

Physical Activity in Parents of Young African American Children: The Application of Social Cognitive Theory

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Background: Social cognitive theory (SCT) proposes that personal and environmental factors influence behavior bidirectionally. Research examining the personal and environmental factors of physical activity (PA) among African Americans (AAs) framed by SCT is scarce. **Purpose:** The purpose of this article is to enhance knowledge of SCT as a foundation for health promotion and PA research, in general, and among AAs. Findings from a previous study provide exemplars for key factors and relationships in SCT. **Implications for Research and Practice:** The SCT serves as a good framework for researchers studying health promotion and PA in general among AA parents.

Keywords: physical activity; parents; children; African American; social cognitive theory

Regular physical activity (PA) is an important behavior. Lack of PA places one at significant risk for chronic diseases (e.g., obesity, cardiovascular disease, and cancer). African Americans (AAs) do not meet the recommendations for amounts of PA (Bopp et al., 2006). Joseph, Ainsworth, Keller, and Dodgson (2015) identified intrapersonal, interpersonal, and environmental or community barriers to

PA participation among AA women. Intrapersonal barriers were lack of time, knowledge of PA, motivation for PA, physical appearance and health concerns, monetary cost associated with access to PA facilities, and fatigue. Interpersonal barriers were family/caregiving responsibilities, lack of social support, and lack of a PA partner. Environmental/community characteristics such as high crime neighborhoods), lack of physical facilities, weather concerns, lack of sidewalks, and lack of physically active AA role models (Joseph, Ainsworth, Keller, & Dodgson, 2015) serve as barriers. Environmental barriers can include poverty. Higher poverty rates exist among AAs [24%] when compared to non-Hispanic whites [10%]; (DiscoverTheNetworks.org, 2015). AAs are more likely to reside in neighborhoods with substantial pockets of poverty (Bouie, 2014).

Parents or caregivers are a key modifier of the environment of young children, often serving as role models with respect to behavior (Martin-Biggers et al., 2015). PA behaviors are established early and are often modeled by family (Hudson, 2008; Odoms-Young & Fitzgibbon, 2008; Stevens, 2010). Physically active parents are more likely to have physically active children (Lindqvist, Kostenius, Gard, & Rutberg, 2015). Parents can demonstrate adequate PA by discouraging sedentary behaviors and being visibly engaged in PA (Lindsay, Sussner, Kim, & Gortmaker, 2006). To accomplish this, parents must understand the importance of PA and model this behavior for their children and provide them with opportunities to engage in PA (Lindsay et al., 2006; Webber & Loescher, 2013; Wright, Wilson, Griffin, & Evans, 2010).

In addition to understanding PA behavior among parents of AA children, discerning the personal and environmental factors influencing PA behavior among AAs is needed, to then design targeted and tailored interventions (Bopp et al., 2006). Social cognitive theory (SCT) provides a framework to determine relationships between PA behavior, personal, and environmental factors.

OVERVIEW OF SOCIAL COGNITIVE THEORY

Albert Bandura developed SCT for application to health behavior. According to Bandura, knowledge, self-efficacy, outcome expectancies, and sociostructural factors (facilitators and impediments) influence behavior. We focus on the behavior of parents' PA, which is defined as any bodily movement produced by skeletal muscles resulting in energy expenditure (Reiser & Schlenk, 2009). Other concept definitions are presented in Table 1. The following section explores how Bandura postulates SCT's constructs (knowledge, self-efficacy, outcome expectations, and environment) as they relate to behavior.

KNOWLEDGE

Knowledge is a precondition for behavior change. Content knowledge and procedural knowledge are two different types of knowledge. Content knowledge involves understanding of the advantages and disadvantages of engaging in a given health behavior whereas procedural knowledge is defined as the understanding of the

TABLE 1. Conceptual and Operational Definitions of Constructs, Concepts, and Corresponding Study Variables

