Competency Beliefs and Occupational Role Behavior Among Adolescents: Explication of the Personal Causation Construct

Alexis D. Henry, Wendy J. Coster

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According to the Model of Human Occupation (MOHO), beliefs regarding competency can influence whether a person's occupational role behavior is adaptive or maladaptive. Such beliefs are considered to be part of a person's sense of "personal causation." This article reviews some of the theoretical underpinnings of the personal causation construct. Issues addressed are the distinction between competency beliefs and locus of control (another aspect of personal causation according to the MOHO); the domain-specific nature of competency beliefs; and, in particular, the evidence for a relationship between competency beliefs and actual behavior. The article focuses on competency beliefs and their relationship to three domains of occupational behavior that have relevance for adolescents: academic ability, social competence, and physical competence. Implications for clinical practice with adolescents with psychiatric disorders are addressed.

Alexis D. Henry, Sc.D, OTR/L, FAOTA, is Research Assistant Professor of Psychiatry, Center for Psychosocial and Forensic Services Research, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, Massachusetts 01655.

Wendy J. Coster, PhD, OTR/L, FAOTA, is Associate Professor, Department of Occupational Therapy, Sargent College of Allied Health Professions, Boston University, Boston, Massachusetts.

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The Model of Human Occupation (MOHO) is a conceptual model for occupational therapy practice that attempts to describe how and why persons engage in occupational role behavior throughout the life span (Kielhofner, 1985, 1995a). According to the MOHO, occupational role behavior is, in part, the product of three interrelated subsystems of a dynamic human system. The volition subsystem includes the person's motives for occupation and is made up of personal causation (one's beliefs about competence and control), values (one's convictions about how to act), and interests (one's preferences for activity). The habituation subsystem is composed of the person's routinized role and habit behavior, and the performance subsystem is composed of the person's basic capacities for occupational performance (Kielhofner, 1995c). In the original rendering of the model, Kielhofner and Burke (1985) conceived of the components of the volition subsystem as traits, that is, as relatively stable characteristics that predispose a person to behave in a particular way. They argued that volitional traits are important determinants of occupational role behavior; moreover, over time, positive or negative experiences in occupations would have related effects on volitional traits. Such premises have served as the basis for several treatment programs described in the occupational therapy literature (Munoz & Kielhofner, 1995).

In the recently reconceptualized version of the MOHO, Kielhofner, Borell, Burke, Helfrich, and Nygård (1995) argued that a trait approach to understanding motives for occupation, although useful, is insufficient to explain occupational role behavior. The notion of personal causation, values, and interest as relatively stable traits has been preserved in the new model; they are referred to as volitional structures. However, volition is now conceptualized as involving both structure and process. Volitional processes involve the actual anticipating, experiencing, choosing, and interpreting of occupation. The actual choosing to engage in an occupation at a particular moment is, in part, influenced by the person's volitional structures (e.g., one's interest in the occupation) (Kielhofner, Borell, et al., 1995). However, according to the MOHO now, occupational behavior is strongly influenced by context. Occupational behavior is constructed (or "dynamically assembled") in the moment and is a result of the interaction of the person's predispositions to act in certain ways (i.e., his or her volitional structures or traits), the structures of the habituation and performance subsystems, and the influences of the task demands and the environmental conditions at the time of engagement in the occupation (Kielhofner, 1995c).

This reconceptualization offers a more complex view...
of how occupational role behavior emerges. A person's sense of competence, for example, will not be a perfect predictor of how he or she will choose to behave in a given situation. Rather, the organization of the other subsystems and contextual factors all play a part. Occupational behavior is viewed as a function of underlying capacity, habituated behavior, and volitional tendencies in concert with existing task and environmental influences (Kielhofner, 1995d).

