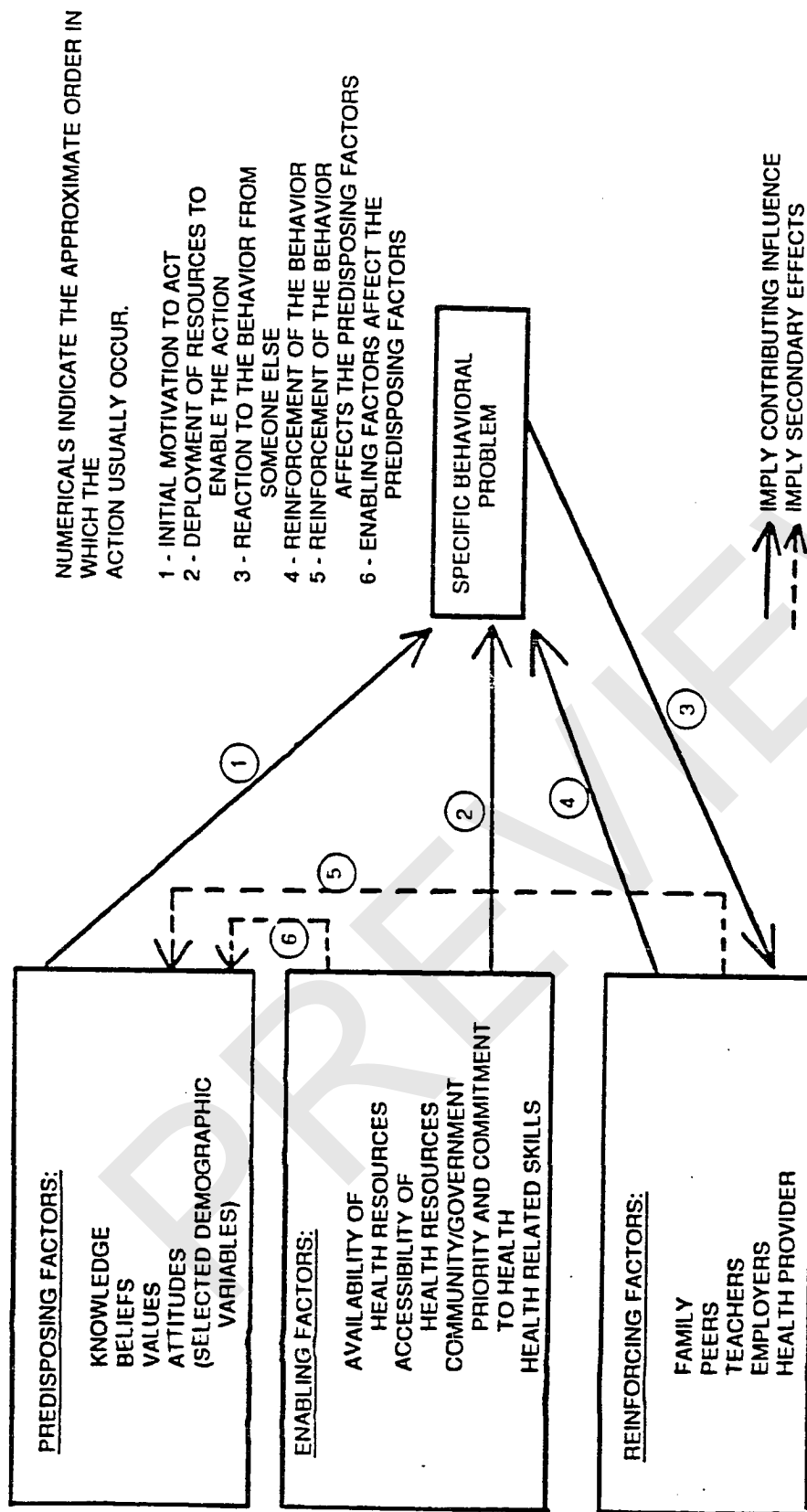


FIGURE 1
Three Categories of Factors Contributing to Health Behavior

Source: Green, Kreuter, Deeds & Partridge (1980) p. 71

extinction of the behavior. Although Green et al. (1980) proposed a sequence between variables leading to behavior, the causal relationships between predisposing variables were not identified.

