THE APPLICATION OF STAGES OF CHANGE THEORY TO THE PRACTICE OF OCCUPATIONAL THERAPY

JULIANE H. CHRESTON

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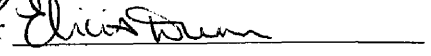
Second Reader 

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Abstract

Increasingly, the occupational therapy (O.T.) literature has stressed the need for therapists to incorporate health promotion and wellness into all areas of practice. Little is written, however, about the tools available to practitioners in order to expand their knowledge and skills in these areas. The field of health education provides specific models applicable to all areas of prevention, health promotion, and wellness. This paper provides a detailed description of one such model, stages of change theory, and discusses its relevance to the practice of occupational therapy. Several publicized O.T. health promotion programs are utilized as examples to compare and contrast use of this theory to those currently available within the field of O.T.

Historical Perspectives

One popular medical dictionary (Thomas, 1989) provides basic definitions of two fields within the medical arena as follows:

> Health education: Education process or program designed for improvement and maintenance of health (p. 784).
>
> Occupational therapy: Therapeutic use of work, self-care, and play activities to increase independent function, enhance development, and prevent disability (p. 1242).

While not specifically stated, it can be assumed that the definition of health education is inherently encompassed within the definition of occupational therapy (O.T.). As Reitz pointed out, "occupational therapy was founded on the humanistic ideal of promoting well-being through occupation" (p. 50, 1992). Indeed, Dwore and Kreuter (1980), well known individuals within the field of health education, support a variety of methods by which health promotion can be undertaken. They stated: "The process of advocating health may be conducted by a variety of modalities, including, but not limited to, health education" (p. 106, 1980). Jaffe (1986) identified the 1958 World Health Organization (WHO) definition of health, the 1979 publication of Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention, and publicity related to AIDS as three events which have spurred interest in preventive health within all areas of the health care community.

What, then, are the common tools within these two fields of medical practice? One way to explore this is to briefly examine the history of health education as a separate field of practice, followed by a review of the history of health education within the field of O.T.

The History of Health Education

The field of health education developed from work in three settings: communities, schools, and patient care settings. Although many of today's health education theories can be traced back to the 1930s and 40s to Kurt Lewin's work in group process and developmental theory, the field also has roots in a wide variety of diverse disciplines including psychology, sociology, anthropology, epidemiology, statistics, communications, nursing, and marketing (Glanz, Lewis & Rimer, 1990).

Over the past twenty years, medical research and treatment has shifted its focus. Early on, death and disability were caused primarily by infectious disease; however, as medicine evolved and began to control infection, chronic diseases came to the forefront. Along with this change, the aging of the population and escalating medical costs brought increased awareness of the importance of individual behaviors in health maintenance. Primary means of preventing disability and death in the United States became smoking cessation, weight reduction, increasing physical exercise, improving dietary intake, injury prevention, protected sexual activity, and participation in screening and disease control programs (Glanz, Lewis & Rimer, 1990).

Governments began to recognize their need to make public commitments to improving the health of their citizens as evidenced by publication of reports such as Healthy People, a 1979 publication of the U.S. Department of Health, Education, and Welfare. Health education began to gain recognition as a way to meet public health objectives and improve the success of medical interventions.

Complementary disciplines to health education are the fields of wellness and health promotion. Johnson (1986) and Jaffe (1986) provided occupational therapists with a history of the concept of wellness, as society began to turn full circle to individual investment in health via

daily activities after erroneously placing complete faith in medicine as a cure-all of human ills. Johnson stated:

> In summarizing the evolution of wellness from its origins in early Greek and Oriental cultures to its presence in current American life, it must be stressed that wellness originally was a way of living that promoted and supported health. Wellness is now once again perceived as a way of living (p. 756).

White (1986) summarized the health prevention and promotion literature outside of the field of O.T., listing common locations of health promotion activities and common target populations (including employees in the workplace; students at the college, primary and secondary level; and senior citizens in a community setting). She also introduced O.T. readers to the Health Risk Appraisal (HRA), "a technique for comparing an individual's health-related behaviors and characteristics with mortality statistics and epidemiologic data" (p. 745).

The History of Health Education within the Field of Occupational Therapy

As previously stated, it can be argued that health education principles are found to be intertwined within the practice of O.T. For example, in 1921 Meyer articulated the evolving philosophical beliefs of the O.T. profession, which were strongly grounded in health promotion and wellness. She called for "balance in all spheres of occupation" (Meyer, 1977, p. 640). Even earlier, Dunton (1915) proposed that occupational therapy could provide a key to health through the development of hobbies. By the 1970s, occupational therapy's role in prevention was increasingly discussed in the literature. In 1979, Cromwell projected that the future model of O.T. would be a health promotion/health protection model founded in health education principles.

As Reitz (1992) described, the profession's influence on health and wellness has primarily dealt with assisting individuals with disabilities to achieve maximum potential through curative approaches. In fact, White (1986) pointed out that O.T.s may need clarification regarding the meaning of words such as wellness, health promotion, and disease prevention because they are not incorporated into the medical model under which occupational therapists have traditionally practiced. Some individuals within the field recognized the limitations that were placed on the practice of O.T. by strict adherence to a disability orientation. Spencer (1988, 1989) stressed that a shift in focus to include the promotion of health and wellness within the rehabilitation process allowed therapists to move toward recognizing patients' abilities rather than their disabilities, providing patients with greater opportunity to take responsibility for their health behaviors.

Despite the primary focus on intervention after onset of illness or disability, leaders in the field have always recognized the opportunities available to O.T.s and encouraged increased focus on preventive health. In 1972, the American Occupational Therapy Association (AOTA) designated a special task force and assigned them the task of writing a model of practice for prevention and health maintenance programs (Jaffe, 1986). In 1978, AOTA adopted its first position paper regarding the "Role of the Occupational Therapist in the Promotion of Health and Prevention of Disabilities" (AOTA, 1979). This paper defined the concepts of primary, secondary, and tertiary levels of preventive care for the profession of occupational therapy. Its primary premise was that activity could have an influence on one's state of health. This paper was revised in 1989. Included in the revision was the statement that "promoting health and wellness . . . should be the cornerstone of all therapeutic intervention" (AOTA, 1989; p. 806). This position paper provided definitions within the field of occupational therapy for wellness

related ideas. These concepts include:

> Health Promotion: the practice of informing, educating, facilitating behavioral change, and using cultural support so people can assume responsibility for living a life-style that is centered on optimal well-being.
>
> Prevention: any activity intended to keep specific diseases and disabling conditions from occurring or worsening.