The purpose of this article is to explore some of the theoretical literature supporting the MOHO's conceptualization of the personal causation component of the volition subsystem, with particular emphasis on the literature about competency beliefs and, to some extent, control-related beliefs. Kielhofner and colleagues drew from several theoretical systems in their development of personal causation (Kielhofner & Burke, 1985; Kielhofner, Borell et al., 1995). However, critical discussions of the relationship of competency beliefs to occupational role behavior are generally lacking in the occupational therapy literature. This article explores the extent to which volitional traits, such as one's sense of competence, influence occupational role behavior by reviewing data that describe the relationship between competency beliefs and performance in three occupational domains: academic ability, social competence, and physical competence. In particular, the article examines the domain-specific nature of the relationship between competency beliefs and occupational performance. Although relevant for persons of any age, this discussion focuses on this relationship among adolescents. Such a discussion is particularly relevant to this age group because advances in cognitive capacities during adolescence result in greater self-awareness and more mature evaluative perceptions about competencies in occupational performance (Harrer, 1988b). In addition, adolescence is a time of expanded involvement in occupational roles and increased expectations for competent performance of these roles. Implications of the literature for clinical practice with adolescents with psychiatric disorders also is addressed.

Competency Beliefs as an Aspect of Personal Causation

Self-Concept

The notion of personal causation as a set of beliefs about one's effectiveness in occupations (Kielhofner, Borell et al., 1995) has its origins in a vast and far-ranging body of literature about the self. Of the many terms that have been used to describe the set of internal beliefs and images people hold about themselves, self-concept is one of the most common. In a comprehensive review of research related to self-concept, Wylie (1979) suggested that "any investigation which asks the subject to make a cognitive or evaluative report about any relatively enduring aspect of self might be construed to be a self-concept study" (p. 4). Self-concept is viewed as a social construction. In general, self-concept theorists suggest that perceptions of the self develop from interactions with and interpretations of feedback from the social environment, which includes parents, peers, and other important persons (Bandura, 1990; Harter, 1990a). This notion is echoed by the MOHO (Kielhofner, 1995a). As a global construct, self-concept includes multiple domains of self-knowledge, such as self-evaluation, identity, and representations of future selves (Harter, 1990b; Markus & Nurius, 1986). Self-evaluation, which is the domain of self-knowledge most relevant to this discussion of competency beliefs, is conceptualized as ranging from relatively specific evaluations about control or competency, such as beliefs about mathematical skills, to more global evaluations of overall self-regard or self-esteem (Harrer, 1983, 1988b; Wylie, 1979).

Personal Causation and Locus of Control

In the development of the personal causation component of the volition subsystem, Kielhofner and Burke (1985) drew from this body of literature on the self. In particular, they identified intrinsic motivation theories (e.g., deCharms, 1968) and social learning theory (e.g., Rotter, 1966) as important sources. The term personal causation was adopted from the work of deCharms (1968), who described personal causation as a continuum of behavior characterized at one end by behavior that is pawn-like and at the other by behavior that is origin-like. Persons with pawn-like behavior are passive, expecting little opportunity for choice and little ability to effect change in their environment. Persons with origin-like behavior are more likely to take action, believing that they have the capacity to effect change. DeCharms (1981) was less interested in a person's perception of his or her personal causation and more interested in the experience of oneself as acting like an origin or a pawn. Rather than rely on self-report measures to tap persons' evaluations of their control or competency, deCharms created, in laboratory experiments, situations intended to make subjects feel like pawns or origins. This work led to findings that the experience of originship had positive effects on learning and work quality, on feelings of positivity toward and reciprocity with an instructor, and on activity enjoyment and investment (e.g., deCharms, 1968; Kuperman, 1967). The MOHO adopts this view of personal causation as a behavioral mode but suggests that pawn and origin behaviors are influenced by self-evaluations, namely, a person's beliefs in his or her competence and control (Kielhofner & Burke, 1985; Kielhofner, Borell et al., 1995).

The locus of control construct originated within social learning theory. Social learning theory (more recently
called social cognitive theory) is concerned with the influence of thought processes on human motivation, affect, and behavior and the social origins of those thought processes (Bandura, 1986). The locus of control construct posits that the role of reinforcement in changing behavior depends, in part, on how the person thinks about the reinforcement (Rotter, 1966). Rotter proposed that persons have a generalized, unidimensional expectancy that outcomes in life (i.e., reinforcements) are related either to one's own behavior or personal characteristics (internal control) or to factors outside oneself, such as fate, chance, or powerful others (external control).