Constructs and Concepts	Conceptual Definitions	Operational Definitions: Instruments
Person		
Knowledge	Parents' content and procedural knowledge of recommended physical activity for health benefits.	Knowledge of Physical Activity Guidelines Questionnaire: PA guidelines, traditional activities, and leisure activities subscales.
• Content knowledge		Content knowledge (Physical Activity, You, and Your Environment Questionnaire Items 11 and 12)
• Procedural knowledge		Procedural knowledge (Physical Activity, You, and Your Environment Questionnaire Items 9–10, 13–30)
Self-efficacy	Parents' confidence in their ability to adopt and maintain physical activity, and overcome barriers to physical activity engagement.	Multidimensional Self-Efficacy for Exercise Scale (MSES)
		• Task-self efficacy (adoption of physical activity engagement) (3 items)
		• Scheduling self-efficacy scale (maintenance and overcoming barriers to physical activity engagement) (3 items)
Outcome expectations	Parents' anticipated outcomes and beliefs to engaging in physical activity in the forms of physical (physical experiences), social (approval and disapproval from interpersonal relationships), and self-evaluative outcomes (self-worth and satisfaction).	Coping self-efficacy (ability to engage in physical activity in spite of environmental demands and challenges) (3 items) Multidimensional Outcome Expectations for Exercise Scale (MOEES) • Physical (6 items) • Social (4 items) • Self-Evaluative (5 items)

(Continued)

TABLE 1. Conceptual and Operational Definitions of Constructs, Concepts, and Corresponding Study Variables (Continued)

Constructs and Concepts	Conceptual Definitions	Operational Definitions: Instruments
Environment		
Sociostructural factors	Environmental factors that impede or facilitate parents' physical activity.	MacArthur Scale of Subjective Social Status (SSS) (9 items)
<ul style="list-style-type: none"> Socioeconomic status (SES) Neighborhood safety 		Physical Activity Neighborhood Environmental Survey (PANES) (17 items)
Culture	Values, beliefs, and practices; traditions and preferences of the dominant society (e.g., acculturation).	African American Acculturation Scale-Revised (AAAS-R)—Preference for African American things (8 items)
Behavior		
Physical activity	Parents' self-reported physical activity.	International Physical Activity Questionnaire Short Form (IPAQ-S) (7 items)

Note. Definitions of concepts and instruments used to operationalize SCT's personal and environmental factors and PA behavior, along with their conceptual definitions. SCT=social cognitive theory, PA=physical activity.

steps to engage in a given health behavior. Knowledge entails awareness of the risks and benefits associated with health behavior. People who lack knowledge about how their lifestyle habits impact their health are more likely to engage in those enjoyable habits that adversely impact their health (Bandura, 2004). In this article, we are focusing on knowledge of PA.

SELF-EFFICACY

Self-efficacy is defined as beliefs in one's capability to control challenging demands and own functioning. Self-efficacy is significant in behavior change because it is the foundation of human motivation and action (Bandura, 1998, 2004). Bandura (1997) discusses how self-efficacy attempts to explain individual perceptions of ability impacts behavior, motivation levels, thought patterns, and emotional reactions. Bandura (1998) postulates self-efficacy as a key factor in the causal structure, because it operates on motivation and action both directly and indirectly. In the absence of self-efficacy, people are less motivated to engage in an action that will result in behavior change. Self-efficacy is required for the adoption and maintenance of health behavior. It influences behavior directly and indirectly through other determinants (e.g., goals, aspirations, outcomes, and how obstacles and impediments are viewed) (Bandura, 2004). Self-efficacy beliefs also underpin well-being and personal accomplishment (Bandura, 1998, 2004). Thus, self-efficacy has a powerful influence on human function through an individual's motivation, affective states, and actions (Bandura, 1997). Bandura (1998) posits that self-efficacy works in concert with cognized goals, outcome expectations, and perceived environmental impediments and facilitators (sociostructural factors) in the regulation of human motivation, action, and well-being. Lastly, Bandura (1997) and Bandura and Locke (2003) state self-efficacy is the single, most necessary motivational element involved in pushing individuals to take action.