Once the foundation for the inclusion of health education practices within O.T. had been laid, there was a cry for increased research into the effectiveness of occupational therapy's health promotion activities. Jaffe (1986) stressed the importance of engaging in research and programming "that support the theories and unique skills of the profession pertinent to the prevention model" (p. 751), in order for O.T. to be recognized as a key play within the prevention arena. In addition, White (1986) made the following powerful statement:

> It is now time to act by promoting health and wellness to all who can benefit from our knowledge and skills. We must take our place as team members with other professionals and work together to further our clients' well-being (p. 747).

Further evidence of an increasing interest in wellness among occupational therapists is the increasing amount of presentations related to wellness at national and international occupational therapy meetings. Rider and White (1986) tallied the number of presentations addressing health promotion made at the 1984, 1985, and 1986 AOTA national conferences. They noted an increase from one presentation and the keynote address in 1984 to four presentations in 1986. While specific methodology regarding their content analysis was not disclosed, this author repeated this inquiry for the 1998 national conference guide and found 25 presentations whose titles directly reflect a wellness concept, with themes ranging from

spirituality to ergonomics. The 1988 appointment of a Health Promotion/Wellness Program Manager to the AOTA staff, and AOTA's participation in the consortium for development of the Healthy People 2000 report further point to the profession's commitment to wellness (Reitz, 1992).

Despite the profession's increasing focus on wellness and health promotion, the literature demonstrates some hesitancy on the part of O.T.s to utilize these principles within their practice (Rider & White, 1986; Reitz, 1992). One barrier to practice within these areas is limited reimbursement (Johnson, 1986; Reitz, 1992). Other barriers include skepticism within the medical field regarding wellness and holistic concepts, inadequate research methodologies, and lack of access to environments focusing on prevention (Jaffe, 1986; Johnson, 1986).

Another viable but previously unexplored deterrent to practice within this area is education. Although the literature demonstrates that occupational therapists have a solid philosophical base from which to address wellness, practitioners may not feel they have adequate knowledge regarding specific concepts and tools necessary for effective practice in this arena. Rider and White (1986) looked at opportunities for education regarding health promotion and disease prevention within occupational therapy curriculums; they concluded that "health promotion and disease prevention concepts are at least superficially included in most occupational therapy education programs" (p. 782). Two of the leading experts on wellness within the field of O.T. recommend that all health professionals considering practice within health promotion pursue graduate study in order to obtain both educational and behavioral change tools (Jaffe, 1986; Johnson, 1986).

It is clear, then, that there has been a call within the field of occupational therapy to focus on preventive health. While tools for prevention are beginning to emerge within O.T., they have

been readily available in other disciplines for some time. In order for occupational therapists to successfully integrate prevention into their treatment, whether as a primary objective of treatment or as a secondary objective when treating an existing disability, they must increase their knowledge regarding specific theories and tools.

The purpose of this paper, then, is to provide O.T.s with an overview of one such model, stages of change theory. A detailed review of this model will be provided, as well as a discussion of the relevancy of this model to the practice of occupational therapy. For the purpose of better illustrating the model, several O.T. programs will then be described, in order to compare and contrast how the authors of those programs met their goals, and how their programs might have been strengthened had they utilized stages of change theory.

Stages of Change Theory

Also called the transtheoretical model, stages of change theory is the result of over eighteen years of research by James Prochaska and his peers at the Cancer Prevention Research Consortium, University of Rhode Island. Their research has sought to unlock the mystery of how people make intentional change to addictive and other problem behaviors, both with and without assistance from medical professionals.

Much of the research targeting behavior change looks at identifying specific programs of intervention and proving their efficacy. This is generally the case regardless of the setting--be it psychotherapy aimed at eliminating a personality flaw, health education aimed at changing poor dietary intake, or physical rehabilitation aimed at increasing compliance with a home exercise program. Regardless of how well an intervention is designed, however, not all participants will meet established goals. These program failures are then attributed to specific client variables (for example, poor motivation) or specific intervention variables (for example, inadequate

techniques). The stages of change theory was initially introduced as another possible variable to take into consideration when attempting to design a successful program.

The premise of this theory is that individuals fall within five stages of change, as described below. By knowing where an individual falls within these stages, practitioners can better match intervention program components to the participant. While the specific tools utilized to classify individuals into stages is beyond the scope of this paper, it is important to note that two different measures have been utilized. The first is a discrete categorical measure, which assesses the stage from a series of mutually exclusive questions related to attitudes, actions, and timeframes. The second measure is an inventory, with responses yielding separate scales for each stage of change identified in the theory. Both measures are self-report methods.

As stated previously, this theory is commonly referred to as the transtheoretical model. This model encompasses both stages of change and processes of change. Because the term "stages of change" is more descriptive of the model, it is used throughout this paper to refer to the entire theory, including the processes of change and their interaction with the stages. Critical aspects of this theory, including the five stages of change, processes of change, and treatment implications, are described below. For a more detailed discussion of all aspects of this theory and its supporting research, readers are referred to Prochaska, DiClemente, and Norcross (1992).