Similarly, the Carnegie Grant Subcommittee on Modification of Patient Behavior for Health Maintenance and Disease Control (Becker et al., 1977) identified and classified variables linked to compliance behavior of patients (see Figure 2). Two major categories of variables were identified: (1) readiness to undertake the recommended behavior, which included subcategories of variables related to (a) motivations, (b) the value attached to a reduction of illness threat, and (c) the probability that compliant behavior will reduce the threat; and (2) modifying and enabling factors such as demographic, structural, and attitudinal variables. Causal associations between the variables explaining behavior were not presented.

In summary, none of the above three explanatory frameworks provided by Cumings, Green, or the Carnegie Grant Subcommittee (Becker et al., 1977) have yielded useful information on causal interrelationships among variables. Consequently, none of the models provided enough information to be useful in planning and evaluating health promotion programs nor were they useful in understanding and predicting behavior.

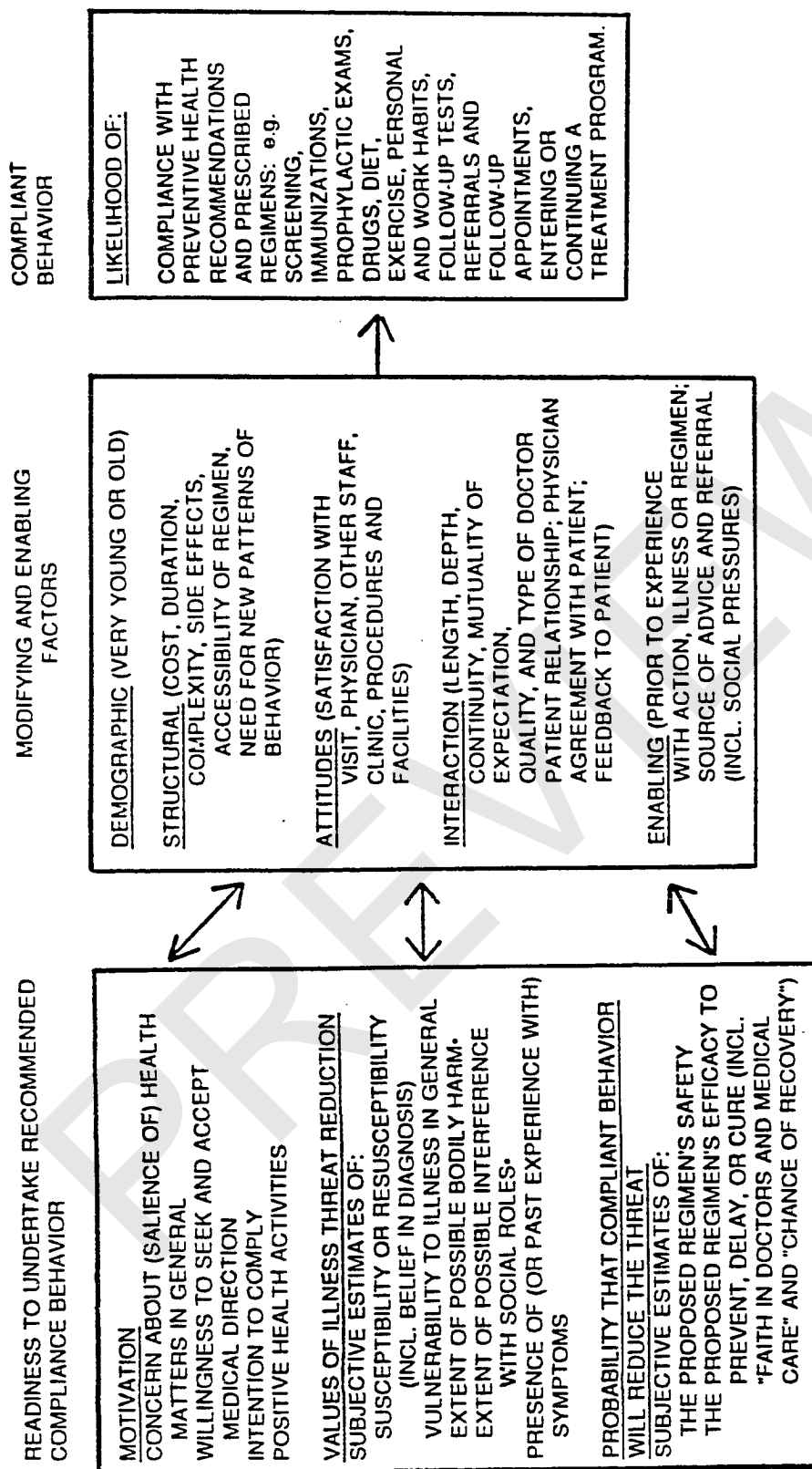


FIGURE 2

• AT MOTIVATING, BUT NOT INHIBITING LEVELS

Summary Hypothesized Model for Explaining and Predicting Individual Health-Related Behaviors