OUTCOME EXPECTATIONS

Outcome expectations are anticipated positive outcomes and general beliefs related to engaging in a behavior. The three forms of outcome expectations are physical (the anticipation of what will be experienced after behavior change—e.g., participation in PA results in weight loss); social (anticipated social responses after behavior change); and self-evaluative (anticipation of experiences); Bandura, 1998, 2004). Outcome expectations serve as a vital component of behavior change when accompanied with self-efficacy (Bandura, 2004). In comparison to self-efficacy, Bandura (2004) states that outcome expectations are perceptions of anticipated outcomes (expected costs and benefits) associated with a particular behavior, whereas self-efficacy is based on perceptions of one's ability to perform a certain behavior shaping the expected outcomes. Another similarity between outcome expectations and self-efficacy is that high outcome expectations act as a strong motivator for behavior (1997). In fact, Bandura (1977) suggests that behavior change and maintenance of that behavior are based on an individual's self-efficacy and outcome expectations.

ENVIRONMENT (SOCIOSTRUCTURAL AND CULTURAL FACTORS)

Sociostructural factors represent the supportive and impeding factors of a person's environment. They entail barriers or opportunities to engage in a behavior (Bandura, 1997). Living conditions or environmental systems (e.g., neighborhood safety and culture) and economic systems (socioeconomic status [SES]) are some examples of barriers and opportunities associated with behavior change (Bandura, 1997, 2001). Sociostructural factors are the supporting (*facilitators*) and impeding factors (*impediments*) of a person's environment (social, economic, policy, legal, or physical influence) that enable or limit his or her ability to effectively engage in a goal-directed behavior (Bandura, 1997, 2001). Bandura (2004) acknowledges how the regulation of behavior goes beyond the individual and should incorporate the impediments. SES consists of the social conditions, economic conditions, income, occupation status, and educational level synergistically influencing person and behavior (Bandura, 2001; Socioeconomic Status, n.d.). Neighborhood safety is defined as the physical surroundings influencing human behavior (Bandura, 1986, 1997). Culture is defined as values, beliefs, and practices of a particular group influencing behavior (Boyington et al., 2008). In this article, we are focusing on the sociostructural factors of SES, neighborhood safety, and culture.

INTERRELATIONSHIPS OF SCT CONSTRUCTS

Bandura proposed that human behavior is a product of a dynamic interplay of personal, behavioral, and environmental influences, a phenomenon known as triadic reciprocal determinism (Bandura, 1986). Personal factors (cognitive, affective, and biological events), environmental factors, and the behavior interact and influence one another bidirectionally (Bandura, 2001). Reciprocal determinism suggests that people have the ability to alter or construct environments to suit purposes they devise for themselves (Bandura, 1986). Bandura (2002) suggests that environmental (i.e., sociostructural) and personal factors operate interdependently within a unified causal structure.

We posited that SCT can guide the understanding of AA parents' or caregivers' PA through its relationship with parents or caregivers: (a) personal factors (i.e., knowledge of PA, self-efficacy and outcome expectations of PA) and (b) environmental factors (SES, neighborhood safety, and culture). Using SCT as a foundation, we hypothesized that parents or caregivers with enhanced knowledge of PA, increased self-efficacy, an environment that aids in promoting PA, and positive outcome expectations will self-report engaging in greater PA. Figure 1 depicts the reciprocal relationship of parents' personal factors (knowledge of PA, self-efficacy, and outcome expectations), environmental factors (SES, neighborhood safety, and culture), and behavior (PA).

STUDY BACKGROUND AND PARTICIPANTS

We conducted an online survey examining the role of personal (knowledge of PA, exercise self-efficacy and outcome expectations) and environmental (SES, neighborhood safety, and culture) factors on PA behavior, among AA parents and caregivers