History of Stages of Change Theory

Originally, the stages of change theory was proposed to describe the way an individual makes personal change, whether aided or unaided by psychotherapy. Once the theory was devised, Prochaska and his coworkers studied the stages and processes by applying it to specific behavioral changes, primarily attempts to quit smoking. Since that time, selected aspects of the

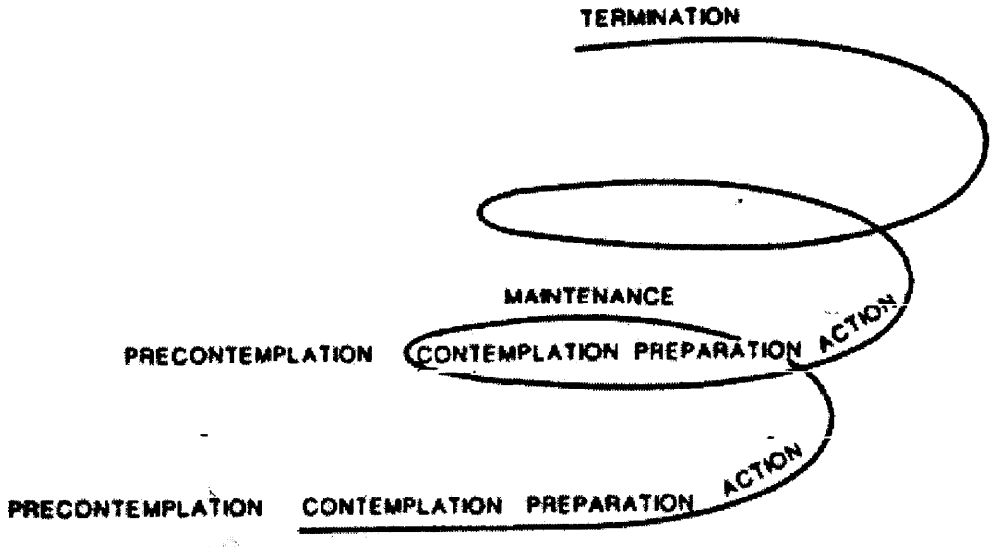
model have been extensively researched with a variety of health behaviors, patient populations, and medical disciplines (Laitakari, 1998; Prochaska, Velicer et al., 1994). In addition to smoking cessation, stages of change theory has been applied to quitting cocaine (Prochaska, Velicer et al., 1994); reducing the impact of phobias (Prochaska, 1991); alcoholism (DiClemente & Hughes, 1990); diabetes management (Ruggiero et al., 1997); weight control (Prochaska, Velicer et al., 1994); dietary fat reduction (Curry, Kristal, & Bowen, 1992; Green, Rossi, Reed, Willey, & Prochaska, 1994; Prochaska, Velicer et al., 1994; Steptoe, Wijetunge, Doherty, & Wardle, 1996); increasing physical fitness participation (Buxton, Wyse, & Mercer, 1996; Marcus et al., 1992; Marcus & Simkin, 1993; Patrick et al., 1994; Prochaska, Velicer et al., 1994); changing adolescent delinquent behaviors (Prochaska, Velicer et al., 1994); reducing risk for HIV (Bradley-Springer, 1996; Prochaska, Redding, Harlow, Rossi, & Velicer, 1994; Prochaska, Velicer et al., 1994); contraceptive and condom usage (Grimley et al., 1996; Grimley, Prochaska, Velicer, & Prochaska, 1995; Grimley, Riley, Bellis, & Prochaska, 1993; Prochaska, Velicer et al., 1994); sunscreen use (Prochaska, Velicer et al., 1994); radon gas exposure (Prochaska, Velicer et al., 1994); mammography screening (Prochaska, Velicer et al., 1994); and physicians' preventive practices with smokers (Prochaska, Velicer et al., 1994). It has been applied to both addictive and nonaddictive behaviors, legal and illegal actions, public and private actions, and socially acceptable and socially unacceptable behaviors (Prochaska, Velicer et al., 1994). It has been applied to behaviors which occur frequently over the course of one day, such as smoking, to those which occur only once a year or less, such as mammography screening (Prochaska, Velicer et al., 1994). It has been applied to heterosexually active college-age men and women (Grimley et al., 1995; Grimley et al, 1993; Prochaska, Velicer et al., 1994); physicians (Prochaska, Velicer et al., 1994); cardiac patients (Ockene, Ockene, & Kristellar, 1988); diabetics (Ruggiero et al.,

1997); alcoholics (DiClemente & Hughes, 1990); blue collar workers (Prochaska, Velicer et al., 1994); employees in a university setting (Cowdery, Wang, Eddy, & Trucks, 1995); hospital staff members enrolled in a behavioral treatment program for weight control (Prochaska, Norcross, Fowler, Follick, & Abrams, 1992); delinquent youths (Prochaska, Velicer et al., 1994); pregnant women (Ershoff, Mullen, & Quinn, 1987); women at high risk for HIV (Grimley et al., 1996); intravenous drug users (Prochaska, Velicer et al., 1994); prostitutes (Prochaska, Velicer et al., 1994); and individuals receiving outpatient psychotherapy services (McConnaughy, Prochaska, & Velicer, 1983). And it has been applied in the fields of health promotion (Cowdery et al., 1995); nursing (Bradley-Springer, 1996; Cassidy, 1997); nutrition (Curry et al., 1992; Green et al., 1994); psychology (McConnaughy et al., 1983; Prochaska, 1991); physician education (Patrick et al., 1994); and social work (O'Hare, 1996).

The Five Stages

The theory is based on research indicating that individuals travel through five stages when they make any behavioral change. The five stages are precontemplation, contemplation, preparation, action, and maintenance; and are depicted in Figure 1.

Figure 1: A Spiral Model of the Stages of Change



Note. From "In search of how people change: Applications to addictive behaviors," by J. O. Prochaska, C. C. DiClemente, and J. C. Norcross, 1992, American Psychologist, 47(9), p. 1104.

Precontemplation: Resistance to recognizing or modifying a problem is the hallmark of precontemplation. This is the stage at which there is no intention to change behavior in the foreseeable future. Many individuals in this stage are unaware or underaware of their problems, although individuals close to them are well aware of their need for change. A critical time period is six months; any individual who does not plan to make behavior changes within the next six months falls into precontemplation. Even an individual who recognizes a problem and wishes to make changes, but is not intending to do so within six months falls within the precontemplation stage. These individuals identify with statements such as "As far as I'm concerned, I don't have any problems that need changing" and "I guess I have faults, but there's nothing that I really need to change."