Since Rotter's (1966) original work, both the unidimensional and the generalized nature of the locus of control construct have been questioned. Some researchers have suggested that locus of control needs to be examined in terms of a person's expectancies regarding internal factors, external (i.e., powerful others, chance) factors, and unknown factors for both success and failure experiences in a variety of life domains, challenging the unidimensionality of the construct (e.g., Connell, 1985). Attribution theorists suggest that a person's perceptions of outcomes are not generalized but are situation specific and take into consideration whether the outcome is because of internal versus external factors, a stable factor such as ability, or an unstable factor such as effort (Weiner, 1979).

Research findings indicate that an internal locus of control is associated with academic achievement, good social skills, high self-esteem, activity involvement, and high motivation for treatment and that an external locus of control is associated with depression (Benassi, Sweeney, & Dufour, 1988; Cash & Burns, 1977; Meyers & Wong, 1988; Tesiny, Leikowitz, & Gordon, 1980). It seems clear that a person's sense of control is related to his or her occupational behavior and, thus, is appropriately included in the MOHO's conceptualization of personal causation. For the most part, however, writings on the model do not reflect the complexity of this construct, although some researchers have included multidimensional scales in studies of the model (e.g., Barris, Dickie, & Baron, 1988). Within the occupational therapy literature, a review of the locus of control construct by Coster and Jaffe (1991) pointed to its complexities, especially in terms of the development of perceptions of control in children.

Although a variety of instruments could be used to measure personal causation (Kielhofner, Mallinson, & de las Heras, 1995), locus of control measures have been commonly used (e.g., Barris et al., 1988; Ebb, Coster, & Duncombe, 1989; Katz, Josman, & Steinmetz, 1988). However, locus of control measures alone are insufficient to assess the personal causation construct as defined in the MOHO. As Coster and Jaffe (1991) pointed out, "individuals' judgments that an event is in some way contingent on their actions says nothing, however, about whether they will actually be able to influence events in the desired direction" (p. 21). The belief that one is able to cause desired outcomes to occur depends not only on the belief that outcomes are due to one's own actions, but also on the belief that one has the skills necessary to be effective in bringing about the outcome. The MOHO includes self-evaluations related to skills in its definition of personal causation, originally calling these components belief in skill and belief in the efficacy of skill (Kielhofner & Burke, 1985). More recently, these beliefs have been called knowledge of capacity (Kielhofner, Borell, et al., 1995).

Self-Efficacy

The MOHO defines beliefs in skill or capacity as a person's beliefs that he or she has a range of relevant present and potential abilities (Kielhofner, Borell, et al., 1995). Although not specifically identified as a source in the development of the personal causation construct, it seems clear that Bandura's (1986, 1990) self-efficacy theory is an important area to explore in a discussion of beliefs regarding skills. The self-efficacy construct also originated within social learning theory, but, whereas the locus of control construct describes expectancies regarding outcomes or reinforcements (Rotter, 1966), the self-efficacy construct describes expectancies regarding capabilities (Bandura, 1986). Bandura (1990) argued that one's beliefs about one's capabilities influence competent behavior. He stated that "self-referent thought mediates the translation of knowledge and abilities into skilled performance. Among the different facets of self-referent thought, none is more central or pervasive than beliefs regarding personal capabilities" (p. 315).

A person who believes that he or she has the capabilities to successfully perform desired behaviors has a sense of self-efficacy. Bandura (1990) argued that self-efficacy beliefs are the most powerful determinants of behavior because such beliefs influence an initial decision to perform a behavior, to expend effort, and to continue in the face of difficulty. Self-efficacy beliefs are seen as serving as a motivational force. The stronger one's efficacy beliefs, the greater and more persistent one's effort to master challenges posed by the environment. When persons exert this kind of effort, the result is generally enhanced performance. According to Bandura, self-efficacy beliefs can affect mood and anxiety levels, information processing capacities, and activity selection and goal setting. It is through their moderating influences on all of these that self-efficacy beliefs become important determinants of achievement or attainment.