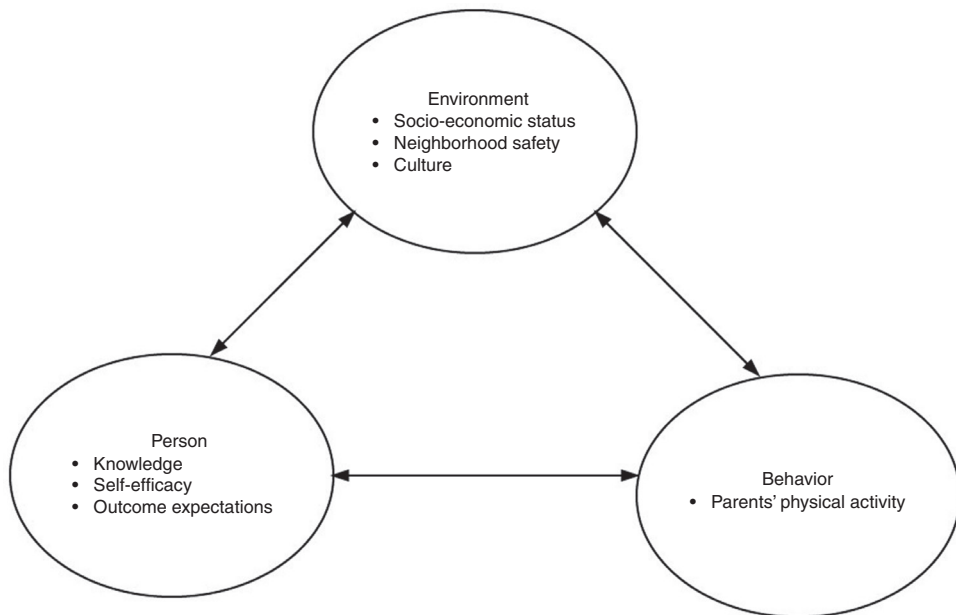


Figure 1. Relationships among constructs and concepts of Social Cognitive Theory. The reciprocal relationship of parents' personal factors (knowledge of physical activity, self-efficacy, and outcome expectations), environmental factors (socioeconomic status, neighborhood safety, and culture), and behavior (PA).

of young children residing in South Side, Chicago, between May and August 2014. Study details are reported elsewhere (Webber-Ritchey, Taylor-Piliae, Insel, & Loescher, 2016). Briefly, this was a cross-sectional study in which participants had to be a parent, caregiver, or legal guardian to a child or children ages 6–12 years living in their home; English literate; with access to a tablet or digital device for survey completion (Webber-Ritchey, Taylor-Piliae, Insel, & Loescher, 2016). A total of 96 AA parents/caregivers were eligible for analysis. Table 1 lists the instruments used to operationalize the SCT personal and environmental factors and PA behavior, along with the corresponding conceptual definitions.

ASSOCIATIONS OF PARENTS'/CAREGIVERS' PERSONAL AND ENVIRONMENTAL FACTORS TO PHYSICAL ACTIVITY FRAMED BY SOCIAL COGNITIVE THEORY

The study findings indicated weak to moderate associations between the SCT constructs of personal and environmental factors with PA of AA parents of young children (Table 2). Moderate associations ($p < .05$) were found between PA behavior with (a) knowledge of PA (personal factor, $r_s = -0.30$), and (b) neighborhood safety (environmental factor, $r_s = .25$). In addition, there were moderate associations ($p < .05$) between culture (environmental factor) with (a) knowledge of PA (personal

TABLE 2. SCT Associations of Personal and Environmental Factors With Physical Activity

Associations with PA	Magnitude of Association*
Personal Factors	
Knowledge of PA	Moderate*
Self-efficacy	Weak
Outcome expectations	Weak
Environmental Factors	
Socioeconomic status	Weak
Neighborhood safety	Moderate*
Culture	Weak

Note. Associations between the SCT concepts and constructs of personal and environmental factors with PA of African American parents of young children. SCT = social cognitive theory; PA = physical activity.

* $p < .0$.

factor, $r_s = -0.30$), and (b) self-efficacy (personal factor, $r_s = .30$). Only weak associations were found ($p < .05$) between SES and culture (environmental factors) with outcome expectations for PA (personal factor, $r_s = 0.22-0.24$). These findings support Bandura's reciprocal determinism regarding interdependent association among personal and environmental factors (Bandura, 2002).

In SCT, Bandura suggests that sociostructural factors (e.g., SES and family structures) indirectly, rather than directly, affect behavior through self-efficacy and self-regulatory influences (e.g., goals, personal standards, and affective states; Bandura, 2001). Thus, the lack of association between SES and PA in our study supports Bandura's assumption. Our findings are consistent with behavior being impacted by different sources of influence, not causal associations between them (Bandura, 2001). The findings also support Bandura (1986, 1997) claims regarding sociostructural factors inability to offer greater understanding of human behavior alone.