Contemplation: Serious consideration of problem resolution is the central element of contemplation. Individuals in this stage are aware that a problem exists and are seriously thinking about overcoming it, but have not yet made a commitment to take action. They may be involved with weighing the pros and cons of the problem and the solution to the problem, comparing the positive aspects of engaging in the behavior to the amount of effort, energy, and loss it will cost to change the behavior. Individuals who state that they are seriously considering changing a behavior in the next six months are classified as contemplators; however, people can remain stuck in the contemplation stage for long periods. These individuals agree with statements such as "I have a problem and I really think I should work on it" and "I've been thinking that I might want to change something about myself."

Preparation: In this stage, intention is combined with behavioral criteria. Individuals in the preparation stage are intending to take action in the next month and have unsuccessfully taken action in the past year. They may have already made some adjustments to their behavior (such as smoking five cigarettes less a day) but have not yet reached a criterion for effective action (total abstinence from smoking); however, they plan to take such action in the very near future. They relate to statements similar to those of both contemplation and action stages; therefore, some investigators prefer to conceptualize the preparation stage as the early stirrings of the action stage.

Action: Hallmarks of the action stage include modification of the target behavior to an acceptable criterion and significant overt efforts to change. In this stage, individuals modify their behavior, experiences, or environment in order to overcome their problems, often requiring considerable commitment of time and energy. Individuals are classified in the action stage if they have successfully altered their behavior for a period of from one day to six months.

Successfully altering behavior is defined as reaching a particular criterion appropriate for that problem, such as abstinence. For example, for smoking cessation, cutting the number of cigarettes smoked by 50% and changing to lower tar and nicotine cigarettes are behavior changes that can better prepare an individual for action, but these behavior changes do not satisfy criteria for successful action. Individuals in the action stage endorse statements such as "I am really working hard to change" and "Anyone can talk about changing; I am actually doing something about it."

Maintenance: Maintenance involves stabilizing behavior change and avoiding relapse. Maintenance is a continuation, not an absence, of change; it occurs from six months after an overt change is made to an indeterminate period past the initial action. For some behaviors, maintenance can be considered to last a lifetime. Individuals at the maintenance stage identify with statements such as "I may need a boost right now to help me maintain the changes I've already made" and "I'm here to prevent myself from having a relapse of my problem."

As Figure 1 depicts, progression through these five stages of change are not continuous and orderly; relapse and recycling through the stages occurs quite frequently as individuals attempt to modify unhealthy behaviors. People can progress from contemplation to preparation to action to maintenance, but most individuals will relapse to an earlier stage, causing a spiral pattern to their progression through the stages. Also, although some transitions, such as from contemplation to preparation, are much more likely than others, some people may move from one stage to any other stage at any time. Each stage represents a period of time as well as a set of tasks needed for movement to the next stage. Although the time an individual spends in a given stage may vary, the tasks to be accomplished are assumed to be invariant.

Research indicates that the vast majority of those experiencing relapse return to contemplation or preparation stages, where they then begin to consider plans for their next action attempt (Prochaska & DiClemente, 1984). The spiral model further suggests that most relapsers do not revolve endlessly in circles and that they do not regress all the way back to where they began. Instead, each time relapsers recycle through the stages, they have the potential to learn from their mistakes.

The Processes of Change

The stages of change provide insight into when shifts in attitudes, intentions, and behaviors occur. The second portion of this model involves the processes of change, in an effort to shed light on how these shifts occur. Once we can identify what stage our clients are in, how do we design programs and activities that will move them through the stages to successful behavior change? Table 1 summarizes ten processes, which have been identified by Prochaska et al. Research has shown that these processes remain the same whether an individual is embarking on a change independently or with the aid of a health professional (Prochaska et al., 1992).

Table 1: Titles, Definitions, and Representative Interventions of the Processes of Change

Process	Definitions; Interventions
Consciousness raising	Increasing information about self and problem; observations, confrontations, interpretations, bibliotherapy
Self-reevaluation	Assessing how one feels and thinks about oneself with respect to a problem; value clarification, imagery, corrective emotional experience
Self-liberation	Choosing and commitment to act or belief in ability to change; decision-making therapy, New Year's resolutions, logotherapy techniques, commitment enhancement techniques
Counterconditioning	Substituting alternatives for problem behaviors; relaxation, desensitization, assertion, positive self-statements
Stimulus control	Avoiding or countering stimuli that elicit problem behaviors; restructuring one's environment (e.g., removing alcohol or fattening foods), avoiding high risk cues, fading techniques
Reinforcement management	Rewarding one's self or being rewarded by others for making changes; contingency contracts, overt and covert reinforcement, self-reward
Helping relationships	Being open and trusting about problems with someone who cares; therapeutic alliance, social support, self-help groups

Table 1: Titles, Definitions, and Representative Interventions of the Processes of Change

Process	Definitions; Interventions
Dramatic relief	Experiencing and expressing feelings about one's problems and solutions; psychodrama, grieving losses, role playing
Environmental reevaluation	Assessing how one's problem affects physical environment; empathy training, documentaries
Social liberation	Increasing alternatives for nonproblem behaviors available in society; advocating for rights of repressed, empowering, policy interventions

Note. From "In search of how people change: Applications to addictive behaviors," by J. O. Prochaska, C. C. DiClemente, and J. C. Norcross, 1992, American Psychologist, 47(9), p. 1108.

These processes of change are utilized to their greatest advantage when they are matched with particular stages of change. In order to determine which processes correspond to each stage, Prochaska and his peers questioned thousands of self-changers representing each of the stages of change for smoking cessation and weight loss. For example, they learned that individuals in the precontemplation stage use the processes significantly less than those at other stages; they process less information about the problem, they devote less time and energy to reevaluating themselves, they have fewer emotional reactions to the negative aspects of their problem, they are less open with significant others about the problem, and they make few attempts to change their attention or their environment. Again, these individuals are the most resistive to treatment; at the most, engaging them in treatment should attempt to move them into contemplation rather than jump to changing a given behavior.

Individuals in the contemplation stage are most open to consciousness-raising techniques as well as bibliotherapy and other educational techniques. Treatment, then, might focus on providing information about the negative aspects of a behavior and the positive outcomes to be gained by changing the behavior. Contemplators are also more open to dramatic relief, or affective experiences such as sharing feelings about the behavior to be changed. As they gain insight into their problem, individuals are more likely to reexamine their values, problems, and themselves; they may also begin to reevaluate the effects their behavior has on their environment, including significant others who are affected by the behavior.