Self-efficacy is conceptualized as being domain specif-
ic; a person's sense of efficacy may vary across life domains such as work, school, and interpersonal relationships. However, Bandura (1986) argued that a variety and range of positive mastery experiences can lead to a generalized positive efficacy expectancy. Success experiences alone, however, are insufficient to increase efficacy expectation. Success experiences enhance efficacy expectations only if the person attributes the success to personal characteristics (internal orientation) and not to chance, luck, or powerful others (external orientation), pointing to a relationship between self-efficacy beliefs and locus of control orientation (Bandura, 1986). Self-efficacy measures have been found to have low to moderate correlation with locus of control measures (Harter & Connell, 1984), suggesting that the two constructs are related but not identical.

Harter (1990a, 1990b) proposed a similar multidimensional model for conceptualizing self-concept. She has also been concerned with the self-evaluative aspect of self-concept, and a primary focus of her work has been the development of scales to measure such evaluations (e.g., Harter, 1988b). Harter (1990a) has been critical of measures that treat self-concept as a unidimensional construct by summing a person's evaluations about himself or herself across a range of contexts (e.g., school, peer and family relationships, physical appearance), giving them all equal weight. For example, unidimensional measures, such as the Piers–Harris Self-Concept Scale (Piers & Harris, 1969), assume that a total score derived from summing across competency items adequately reflects the person's global sense of self. Harter (1990a, 1990b) argued that such an approach masks meaningful evaluative distinctions that persons, even children, make about their competencies in various domains and makes a single summary score difficult to interpret.

According to Harter (1990a), both a person's self-evaluations regarding competency in various life domains, such as scholastic competence, job competence, and social relationships, and a person's overall judgment of his or her worth as a person must be considered. One's sense of global self-worth is a separate and distinct construct defined by the extent to which one likes oneself as a person, likes the way one is living one's life, and so forth. Along with her colleagues, Harter developed four age-targeted versions of the Self-Perception Profile (for children, adolescents, college students, adults) (Harter, 1985, 1988b; Messer & Harter, 1986; Neemann & Harter, 1986). Each version includes items that tap age-appropriate, domain-specific competencies in addition to items that tap global self-worth. By separating domain-specific judgments of competence from the more global judgment of one's worth as a person, the Self-Perception Profiles allow for an examination of the relationships between global self-worth and competency beliefs and of the relationships these may have with achievement at various points in the life span.

Developmental Changes in Competency Beliefs During Adolescence

It is helpful to preface any examination of the relationship between competency expectations and occupational behavior among adolescents with a general discussion of the relevant developmental changes that influence how one thinks about the self during adolescence. One important developmental change is the refinement of cognitive capacities, specifically the advent of formal operational thought (Piaget, 1963). Although a younger child typically describes the self in relatively concrete terms (e.g., “I have a lot of friends”), the adolescent, with the onset of formal operational thought, is able to integrate these descriptions into higher order, more abstract generalizations about the self (e.g., “I am popular”) (Harter, 1990b). This capacity for abstraction allows the adolescent to become increasingly self-reflective and introspective; preoccupation with the self is a hallmark of adolescence. Advancements in cognitive capacity can also be a source of vulnerabilities for the adolescent. The fact that higher order abstractions are more removed from concrete, observable behavior makes them more susceptible to distortion. The result may be unrealistic (either overestimated or underestimated) self-perceptions that put the adolescent at risk for maladaptive behavior (Harter, 1990b).