An unexpected finding was a significant, negative association between knowledge of PA with PA behavior (Table 2). According to Bandura (1986), knowledge, competence, and self-efficacy function together to provide explanations of behavior. Bandura (2004) proposed that knowledge is the precondition for behavior change and that it plays a major role in personal change. The negative association between knowledge of PA and PA in our study suggests that AA parents or caregivers with increased or decreased PA were not influenced by knowledge of PA. However, we found low internal consistency (Kuder-Richardson 0.52) for the Knowledge of PA Guidelines questionnaire used in the study (Webber-Ritchey, Taylor-Piliae, Insel, & Loescher, 2016). A similar suboptimal internal consistency coefficient (Kuder-Richardson 0.59) was reported by the instrument developers (Morrow, Krzewinski-Malone, Jackson, Bungum, & FitzGerald, 2004). Kuder-Richardson assumes that all items are measuring a single construct (Cook & Beckman, 2006). Low internal consistency of this measure could be a result of the items measuring other constructs

in addition to specific knowledge about PA (Morrow et al., 2004), and may have influenced the findings obtained.

Our study findings support the hypothesized relationship between parents' PA behavior and environmental factors (e.g., neighborhood safety) (Bandura, 1986). This is consistent with a systematic review of the physical environment and its association with PA among AAs (Casagrande, Whitt-Glover, Lancaster, Odoms-Young, & Gary, 2009). These investigators concluded that the presence of light traffic, sidewalks, and safety from crime are often associated with greater participation in PA.

Outcome expectations serve as incentives for behavior change (Bandura, 2004). Outcome expectations make a small contribution to understanding certain behaviors after taking into consideration self-efficacy (Bandura, 1997; Li et al., 2012). Our findings differed from this SCT construct in that parents' or caregivers' outcome expectations of PA were not associated with PA behavior ($p > .05$). Our findings also differed from Bandura's claims regarding the role that outcome expectations play in understanding behavior in which parents' outcome expectations (social, physical, and self-evaluative) did not predict parents/caregivers' PA when accompanied with self-efficacy. The lack of association found between PA behavior and outcome expectations is also supported by Joseph et al. (2013) in which outcome expectations was not associated with self-reported PA among AA women ($N = 34$).

SOCIAL COGNITIVE THEORY IN HEALTH PROMOTION AND PHYSICAL ACTIVITY RESEARCH

Pender, Murdaugh, and Parsons (2011) define health promotion as behavior motivated by the desire to increase well-being and actualize human health potential through taking action that contributes to overall health. Health promotion focuses on six dimensions: individual, family, community, socioeconomic, cultural, and environmental (Pender et al., 2011). Based on this definition, encouraging others to adopt healthy behaviors (e.g., improving dietary and PA behaviors) represents health promotion. Health behavior plays a critical role in health maintenance and disease prevention (Bâban & Crâciun, 2007). In helping people engage in adequate PA levels and maintain this behavior throughout life (Tuso, 2015), healthy behavior is promoted. This supports the necessity of obtaining a greater understanding of the determinants of behavior. Theories provide guidance in understanding why people do or do not engage in health-promoting behaviors (Glanz & Bishop, 2010).

SCT is a theoretical model that is widely used in health behavior research (Painter, Borba, Hynes, Mays, & Glanz, 2008). Doerksen and McAuley (2014) found both SCT's outcome expectations and self-efficacy to influence dietary behavior change (food and vegetable consumption and low-fat food consumption). Plotnikoff, Lippke, Courneya, Birkett, and Sigal (2008) found that self-efficacy is essential in the promotion of health behavior, and outcome expectations are important for setting goals as well as behavior performance as it relates to explaining PA behavior. SCT's core construct of reciprocal determinism is extremely useful in health promotion research, because it suggests that a person can be both an agent for change and