Clearly, then, movement from precontemplation to contemplation (as well as movement through the contemplation stage) is best achieved through the use of cognitive, affective, and evaluative processes of change. These changes continue as an individual enters the preparation stage. In addition, individuals in preparation will begin to take small steps toward action. They may use counterconditioning and stimulus control techniques to begin to reduce their behavior or to control situations that might lead to the problem behavior.

During the action stage, individuals rely heavily on self-liberation, or willpower. They begin to believe they have the power to change their lives in important ways. They continue to utilize behavioral processes such as counterconditioning and stimulus control to eliminate the problem behavior and/or maintain a more favorable behavior. In addition, they increasingly rely on support and understanding through helping relationships via significant others and/or self-help groups.

Again, it is important to note that successful action does not, in itself, result in elimination of the problem behavior. The individual must prepare for maintenance in order to reduce the likelihood of relapse. Preparation for maintenance includes an assessment of the

conditions under which a person is likely to relapse and development of alternative responses for coping with such conditions. Maintenance is most successful when counterconditioning and stimulus control processes are combined with continual reevaluation of self (valuing the new behavior) and support of at least one significant other.

The primary premise of this theory is that successful change depends on doing the right things (processes) at the right time (stages). Research demonstrates two frequent mismatches, which help account for the high rate of failure when individuals attempt to change undesirable behaviors (Prochaska et al., 1992). In the first instance, some people appear to rely primarily on change processes most appropriate for the contemplation stage--consciousness raising and self-reevaluation--while they are moving into the action stage. In other words, they attempt to change behavior by increasing awareness rather than taking specific and necessary action steps. The second type of mismatch involves individuals who move to processes associated with the action stage--reinforcement management, stimulus control, and counterconditioning--without first developing awareness, decision making, and readiness in the contemplation and preparation stage.

Implications for Treatment

Prochaska et al. (1992) have demonstrated that, when treatment method is matched to participants' stage of change, the program has a higher rate of success. Their research indicates that the vast majority of people are not in the action stage for any given behavioral change; therefore, if treatment is approached strictly with action-oriented methodology, the majority of the target population will be underserved.

Laitakari (1998) pointed out some of the major benefits and problems associated with the use of stage models in health promotion. The benefits include a realistic examination of the individual's readiness to make change, the enhancement of a person-centered approach, direction for treatment, and a common language base from which to communicate with both lay people and other medical professionals. Laitakari stressed, however, that there are some potential drawbacks to the model. Primarily, these problems are imminent if the practitioner relies too heavily on the model, therefore bypassing other important features of the therapeutic relationship such as individualizing treatment to specific situations within the client's lifestyle and social networks, and failing to develop mutual trust and respect between client and practitioner. Haber (1996) also warned that use of readiness stages might unnecessarily limit the range of strategies that professionals apply to their clients. The suggestion is similar to one commonly heard in O.T. circles, in that there are no "cook-book" approaches to behavior change.

The premises of this theory impact both recruitment and planning for health promotion programming. First of all, marketing should focus on attracting individuals who are in the contemplation and preparation stages in order to maximize the effect of the program. If this is not possible, participants should be divided out by stage with programming geared to specific stages. Even those who are in the precontemplation stage can be appropriate for treatment, provided appropriate processes are incorporated into programming. Prochaska's research also demonstrated that clients who progress from one stage to the next during the first month of treatment significantly improve the likelihood that they will take action within six months.

In addition to providing relevant information for recruitment and type of programming, the stages of change model can provide clues as to where the greatest return on investment can be made. Readiness models hold much promise for targeting the limited time and energy of

health care professionals (Haber, 1996). Several researchers have investigated varying levels of intensity of treatment for smoking cessation within special populations. Ockene et al. (1988) found that cardiac patients who were in the action stage at the start of treatment had significantly higher levels of successful quitting and maintenance behaviors after engaging in a more intensive program than those in the same stage and participating in a regular smoking-cessation program. However, treatment intensity had no effect on patients in precontemplation or contemplation. Ershoff et al. (1987) found similar results with pregnant women who were smokers. Women in the preparation stage had significantly higher quit rates if they received a series of self-help booklets in the mail in addition to the regular care consisting of advice and fact sheets.

The stages of change theory has significant ability to predict an individuals success in treatment. Research has shown that the stage at which an individual is classified at the start of therapy is one of the best predictors of treatment outcome (Prochaska et al., 1992). In addition, the further an individual progresses toward action early in treatment, the more successful they are at the end of treatment. Stages of change prove to be better predictors than age, socioeconomic status, problem severity and duration, goals and expectations, self-efficacy, and social support. The variable with the highest predictive value is the processes of change a client uses early in therapy. As well as predicting who will do well in therapy, this theory also predicts who will drop out. Medieros and Prochaska (in Prochaska et al., 1992) demonstrated that smokers who dropped out of psychotherapy early on were more likely to be in the precontemplation stage, rated the cons of therapy as higher than the pros, and relied more on willpower and stimulus control than did clients who continued on.

Application of Stages of Change Theory to O.T. Programming

As previously described, stages of change theory was originally proposed by Prochaska and his peers as an explanation for how people quit smoking. The theory was then applied in a wide variety of fields to a wide variety of problems and populations. Because the theory has been shown to be appropriate in many related disciplines, it makes sense to apply this theory within the field of occupational therapy.

Evidence of Stages of Change Concepts in O.T. Literature

Even though stages of change theory has not been described in the occupational therapy literature and is not commonly taught within O.T. curriculums, the O.T. literature reflects that therapists use concepts described in the theory when designing and implementing occupational therapy programming.

When designing intervention programs, whether for prevention of disability or treatment of disability, O.T.s recognize that the client must feel invested in the treatment if it is to succeed. Breen (1989) summed this up nicely when she stated (in reference to the design of a health education program within a nursing home): "The changes proposed must be desired and sought by those affected" (p. 103).