Source: Beckner, Haefner, Kasl et al. (1977) p. 39

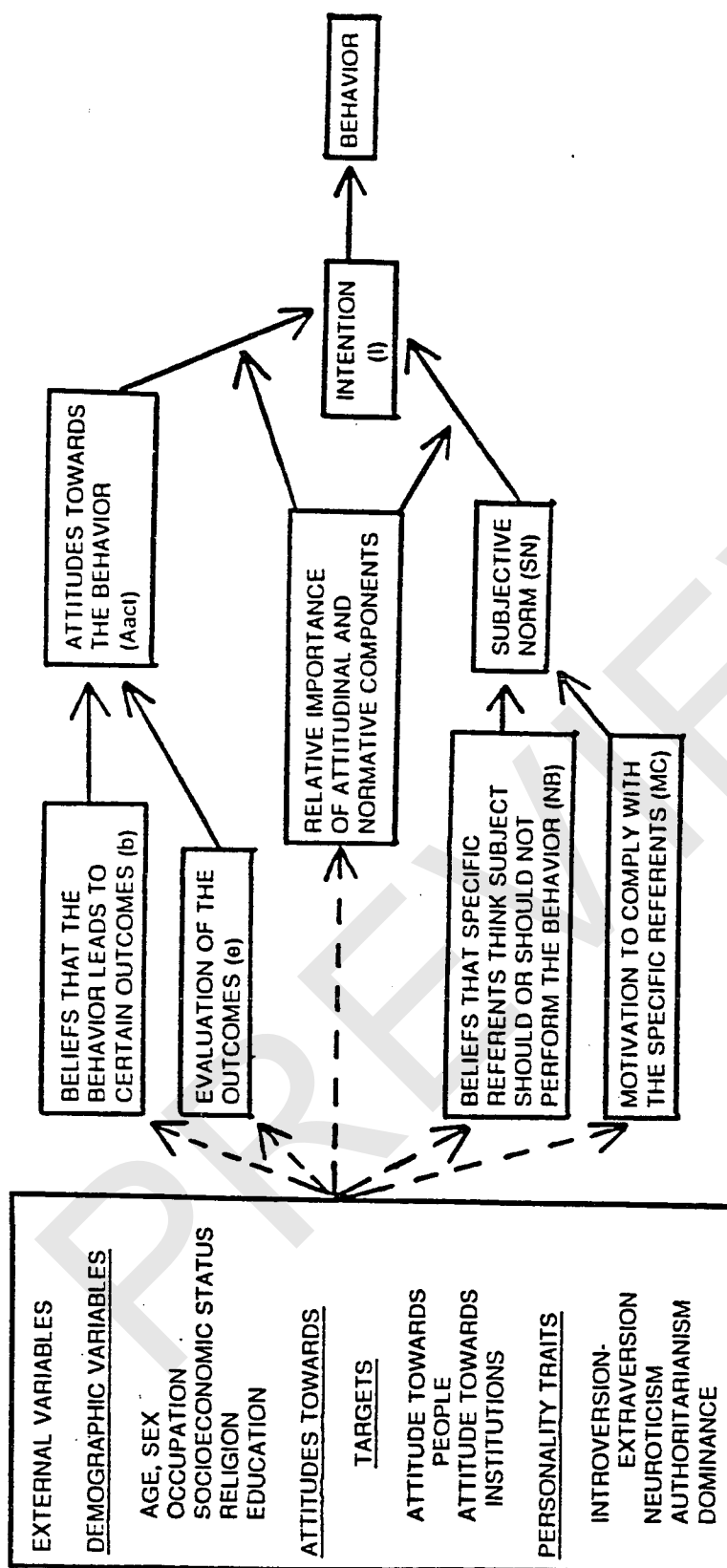
Fishbein Model

One comprehensive schema, developed with the specific intent of explaining social behavior at the level of individual decision making, is a model constructed by Fishbein (1967) (see Figure 3). The model is one of the most widely accepted because (a) the structure is simple (only two major components); (b) the model has a unified and compatible set of concepts, such as attitudinal, normative, and motivational variables, to explain behavior; (c) rules are provided explaining how the variables are interrelated in a causal sequence; and (d) the model has potential applications for development and evaluation of social programs (Falbo & Becker, 1980; Jaccard, 1975, 1981).

Fishbein formulated the framework of his model in 1967. Subsequently, through various laboratory studies, he and his coworkers provided additional theoretical support for his model (Ajzen, 1971; Ajzen & Fishbein, 1969, 1970, 1972, 1974; Fishbein & Ajzen, 1974). The basic theory has since been extended, with frequent publication in various formats (Ajzen & Fishbein, 1973, 1980; Fishbein, 1978; Fishbein & Ajzen, 1975).

According to Fishbein's model, the proximate determinants of the intent to adopt a given behavior are (a) the individual's personal attitude toward performing the behavior and (b) the influence of the social environment upon behavior. The basic model can be represented symbolically as follows:

$$B \sim I = (Aact)_w + (SN)_w \quad (\text{Equation 1})$$



POSSIBLE EXPLANATIONS FOR OBSERVED RELATIONSHIPS BETWEEN EXTERNAL VARIABLES AND BEHAVIOR.