a responder of change, meaning that changes in the environment and reinforcements can be used to promote behavior (Glanz & Bishop, 2010). Another strong construct of SCT in health promotion research is self-efficacy. Sell, Amella, Mueller, Andrews, and Wachs (2016) conducted an integrative review on the use of SCT in chronic disease self-management clinical research and found that self-efficacy was consistently measured in studies. A secondary analysis investigating the influence of SCT constructs and condom use showed that SCT's self-efficacy and outcome expectations (partner-expected outcomes) are important in condom use behavior (Snead et al., 2014). Bandura (2004) postulates SCT's role in health promotion as it relates to its ability to promote psychosocial changes among various cultures through the following three components: (a) ability to specify the determinants of psychological change and the mechanisms through which they produce their effects; (b) pinpointing the content, strategies of change, and their mode of implementation; and (c) identification of how to promote adoption of psychosocial programs that address different sociostructural circumstances.

As postulated by Bandura (1997), self-efficacy plays a significant role in PA behavior and has been used as a construct in numerous PA-related research studies (Buchan, Ollis, Thomas, & Baker, 2012; Keller, Fleury, Gregor-Holt, & Thompson, 1999). Anderson-Bill, Winett, and Wojcik (2011) found self-efficacy as a good predictor of participation in healthier levels of PA. Haider, Sharma, and Bernand (2012) found an association between increasing self-efficacy among South Asian college students ($N = 58$) and increasing their exercise levels. Peyman, Esmaily, Taghipour, and Mahdizadeh (2013) studied predictors of PA among women with diabetes type 2 and found self-efficacy had a significant effect ($p = .005$) on PA. Guntzville, King, Jensen, and Davis (2016) found a reciprocal relationship between self-efficacy and health literacy significantly predicted PA. Mailey, Phillips, Dlugonski, and Conroy (2016) found that self-efficacy played an important role in explaining parents' PA behavior.

SCT's outcome expectations is another construct that is significant in PA research. Basen-Engquist et al. (2013) found a consistent relationship between self-efficacy, outcome expectations, and PA in a longitudinal study among endometrial cancer survivors in which the relationship between outcome expectations was attenuated when self-efficacy. Sriramatr, Silalertdetkul, and Wachirathanin (2016) found that all SCT variables (exercise self-efficacy and outcome expectations) were significantly correlated with PA in which self-efficacy had the highest correlation followed by outcome expectations. Self-efficacy was a strongest predictor of PA via outcome expectations among middle-aged and older adults (White, Wójcicki, & McAuley, 2012). These studies support Bandura's claims that outcome expectations are important in behavior change when accompanied with self-efficacy (Bandura, 2004). Although SCT constructs (self-efficacy, outcome expectations, and sociostructural factors-impediments) have been useful in PA research, Stacey, James, Chapman, and Lubans (2016) found little support of SCT's self-efficacy, outcome expectations, and sociostructural factors (impediments and social support) for mediating the effect of PA behavior change among cancer survivors and carers.

Most research studies support the use of SCT's self-efficacy in both health promotion and PA research. Self-efficacy has also been added to other health promotion models/theories to improve their predictive power (e.g., theory of planned behavior [TPB] and health belief model [HBM]). Rosenstock, Strecher, and Becker (1988) suggested that self-efficacy as an addition to the HBM provides a stronger approach in understanding and influencing health behaviors. Self-efficacy has been widely used in research aiming to understand the motivational process involved in PA (Buchan, Ollis, Thomas, & Baker, 2012), which is why it is important to discuss the self-determination theory (SDT). Dunsmore and Goodson (2006) discuss the importance of motivation in health promotion research given its ability to aid in understanding health behavior and for effecting behavior changes. Glanz and Bishop (2010) discuss how no single theory or model dominates research or practice in health promotion. Alternate theories and models will now be discussed.

ALTERNATE THEORIES/MODELS TO FRAME PHYSICAL ACTIVITY RESEARCH

There is no single theory or model that predicts behavior change (Pender et al., 2011). Based on this notion, the following theories and models will be discussed.