In a discussion of the role of O.T. with sex offenders, Lloyd (1987) repeatedly stressed the importance of thorough evaluation of the client and his desire to change inappropriate behaviors. In addition, Lloyd stated that the nonvoluntary client referred by the criminal justice system "has not defined his own problems and needs" (p. 61); likely, this client would register at the precontemplation stage. A primary factor to be weighed before accepting a person into a sex offender treatment program is their motivation. As part of a comprehensive evaluation, the determination of the client's current stage of change would add valuable information. Treatment

guidelines include principles which, according to Prochaska, would move the client toward contemplation and preparation for action; they suggest that the sex offender needs to accept responsibility for his actions and understand what thoughts, feelings, events, circumstances and stimuli precede acting out (consciousness raising, self-reevaluation). The types of treatment activities suggested to assist the client in eliminating inappropriate sexual behaviors include further concepts taken from the processes of change. The offender is engaged in a re-education and socialization process in order to replace antisocial thoughts and behaviors with prosocial ones, acquire a positive self-concept and new attitudes, and learn new skills in order to engage in appropriate relationships with others (continued self-reevaluation, counterconditioning, stimulus control, and reinforcement management). The treatment protocol also suggests that each client, in order to be successful, needs a prolonged period in which to test newly acquired insights and skills and a post-treatment support group in order to permanently maintain a safe lifestyle. This correlates with Prochaska's action and maintenance stages as well as with utilizing helping relationships as a positive process in behavior change.

The literature further suggests that occupational therapists do have awareness that not all patients are ready to undertake recommended changes in their behavior. In an investigation of a group of elderly residents' health attitudes and behaviors, Maynard (1990) described a group who would be called precontemplators by Prochaska et al.: "Those elders who lack the self confidence to change a difficult life situation or take responsible action for their own good" (p. 49). She went on to suggest that therapists use a supportive and caring approach to move these clients toward contemplation (by helping them identify those mental, physical, social, and economic factors that affect their quality of life--self-reevaluation) and then into action (teaching different coping skills, changing a negative environmental situation, and replacing loss with new

friends and activities--counterconditioning, stimulus control and environmental reevaluation, helping relationships).

For another example, when describing a comprehensive, statewide health promotion program, Kaplan and Burch-Minakan (1986) stated that the major goal of the program was to help employees reduce their health risks and achieve healthier life styles. They went on to describe that the project consisted of three distinct phases: building awareness, increasing knowledge, and providing behavior modification skills to maintain behavior. These three phases can be seen to highly correspond with the stages and processes of change as described by Prochaska. Building awareness (the process of self-reevaluation) and increasing knowledge (the process of consciousness raising) are associated with assisting people to move from precontemplation to contemplation, and through contemplation to preparation and action. Behavior modification skills (which might take the form of counterconditioning, stimulus control, or reinforcement management) are associated with the action stage. It is also important to note that Kaplan and Burch-Minakan recognize maintenance as a necessary step in behavior change, similar to the emphasis on maintenance behaviors in Prochaska's theory.

Allen (1986) provided additional support for the utilization of principles from stages of change theory within the practice of O.T. She described two health promotion programs that had been carried out in office settings. These programs started by utilizing change processes at the contemplation stage of change, such as emphasizing the importance of helping relationships, encouraging self-reevaluation, and consciousness raising. They then moved on to specific instructions necessary to assist the individual to take action. It is interesting to note that, in a follow-up survey of participants, Allen found that employees preferred to attend the health promotion sessions dealing with exercise, weight control, and smoking cessation and were

resistive to those sessions dealing with daily work habits and confronting poor office relationships. This, too, is in line with the stages of change theory. Allen's sessions targeting specific areas of personal health activities (exercise, weight control, and smoking cessation) were voluntary. Therefore, it can be assumed that those that attended were either in contemplation, preparation or action for these behaviors. However, much of the staff was probably at the precontemplative stage for issues related to the workplace (such as work habits and office relationships), causing them to be resistive to these sessions.

The Need for Stages of Change Evidenced in O.T. Literature

The literature also suggests the need for this type of model within the field of O.T. For example, several studies looked at the effects of education on changing behaviors in the workplace in order to reduce the risk of injury (Dortch & Trombly, 1990; McCauley, 1990). This research (completed using random assignment to treatment or control groups) showed that education does have a positive effect on behavior change, at least in the limited follow-up period of one to two weeks described in these studies. Looking at the participants' stage of change at the start of intervention could have strengthened the study by (a) providing additional data to support the similarity between test groups before intervention, and (b) provide an additional basis for future research, as it could be determined if those that were more receptive to altering their risky workplace behaviors maintained changes for a longer period of time after instruction.

Walker and Howland (1991) investigated both the frequency of falls and the fear of falling among elderly persons living in the community. Their article goes on to provide specific recommendations which can be implemented by O.T.s (as part of a multi-disciplinary team) in order to reduce both the fear of and the incidence of falls within this population. However, a fear

of falling does not necessarily translate into willingness to make necessary changes to one's environment and behaviors. One study provided home assessments and specific recommendations aimed at reducing falls within the home to a group of ambulatory, noninstitutionalized adults over the age of 60 who attended local senior citizen centers. The authors concluded that, while participants acknowledged that the proposed changes might be beneficial, they exhibited resistance to making such changes within their homes (El-Faizy & Reinsch, 1994). Utilization of a stages of change determinant might assist in identifying those within this population who would be most likely to benefit from the recommended intervention strategies. As Christenson (1990) stated: "The elderly person's perception of the appropriateness of a product or change in lifestyle must be considered if the full benefit of the intervention is to be obtained" (p. 64).

Another example that calls out for a model such as stages of change is a study of the effect of education regarding child development to Israeli mothers (Parush & Hahn-Markowitz, 1997). Researchers found that involvement in a primary prevention program had a positive effect on mothers' knowledge immediately after intervention and two years post-intervention. However, they acknowledged two limitations of the study: (a) the lack of attention to other variables which could affect a mother's knowledge, attitudes, and practices with regard to development, such as the media, social influences, and the grandmother's knowledge; and (b) the only measure tested was mother's knowledge change, not actual behavior change or impact of knowledge change on the development of the child. The incorporation of stages of change theory into future research in this area could have an impact on both of these limitations. For example, readiness for change might be viewed as an additional barrier that could impact a mother's ability to learn and retain information related to child development. In addition, it

could be hypothesized that those mothers who were most open to change would best be able to put the knowledge gained to use in order to positively impact their child's development.