Adolescents use a variety of sources of information to form evaluative perceptions of the self with regard to competency. These sources may include evaluative feedback from others, actual performance outcomes, social comparisons, and internal standards (Bandura, 1986). Social, or peer, comparisons appear to be a particularly strong influence in the formation of self-perceptions. Although young children tend to evaluate their competencies by comparing their current performance with their own past performance, at about the age of 8 years, children begin to compare their performance with that of peers, and these comparisons continue to be influential into adolescence (Harter, 1988a). This use of social comparisons represents a cognitive advance. However, comparing oneself to peers may lead to decreases in competency beliefs in highly valued domains (e.g., academic, physical, social) for all but the most competent adolescents (Harter, 1988a). Studies suggest that an adolescent's competency beliefs may be particularly vulnerable during the transition to junior high school (7th grade), which brings new academic challenges, new social comparison groups, and a probable reevaluation of competencies (Harter, 1982; Wigfield, Eccles, Maclver, Reuman, & Midgley, 1991). As a person moves into older
adolescence and young adulthood, social comparisons become integrated with other sources of information as the person develops more internal or self-determined standards for performance (Harter, 1978).

During adolescence, the self undergoes differentiation relative to roles, and the opportunities for role engagement increase. The adolescent experiences a variety of role demands in relation to family members, close friends, peer groups, school, work, and others. Paradoxically, at the same time that the adolescent responds to societal demands for differentiated role behavior and creates multiple self-concepts, there is an emerging need, with the advent of formal operations, to integrate one's multiple skills, attitudes, and attributes into a coherent and unified theory of self (Harter, 1990b). Harter suggested that this paradox creates a conflict, particularly during middle adolescence, when persons perceive and are concerned about inconsistencies in their behavior across roles. By late adolescence, the conflict tends to diminish as recognition develops for the appropriateness of behaving differently across roles.

Harter (1990a) argued that during adolescence, beliefs regarding competency within various roles become increasingly important in maintaining global self-worth. Among high school students, beliefs regarding social acceptance, particularly peer acceptance, are an important predictor of global self-worth. Scholastic competence beliefs are also correlated with global self-worth among high school students. Correlates of global self-worth among college students include beliefs about peer acceptance, job competence, romantic relationships, creativity, intellectual ability, and scholastic competence. Interestingly, the beliefs that are most strongly related to global self-worth among adolescents of all ages are not those regarding competency in performance areas but rather those regarding physical appearance. In fact, the relationship between beliefs regarding physical appearance and global self-worth is very strong across the life span (Harter, 1990a).

Both Bandura's self-efficacy theory and Harter's model of perceived competence emphasize the relationship between competency beliefs and actual achievement, although the exact nature of this relationship is unclear. The next section reviews some of the research on the relationship between competency beliefs and achievement in three domains of occupational behavior of particular importance to adolescents.

Competency Beliefs and Achievement in Occupational Domains

The fields of developmental psychology and education are the sources of much of the research that examines the relationship between competency beliefs and actual achievement. Many educators assume that achievement, particularly academic performance, is strongly predicted by beliefs regarding academic ability as well as overall self-esteem (Wylie, 1979). However, researchers differ on their interpretations of the data regarding the relationship between these two variables. Some suggest that the evidence for a statistical relationship between self-evaluation and achievement is considerable (West, Fish, & Stevens, 1980). Others insist that the practical significance of low to moderate correlations should be questioned and suggest that variables such as IQ or socioeconomic status are better predictors of academic achievement (Burns, 1979).

Significant correlations between relatively global measures of academic achievement (e.g., standardized achievement tests, grade point average) or more specific measures of academic ability (e.g., math grades) and global measures of self-esteem or more domain-specific measures of perceived competency have been reported among Caucasian and non-Caucasian middle school, high school, and college students in the United States and other countries (Harter & Connell, 1984; Maquand & Roushani, 1991; Nottelmann, 1987; Sink, Barnett, & Pool, 1993; Smith, Arnoff, & Wright, 1996; Wigfield et al., 1991; Zimmerman, Bandura, & Martinez-Pons, 1992). In general, academic achievement tends to correlate more strongly with domain-specific measures of academic competency beliefs than with more global measures of self-esteem. Achievement in specific academic arenas tends to correlate most strongly with its corresponding competency perception (e.g., math grades with math self-efficacy) (Wigfield et al., 1991). Such data support Harter's (1990a) domain-specific model that describes competency beliefs and achievement.