SELF-DETERMINATION THEORY

In contrast to SCT's minimal attention on motivation in health behavior, SDT focuses on the processes in which an individual acquires the motivation for engaging in new health-related behaviors, maintains them, and the different types of motivation (Deci & Ryan, 2000). SDT has been applied extensively to PA research in understanding the motivational factors involved (Deci & Ryan, 1985). However, more research is needed within the area of PA-related behavior change (Buchan, Ollis, Thomas, & Baker, 2012). Sweet, Fortier, Strachan, Blanchard, and Boulay (2014) found that SDT has been proven useful in PA research when combined with self-efficacy theory constructs of self-efficacy and outcome expectations, suggesting theoretical integration in future research.

ECOLOGICAL MODELS

Ecological models can serve as alternative theoretical frameworks for the study of PA in AAs. Health promotion involves targeting the environments through policies to meet the needs of the community, which leads to wide-reaching effects that result in longevity in increasing PA participation (Li et al., 2012). In fact, health promotion interventions are more effective when an ecological perspective is considered. Ecological models propose that multiple levels (e.g., intrapersonal, interpersonal, community) influence health behaviors (Sallis, Owen, & Fisher, 2008). Socio-ecological models offer the ability to look beyond the environmental factors by incorporating transactions of individuals and groups with the environment (e.g., intrapersonal, sociocultural, and environmental policy components) (Stokols, 2000,

Stokols, 2004). Social-ecological perspectives offer the opportunity to investigate multiple factors influencing PA behavior change (Stokols, 1996).

Ecological models offer a unique perspective to PA research that determinants or factors may change over time with a direct influence on behavior that other widely utilized models with PA research (e.g., SCT, SDT, and TPB) do not embrace. However, ecological models fail to provide specific mechanisms through which particular influences may interact and influence specific behaviors. The lack of specificity and instruction given presents methodological and conceptual challenges to researchers, which makes use of other models/theories more desirable (Buchan, Ollis, Thomas, & Baker, 2012). Ecological models fare much better in health promotion research with its ability to emphasize multiple levels of influence on behavior and the idea that behaviors shape social environment as well as are shaped by the social environment (Sallis, Owen, & Fisher, 2008). Li et al. (2012) discusses how healthy behavior is determined by an interplay of multiple levels of ecological factors, including demographic, intrapersonal, interpersonal, environmental, and political in which a socio-ecological perspective extends other theories (e.g., TRA, TPB, and SCT) offering a more universal, ecological framework.

THEORY OF PLANNED BEHAVIOR

Health promotion models and theories are often used to predict behavior or behavior change (Noar, Chabot, & Zimmerman, 2008). The beliefs in TPB, an extension of theory of reasoned action (TRA), are vital to behavior change because an individual's intention to perform a behavior is the most immediate and best predictor of behavior (Fishbein & Ajzen, 1975; Ajzen, 1991). In TRA, intention is integral to performing a behavior and the best predictor of that behavior. Attitude, subjective norms, and intrapersonal factors are the fundamental building blocks of TRA (Fishbein & Ajzen, 1975). As a critique of TRA's assumption that there are no barriers to performance of an intended behavior, perceived behavioral control was added as a third variable and the extended theory is known as TPB (Ajzen, 1991).

TPB has played a role in PA research among AAs in understanding and predicting PA through perceived behavior control (Blanchard et al., 2008) and attitude (Carter-Parker, Edwards, & McCleary-Jones, 2012). Rodrigues, Missiuna, and MacDermid (2016) found that TPB lacks an explicit environmental factor and suggested that SCT and TPB can be used together in understanding the barriers and facilitators to PA because SCT provides an environmental construct. As a result of unexplained variance between intention and behavior associated with TPB, it is suggested that researchers cannot rely solely upon this theory when developing PA interventions (Buchan, Ollis, Thomas, & Baker, 2012). HBM and TPB overlap with SCT's determinants of behavior (e.g., self-efficacy and outcome expectations) (Bandura, 2004).