In addition to assisting therapists to predict outcome of treatment intervention, knowing a patient's stage of change for a given variable at the start of treatment can direct the types of activities carried out during therapy. As an example, Furth, Holm, and James (1994) looked at follow-through with reinjury prevention techniques for patients receiving O.T. services for the diagnosis of cumulative trauma disorder. In the course of their treatment, patients were taught to use a variety of ergonomic equipment and techniques in both home and work activities, in order to reduce their risk for reinjury. Follow-up calls made both two and four weeks post-treatment indicated that complete follow through with reinjury prevention techniques was lower than expected. The most common reasons given for lack of follow through were job demands and forgetfulness. Also, researchers found that the most successful patients in terms of both follow-through and alleviation of symptoms were those who had increased employer support; this is consistent with Prochaska's research, which demonstrated that helping relationships are particularly helpful during the action stage.

One hypothesis for the limited follow through of reinjury prevention techniques is that these techniques were taught to all patients without attention to their readiness to implement such techniques. According to stages of change theory, individuals who were in the precontemplative stage, despite their current diagnosis of cumulative trauma disorder, would not recognize the need to utilize these techniques in their daily life. If the therapist were able to identify which stage their patient was in, they might be better able to implement treatment. The type of education described by Furth et al. would be appropriate for those patients in the contemplation or preparation stage. However, it might be more appropriate for patients at the precontemplative

stage to be engaged in activities that would seek to move them closer to contemplation. Such activities would include consciousness raising (providing information regarding the likelihood of more severe injury if maladaptive behaviors are continued), dramatic relief (discussions regarding the patient's feelings about his or her loss of ability and/or pain as a result of the injury), and self and environmental reevaluation (activities revealing how life roles or significant others might be affected by the client's current or future injury).

Comprehensive Application of Stages of Change Theory to One O.T. Health Promotion Program

The previous examples demonstrate how various components of the stages of change theory are relevant to O.T. It is helpful, however, to demonstrate how the theory could be utilized in all phases of an occupational therapy program--from development, to provision of services, to evaluation. Jaffe's (1989) description of a workplace health promotion program targeting the education of employees as medical consumers provides one such example. While this type of programming is not a typical illustration of O.T. intervention, it is an excellent example of opportunities that are available to the enterprising O.T. wishing to provide health promotion services.

The program involved contracting with various corporations and government centers in order to provide consumer education and training regarding the consumption of medical care. The training was intended to increase the knowledge and skills of employees and their dependents, making them more informed consumers of health services. It was hypothesized that, by providing consumers with such education, they would utilize services more appropriately and efficiently, leading to reduced employer health care costs.

Within five targeted organizations, a total of 1,233 private corporation and public employees agreed to participate in the program. The organizations provided baseline demographic data on their employees; this included age, gender, educational level, and job classification. All participants then completed self-administered questionnaires, which are described in Table 2. These instruments were used as pre- and post-tests at specified intervals during the experimental year.

Table 2: Self-Administered Tools Utilized in a Corporate Health Promotion Project

Title	Description
Health Care Knowledge Questionnaire	Identified the degree to which the participating individuals possessed information and attitudes conducive to both quality health care and containment of costs. Presented as a five point Likert scale.
Decision-Making Questionnaire	Presented five hypothetical but realistic case studies in which the respondents were asked what their role as a health consumer would be. They were instructed to answer what they would do or what they would ask in the series of case histories.
Health Care Practices Questionnaire	A self-report instrument designed to provide information on the actual health care experiences, choices, and utilization of health services of the respondents.
Health Status Questionnaire	Provided demographic and baseline data and identified changes in health status and utilization during the experimental year. A rank ordered questionnaire.

Table 2: Self-Administered Tools Utilized in a Corporate Health Promotion Project

Title	Description
Health Care Diary	Developed to assess the impact of the training program on actual health related behaviors as compared to the behaviors of individuals who had not received the intervention. All participants were asked to record their monthly utilization of health services throughout the experimental year on a log specifically prepared to record this information.

Note. Adapted from "Medical consumer education: Health promotion in the workplace," by E. Jaffe, 1989, Occupational Therapy: Program Development for Health Promotion and Preventive Services, p. 17.

Participants at each site were then randomly assigned to either a treatment or control group. The treatment group was engaged in a health consumer training program. The training program consisted of a humorous sixty-minute performance by a professional theater group, interspersed with didactic presentations by the author of a medical consumer handbook, The Medical Marketplace. A question and answer session was also included. Each participant was given his own copy of The Medical Marketplace and encouraged to take the book with them when using any health services throughout the research year. The Medical Marketplace was a consumer handbook written specifically for this project; it was designed to encourage employees to take a more active role in their health care. Responses on the four questionnaires were gathered prior to participation in the treatment group, and at designated periods after the treatment group over a period of one year. All participants also utilized the health care diary to record their utilization of any health care services. Knowledge, attitudes, and utilization of health care services within the treatment group were then compared to those of the control group.

As Jaffe stated, "The outcome of this health consumer education project demonstrated the effectiveness of this approach in altering consumer health care attitudes, increasing knowledge of health care systems, and improving decisions about utilization of health care services" (1989, p. 19). However, the intervention did not significantly effect utilization of health services or health status, perhaps because participants in this study had fairly good health to begin with and overall health care utilization was extremely low for both groups. The study did support the primary hypothesis, a belief that consumer education with tools such as The Medical Marketplace can positively impact the consumer's knowledge, attitudes, and decision-making skills in the area of health care.

If stages of change theory had been a driving force behind it's development, this program would have looked very different. The application of this theory would have provided additional hypotheses to be tested, necessitating a change in experimental design by additional treatment groups, as well as requiring additional test measures.