In their meta-analysis of the relationship between self-evaluation and achievement measures, Hansford and Hattie (1982) examined 1,136 correlations from 128 studies that involved 68,656 persons and found the average relationship to be relatively weak (range = .21-.26). As have other studies, their meta-analysis revealed that the mean correlation was substantially stronger when achievement was compared with the more specific self-perception of ability measures than with the more global self-esteem measures. In addition, the type of achievement measure, grade level, socioeconomic status, ethnic group, and ability level all modified the correlation between self-evaluation and achievement. Although Hansford and Hattie suggested that the correlations between self and achievement measures may seem very small, with only 4% to 7% of the variance being explained, they also suggested that "the self may be as strongly linked with achievement as with any other personological variable" (p. 139). One noteworthy finding was that higher quality studies, using nationally representative samples, standardized measures,
and reporting reliability coefficients, were, in general, more likely to report relatively low correlations between measures of self and achievement. This suggests that studies reporting higher correlations may have limited generalizability.

To a lesser extent, researchers have examined the relationship between self-perceptions and social competence. Psychiatrist ratings of social competence among adolescents have been positively correlated with global self-esteem, and adolescents who have been psychiatrically hospitalized have been found to report lower social self-efficacy than those not hospitalized (Connolly, 1989; Marton, Golombek, Stein, & Korenblum, 1988). Among early and late adolescents, self-perceived social competence has been found to correlate positively with both teacher and peer ratings of social competence and the number of reciprocal peer friendships and to correlate negatively with loneliness (e.g., Connolly, 1989; Moore & Schultz, 1983; Nottleman, 1987). College students with low social self-efficacy have been found to demonstrate less ability or willingness to engage in social interactions, even when their knowledge of appropriate social behaviors matches that of students with high social self-efficacy (Alden & Wallace, 1991; Hill, 1989). As with academic achievement, these findings support a domain-specific model to explain the relationship between competency beliefs and actual social competence.

Research data also suggest that a domain-specific model is the most appropriate to explain the relationship between physical competency beliefs and actual physical competence (Feltz & Brown, 1984). Among junior and senior high school students, perceived physical competence has been found to correlate with the length of sports participation and level of physical activity involvement (Covey & Feltz, 1991), with teacher ratings of physical competence (Nottleman, 1987), and with a sports skills test (Feltz & Brown, 1984). Among college students, higher physical self-efficacy has been correlated with better performance of tasks of physical skill, greater past and current sports involvement, and greater activity enjoyment (Cash & Burns, 1977; Paulhus, Molin, & Schuchts, 1979; Rychman, Robbins, Thornton, & Cantrell, 1982).

A few researchers investigated the direction of causal links between perceived competence and achievement with causal modeling techniques. Harter and Connell (1984) explored the relationships among perceived competence, perceived control, academic achievement, and motivational orientation (either internal or external). Their findings suggested that perceptions regarding control are at the beginning of a predictive chain, with perceived control directly influencing achievement and achievement influencing perceived competence. They did not find support for the view that perceived competence directly influences achievement. Weiss, Bredemeier, and Shewchuk (1986) examined the same questions relative to sports. Their findings suggested that specific and more general perceptions of physical competence do influence sports achievement. These contradictory findings regarding the causal link between competency beliefs and achievement point to the limitations of methods and data such as these to determine causality. Nonexperimental, nonlongitudinal, correlational data, even when subjected to causal modeling procedures, are not sufficient to answer questions of causality (Rosenthal & Rosnow, 1991).

**Discussion**

Research findings demonstrate fairly consistent and generally low to moderate correlations between measures of competency beliefs and measures of performance in a variety of occupational domains among adolescents without disabilities. Because of their greater relevance, domain-specific self-evaluations of competency are, not surprisingly, generally more predictive of corresponding performance or achievement scores than are global measures of self-esteem or self-worth. Different interpretations about the causal relationship between competency beliefs and achievement can be made of correlational data such as these. One interpretation is that a greater sense of competency leads a person to achieve enhanced performance. Another is that high achievement causes a person to develop an increased sense of competency. Correlational data can provide support for either explanation, but strong causal inferences drawn from correlational data alone are unwarranted. Perhaps it is most useful to assume that there are bidirectional influence patterns in the relationship between perceived competency and performance in occupational domains. In other words, one's perceptions of competence influence one's occupational performance, and one's occupational performance influences one's perceptions of competence. Bandura (1990) suggested a bidirectional model for the relationship between these variables, as did the MOHO (Kielhofner, 1995a). Even if a bidirectional model is more appropriate for understanding the relationship between perceived competency and occupational performance, it is clear that competency beliefs account for a relatively small percentage of the variance in performance.