ADVANTAGES OF SOCIAL COGNITIVE THEORY TO GUIDE HEALTH PROMOTION AND PHYSICAL ACTIVITY RESEARCH

SCT postulates that individual and social change occur through human agency and the environment providing direction for behavior change methods (Bandura, 1986). Although alternative models/theories exist and have been used to predict PA, SCT is most appropriate in health promotion research because of its ability to explain behavior through a variety of factors from personal to environmental. Young, Plotnikoff, Collins, Callister, and Morgan (2014) investigated the use of SCT and PA in a systematic review in which SCT was found to be a useful framework in explaining PA behavior. Sawitri, Hadiyanto, and Hadi (2015) discussed how SCT is able to guide environmental policies focused on behavior as it relates to the environment. Kennedy and Blair (2014) deemed SCT as useful because of the ease of incorporating its constructs into PA plans. SCT is also useful when it is incorporated to motivate patients to increase PA (Kennedy & Blair, 2014). With many factors playing a role in PA participation, environmental factors are important to consider in the intervention development, which makes SCT very useful in PA research.

SCT provides investigators with both predictors and principles on how to inform, enable, guide, and motivate people to adapt habits that promote health and minimize the habits that decrease one's health (Bandura, 2004). SCT emphasizes the importance of the role that the environment plays in promoting healthy behavior changes (Bandura, 1986, 2009). One of the strengths of using SCT in health promotion research is its construct—self-efficacy. Self-efficacy impacts every phase of personal change by determining whether people take behavior change into consideration, possess the motivation and perseverance required to succeed in changing their behavior, and their ability to maintain the behavior changes once achieved (Bandura, 1997, 2009). While Bandura (1977, 2004) postulates that self-efficacy is the foundation for motivation and action, researchers have shown self-efficacy to be the most powerful factor to consider when predicting behavior change in which there has been a consistent relationship between self-efficacy and PA in a variety of contexts (Buchan, Ollis, Thomas, & Baker, 2012). Nehl et al. (2012) found self-efficacy as a significant predictor of PA among AAs ($n = 231$).

The advantage of using SCT in health promotion research and PA among AA parents/caregivers is that SCT recognizes the need of parents' support in reducing perceived obstacles associated with increasing PA for their children (Bandura, 2004). Current research literature supports the use of SCT in both health promotion and PA research in general. However, current literature fails to examine SCT in totality and suggests future research includes additional concepts of SCT in research involving behavior change (Sell, Amella, Mueller, Andrews, & Wachs, 2016). Given that most literature using SCT has not used all its constructs to guide research, it is difficult to claim SCT as the best theory in regards to health promotion and PA research. SCT has utility in both health promotion and PA research among AAs with future testing of SCT's constructs beyond self-efficacy. In comparison to social ecological models,

SCT takes into consideration the many levels (e.g., personal and environmental factor) involved in individual behavior change. SCT places emphasis on the individual and the environment making it very applicable in health promotion research.

IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE

Nurses and researchers need to be aware of the factors that play an important role in health promotion specifically and PA participation that put parents and their children at risk for chronic diseases. In consideration of the many factors that influence behavior, nurses must understand the factors that play a role in increasing PA to tailor interventions to meet the specific needs of patients. Researchers consistently develop interventions aimed at health promotion to achieve a health-related goal (e.g., healthy eating, being more active, and weight loss). Through theory testing, researchers can develop comprehensive interventions targeting the personal and environmental factors impacting behavior for implementation. The priority research areas entail testing more theories and models that target PA behavior. Intervention studies could aid in developing effective strategies to promote PA among AA parents of young children. We offer other researchers some insights regarding SCT in PA and health promotion research: (a) SCT's reciprocal determinism, self-efficacy, and outcome expectations have contributed greatly to health promotion and PA research supporting its usefulness; (b) testing of theories and models in totality is needed to truly determine their usefulness in health promotion and PA research; and (c) health promotion and PA research guided by multiple theories/models can offer a richer contribution than the use of one theory/model alone to yield strong interventions.

This article has demonstrated the usefulness of integrating SCT's concepts and constructs in PA and health promotion research. This article also shed light on SCT and alternative theories and models to frame PA and health promotion research. The discussion of SCT provides a theoretical foundation to understand the personal and environmental factors associated with PA participation. The assessment of the personal and environmental factors associated with PA is an important first step in developing a plan of care to assist patients in making behavioral changes that promote health.

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