The specific behavior targeted for change in this program is the way in which individuals make decisions regarding utilization of health care services. One specific example would be discouraging people from using emergency services for health concerns which can be handled in the office of a primary care physician. Possible hypotheses generated by stages of change theory would be as follows: Do employees recognize any need to change their behaviors in relation to their consumption of health services? If so, within a large group of employees, is Prochaska's theory of stages of change supported as evidenced by distinct differences between precontemplators, contemplators, and those in preparation, action, and maintenance stage of their behavior (or perhaps, because modifying one's behavior in this area should be a relatively simple task, only some of the stages would be supported)? Are one's patterns of consumption based

more on extraneous variables, such as severity and frequency of illness, then knowledge and skills related to appropriate and wise health care consumption? If there are distinct stage differences in relation to health care consumption, are individuals in the later stages more likely to modify their behavior after participation in this training program? Does the application of specific processes of change to the training program result in assisting individuals to move to a further stage, even if it does not result in a perceptible change in behavior? One or more of these questions could be answered if the experimental protocol were expanded.

The first step toward attempting to answer any of these questions would be to explore stages of change within participants. The Health Care Knowledge Questionnaire could be expanded in order to provide a stage designation to each participant. Questions would need to be added in order to separate out the various stages; Table 3 provides examples of what statements might look like for each stage of change.

Table 3: Possible Statements to Identify Stage of Change Classification for Behaviors Related to Utilization of Health Care Services

Stage	Statement
Precontemplation	I have no plans to change how I use health care services during the next six months.
	How I use health care services is my own business.
Contemplation	I need to educate myself so that I can use health care services more appropriately.
	I am beginning to realize that I do not always use health care services the way I should.
Preparation	(According to the theory, these individuals would identify with statements from both the contemplation and the action stage.)
Action	I have recently changed the way I use health care services.
	I make an effort to use health care services appropriately so that I can save my employer money.
Maintenance	Although it isn't always the most convenient way to do things, I want to be sure I always use health care services appropriately.

Once participants are differentiated by stage, post-program evaluations could be completed to see if those initially found to be at the precontemplation or preparation stage were more likely to change their pattern of health care consumption after participation in the training program. We could also see if those initially identified as precontemplators had, at the

minimum, begun to shift their attitudes in order to place them at the contemplation stage. Also, within the limited corporate budget for this type of training program, we might be able to better identify who needs to receive training regarding health care utilization, as well as who would benefit the most from such training.

Further Examples of the Application of Stages of Change Theory to O.T.

It is the argument of this author that the relevance of Prochaska's stages of change is not limited to those O.T.s who carry out health promotion activities as the primary goal of their practice. Rather, the scope of practice for all O.T.s can be viewed as an attempt to change behavior. For example, the O.T. working in the hospital acute care setting sets goals aimed at increasing a client's physical functioning in order to allow them to regain functional activities and life roles. Often, this can involve assisting an individual to shift (or *change*) their view of themselves from "ill patient" to "active participant" in their recovery process. The O.T. working on the rehabilitation unit with an individual who has experienced a stroke wants that individual to *change* the way they have gotten dressed their entire life. The hand therapist working in the outpatient clinic wants the client with arthritis to adopt principles of joint protection and energy conservation, or to *change* the way she does various activities in her daily life. And the pediatric therapist teaches her client's parents how to perform range of motion exercises to their child with cerebral palsy, a behavior that may necessitate major *changes* in the daily routine at home. Even the director of the O.T. academic program hopes to impart major *changes* in the way her students view the world.

In addition to changes such as those described above, all occupational therapists (regardless of their area of practice) should be incorporating concepts of health promotion and

wellness into their treatment planning (AOTA, 1989). Whether the interventions are aimed at the primary level of prevention or the focus is on remediation of symptoms related to existing illness or disability, O.T.s have an ethical obligation to maximize their client's emotional, social, and physical health. Educating the client on detrimental patterns of behavior and assisting them to increase health-enhancing behaviors in all areas of their lives does this. Such education can assist many clients to recognize how lifestyle factors may have impacted their current health situation. This is particularly important, because studies have indicated that individuals often feel they have less control over major health problems; this feeling of helplessness places the individual in the precontemplation stage for changes which could positively effect their situation (O'Hare, 1996). By educating individuals about the impact of specific lifestyle factors on their diagnoses, O.T.s may begin to move clients through the stages in order to facilitate future behavioral changes. In addition to creating an opportunity for reducing risk factors for future health complications, the O.T. can empower the individual to perform at his or her highest level of ability regardless of current health status.

The literature shows that there are correlates between the fields of health education and O.T. In addition, the O.T. literature demonstrates that practitioners are interested in assisting their clients to change unhealthy behaviors in favor of more adaptive, health inducing behaviors. It makes good sense for all occupational therapists to have a thorough knowledge of how people change. By understanding the five stages of change, the various processes used to facilitate change, and the interplay of stage and process, O.T.s can better meet their client's needs.

Conclusions

The purpose of this paper has been to provide occupational therapy practitioners, especially those incorporating health promotion activities into their practice, with a new tool. The stages of change and it's associated processes of change, also commonly referred to as the transtheoretical model, was proposed by Prochaska et al. in an attempt to identify how individuals make behavior change both independently and in collaboration with medical professionals. Although initially applied to smoking cessation, over time this model has proven relevant and effective for a variety of health enhancing behaviors, in a variety of populations, and across many medical disciplines.

The model proposes that individuals progress (in a non-linear fashion) through five stages: precontemplation, contemplation, preparation, action, and maintenance. Various processes are utilized in order to facilitate progression through the stages. Relapse is common, with people frequently requiring multiple attempts before successfully progressing through the stages.

While stages of change theory has never before been described within the occupational therapy literature, it is clear that O.T.s are interested in maximizing the effect their treatment can have on the adaptive behaviors of their clients. O.T.s frequently apply many of the common processes of change in order to assist clients in making behavioral changes.

The possibilities for application of stages of change theory to the practice of occupational therapy are multiple. As Laitakari (1998) stated:

> Even if the practitioner does not use any particular stage model . . . stage-thinking in general conveys the importance of assessing the target group's readiness for action, the importance of selecting methods suited to individuals with differing

> readiness, and the importance of adjusting professional expectations according to the particular readiness observed (p. 37).

While Laitakari was specifically addressing those involved in health promotion or health education, they can be applied more broadly to the various populations and treatment settings in which occupational therapists practice. Once practitioners understand the stages of change, specific research designs can be implemented to fully explore the implications it might have on the practice of O.T.

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