Locus of control is another variable related to performance. Although an internal locus of control is generally viewed as a positive attribute, convictions that outcomes are determined by one's own behavior can be either demoralizing or heartening, depending on whether self-efficacy beliefs are high or low (Bandura, 1986). Beliefs that one has both requisite capacities and control over outcomes may be necessary for successful occupational role behavior. Together, these self-evaluations (beliefs

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about competence and about control) constitute what Kielhofner, Borell, et al. (1995) referred to as the structures of personal causation. Although these structures, or stable traits, contribute to the prediction of occupational role behavior, they are not sufficient to explain all the variance in role behavior. Variables such as ability, moods, interest, values, socioeconomic status, social environment, and extrinsic incentives operate with perceived competency and control to influence an adolescent's performance in occupations (Bandura, 1986; Harter & Connell, 1984).

Recently, Kielhofner (1995c) argued that, in particular, the task demands and environment are important influences in the assembly of occupational behavior. For example, an adolescent may feel competent in an academic arena and yet hesitate to participate in a particular academic activity because of the social conditions of the classroom environment. Conversely, an adolescent with depression, with a lowered sense of competency, may resist participating in a craft activity but may engage with the support and encouragement of a therapist (i.e., the environment).

The conceptualization of personal causation, as put forth by the MOHO, finds some support in the literature. The literature supports the view that a person's perceptions of competence are related to successful occupational behavior (Bandura, 1986, 1990; Harter & Connell, 1984). However, it is only recently that the multidimensional, domain-specific nature of perceived competence has been recognized in the MOHO (Kielhofner, Borell, et al., 1995). This domain-specific relationship between competency beliefs and performance has important implications for the collection and interpretation of patient evaluation data. For example, global measures of self-esteem or self-concept may yield little information to occupational therapists wishing to evaluate an adolescent's sense of competency in specific occupations. Needed are measures that tap a person's competency beliefs across occupational domains. Efforts by occupational therapy researchers to develop such measures for use with adolescents and others are emerging (e.g., Baron & Curtin, 1990; de las Heras, 1993; Gage, Noh, Polatajko, & Kaspar, 1994).

The reciprocal relationship between competency beliefs and occupational role behavior proposed in the MOHO also finds support in the literature (Bandura, 1986, 1990). However, further investigation of the causal links between beliefs regarding competency and success in occupations is necessary because it is these theorized causal connections that provide the guidelines for intervention. The social–cognitive literature suggests several approaches to changing competency belief, with three strategies being particularly useful for guiding occupational therapy interventions with adolescents: mastery experiences, modeling, and social persuasion (Bandura, 1990; Bruce & Borg, 1993). Action-oriented mastery experiences, particularly those that require persistence and involve overcoming some setbacks in the process of achieving success, are believed to be the most effective way of developing a strong sense of competency. Modeling involves having the opportunity to observe persons who succeed and who are perceived to be similar to oneself. Having access to such peer models can raise an adolescent's beliefs about his or her own competency and increase the likelihood that he or she will try out those behaviors that seemed to lead to success for their peers. Social persuasion involves receiving support and realistic encouragement to try out new behaviors from a skilled efficacy builder (i.e., therapist) (Bandura, 1990).

Such approaches are consistent with MOHO principles for intervention that emphasize the value of experimentation in the therapy process and the therapist's primary role in structuring the environment to facilitate change (Kielhofner, 1995b). For such strategies to be effective, however, the critical developmental changes that influence adolescents' capacities for abstraction, for self-reflection, and for making evaluations about their own competencies must be considered. For example, the fact that social comparisons are so critical during adolescence in the formation of self-evaluations of competency suggests that modeling may be a particularly powerful strategy for changing perceived competency with adolescents. Such important developmental issues relative to competency perceptions have not been adequately addressed by MOHO theorists.