 STABLE THEORETICAL RELATIONSHIPS LINKING BELIEFS TO BEHAVIOR.

FIGURE 3

Schematic Representation of Fishbein's Model

Source: Ajzen & Fishbein (1980) p. 84

where B is the behavior, I is the behavioral intention, Aact is the attitude toward the behavior, SN is the person's perception that the majority of individuals who are significant others think that the person should or should not adopt the behavior in question, and w_1 and w_2 are empirically determined weights.

The attitudinal component, Aact, is a function of the perceived consequences of carrying out a specific action, B, and of the individual's evaluation of the consequences.

$$A_{act} = \sum_{i=1}^n b_i \cdot e_i \quad (\text{Equation 2})$$

Thus, where b_i is the belief that performing a specific behavior will result in some outcome e_i ; e is the individual's evaluation of that outcome; and n is the number of salient beliefs a given subject holds about performing any specific action. For example, beliefs link the action about which the attitude is formed (e.g., participating in vigorous physical activities a few times a week) to certain attributes or consequences (e.g., being fun). Thus, attitudes toward particular actions are formed on the basis of beliefs about the consequences of that behavior and an evaluation of those consequences.

The second component, SN, is formed by the perceived expectations of salient referent individuals or groups and by the person's motivation to comply with these expectations. The relationship can be expressed by:

$$SN = \sum_{i=1}^n NB_i \cdot MC_i \quad (\text{Equation 3})$$