Implications for Practice

Occupational therapy professional's ultimate interest in research is in the usefulness of findings for guiding interventions. Adolescents with psychiatric disorders certainly make up one group that is likely to evidence decreased perceived competence; however, the relationships between perceived competence and occupational role behavior among these adolescents have not been well researched. In general, adolescents with psychiatric disorders demonstrate decreased self-perceptions of competence, as well as decreased performance in academic and social arenas, compared with controls (e.g., Fauber, Forehand, Long, Burke, & Faust, 1987; Lewis, Johnson, Cohen, Garcia, & Velez, 1988; Monti & Fingeret, 1987; Rosenbaum & Hadari, 1985; Slotkin, Forehand, Fauber, McCombs, & Long, 1988).

However, perceptions of competence in persons with psychiatric disorders may be a function of mood state. Research data consistently point to a relationship between depression and a decreased sense of competency among adolescents (e.g., Ehrenberg, Cox, & Koopman, 1991; Windle et al., 1986), whereas elevated perceptions of competency are known to correlate with mania (American
studies that exist suggest that decreases or increases in competency beliefs occur in concert with a corresponding mood state. Decreases or increases in competency beliefs appear neither to predict future depression or mania nor to persist after mood has stabilized (Ashworth, Blackburn, & McPherson, 1985; Lewinsohn, Steinhart, Larson, & Franklin, 1981; Zupan, Hammen, & Jänicke, 1987). Given that both perceptions of competency and occupational performance can vary with fluctuations in psychiatric symptoms, assumptions about the relationship between competency beliefs and occupational role behavior among adolescents with psychiatric disorders must be made with caution.

Although there is some evidence in the literature that perceptions regarding competency can be influenced by the types of interventions previously discussed (e.g., mastery experiences), the stability of the changes over time is questionable (Ludwig & Maehr, 1967; Marsh, Richards, & Barnes, 1986; Pinkard & Gross, 1984; Smith, 1989). For example, Brown, Welsh, Labbe, Virulli, and Kulkarni (1992) found that adolescents with psychiatric disorders who participated in a 9-week aerobic exercise program experienced short-term improvement in self-efficacy compared with controls, but the improvements had disappeared by the 4-week follow-up.

Within occupational therapy, few attempts have been made to examine the effectiveness of interventions on changing competency beliefs among adolescents. Adelstein (1991) examined the effectiveness of a vocational program for 14 adolescent patients with psychiatric disorders on work skills, attitudes, and self-perceptions. Although changes in skills and attitudes were seen for some patients, effects of the intervention on work self-perceptions were less conclusive. Some patients judged themselves as more competent after the intervention, whereas others perceived themselves as less competent. However, Adelstein pointed out that the decrease in perceived competence may reflect a more realistic self-appraisal by patients whose sense of competence was inflated. In a pilot study, DeForest, Watts, and Madigan (1991) found positive changes in perceived competence among adolescent boys with juvenile delinquency after participation in craft activities. In another pilot study of children and adolescents with learning difficulties, Zemke, Knuth, and Chase (1984) reported improvements in self-concept after a 2-week therapeutic residential camp experience. Although such findings are intriguing, all three studies lacked adequate scientific controls.

Occupational therapy professionals, with their expertise in occupation-based group treatment, are well-equipped to provide the kind of mastery experiences, modeling, and social persuasion interventions believed to affect competency perceptions. However, whether improvements in perceived competency translate into sustained changes in occupational performance is unclear. If improvements in perceived competency can result in enhanced occupational performance, what kind of interventions are most effective in bringing about such a change with adolescents? Do these interventions need to be of a sufficient duration or intensity for change to occur? Such questions are important areas to be addressed in occupational therapy research. Findings in these areas would further our understanding of the relationship between perceptions of competency and occupational role behavior and would contribute much to the validation and refinement of the MOHO.

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