



The Role of Family in Promoting Physical Activity

There has never been a more important time to consider new approaches and strategies for promoting physical activity in American society. Promoting physical activity for children and youth in such a way that it will result in lifelong motivation and involvement is particularly important. Recent data indicate that as few as 49% of boys and 35% of girls ages six to eleven years meet recommended guidelines of 60 minutes per day of moderate to vigorous physical activity.¹ It is also important to note that the sharpest recent rise in obesity rates has occurred among children in this age range.² Knowledge about the extent of inactivity among the young is disconcerting because we simply cannot estimate the long-term implications and costs of juvenile inactivity and obesity. Physical activity among adolescents and adults is also nowhere near desirable levels and new intervention approaches are clearly needed. Although there is much sobering news about the current physical inactivity and obesity situation in America, there is also room for optimism in that we have not yet begun to effectively utilize some of our most important resources nor have we fully applied our knowledge base about physical activity promotion in addressing this issue.

Family-based approaches for the promotion of physical activity are currently underutilized although they have great potential in helping us to counteract current physical activity trends. Family-based interventions make logical sense given knowledge that children almost invariably develop physical activity-related habits, values, and beliefs within the family environment. In addition, family-based physical activity promotion should constitute a very low-cost alternative for physical activity promotion. Although systematic research on the effectiveness of family-based approaches has been limited,³ there are encouraging indications that family-centered strategies will yield their intended benefits.

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As we consider new approaches for physical activity promotion it is important to recognize an important consideration that is at the heart of the current physical inactivity problem. Simply put, one major reason why we are at a crisis point with regard to physical inactivity in this country is because we have lost physical activity opportunities across multiple sectors of American society over recent decades. Access to physical activity directly affects the physical activity involvement of youth^{4,5} but there are now fewer opportunities to engage in physical activity through traditional sites such as public schools and as a consequence of transportation planning and urban design approaches that have become more “car friendly” than “pedestrian friendly.” Lack of access to physical activity venues has particularly impacted communities with limited economic resources.⁶ Public schools have traditionally been a principal venue for the provision of physical activity for youth but the widespread and steady decline in school-based physical education and recess time has steadily eroded physical activity opportunities for children and adolescents.⁷ The best current estimates are that children only receive 24-30 minutes of recess time during their school day but it is also disconcerting to note that a “recess gap” exists whereby students at high-minority schools, high-poverty schools, and urban schools have particularly low levels of recess-based free play time. In many cases, these are the very students who have the greatest need for school-based physical activity because

they already have limited access to safe parks and playgrounds and may lack the family economic resources to participate in the increasingly common “pay to play” youth sport programs.

Cutbacks in physical activity at schools have occurred because in the modern day educational context administrators feel the need to rise to the challenge of meeting state and national testing standards and perceive that time devoted to physical activity represents a threat to the attainment of academic standards.⁸ Although research-based knowledge indicates that regular physical activity contributes to, rather than detracts from, academic growth,⁹ little headway can be expected in schools given the current climate. Community parks and recreational sites have also been traditional sites for physical activity for children and adults but the trend toward the “privatization” of physical activity and exercise, in addition to current economic constraints in our country, has resulted in fewer offerings.¹⁰ Many people consider organized sport programs to be a desirable venue for physical activity promotion but youth sport programs in the United States have increasingly emphasized talent development over physical activity promotion.¹¹ Part of the reason for the decline in children’s physical activity involvement is that it appears that children simply have less free time to engage in physical activity than in previous decades. Best estimates are that children’s free time declined by seven to eight hours per week between 1981 and 1997 and this decline was largely attributed to longer school days and more time spent in child care.¹² Recent research on outdoor recreational involvement, including bicycling, skateboarding, hiking, and running/jogging indicates that participation rates in these activities for six to twelve year old girls dropped from 77% to 58% and for boys in this age range from 79% to 69% between 2006 and 2008.¹³ It is likely that decreases in children’s leisure time are partially responsible for this trend. In sum, the notable declines that we have witnessed in physical activity across all age groups have not occurred within a social vacuum. It is more accurate to state that these declines have occurred as a consequence of other priorities that have displaced opportunities for physical activity.

The success of physical activity promotion efforts in the coming decade is dependent upon two fundamental factors. First and foremost, it is essential to expand opportunities for physical activity participation across all segments of American society and to create “activity-friendly

environments.”¹⁴ Second, our approaches to physical activity promotion must be aligned with our knowledge base about physical activity motivation. In our haste to encourage and promote physical activity, we have not always recognized that physical activity involvement and adherence is inherently a motivational process and that enjoyment¹⁵ and intrinsic motivation¹⁶ are essential contributors to sustained involvement. To result in physical and mental health benefits, physical activity needs to be adopted as a lifestyle behavior because sporadic physical activity simply does not yield many benefits. But there is little chance that physical activity will be adopted as a lifestyle behavior if it is not regarded as enjoyable and if the child, adolescent, or adult is not intrinsically motivated to pursue it. Family-based physical activity should typically result in the types of enjoyable and intrinsically motivating physical activity experiences that we desire.

The most widely used and relevant theoretical perspective for understanding intrinsic motivation in physical activity is self-determination theory.¹⁷ Self-determination theory is also quite straightforward in that it proposes that intrinsic motivation (and fun) is typically experienced when individuals feel *competent* at the activity; when they feel they can have *autonomy* or exert personal control during the activity; and when they experience a strong sense of connection, or *relatedness*, with others when engaging in the activity. In contrast, when individuals do not experience any or all of these three essential characteristics (competence, autonomy, and relatedness), they are likely to be unmotivated to participate or, at best, motivated merely by extrinsic reasons and will not persist when those extrinsic incentives are no longer present.

A large and rapidly growing body of physical activity-related research supports the basic contentions of self-determination theory. Research conducted with children and adolescents indicates that youngsters’ desire to engage in physical activity, and their feelings of enjoyment and “fun” while involved, are largely dependent upon the competence that they feel while performing the activity.^{18, 19} Longitudinal research indicates that perceptions of competence during childhood and adolescence affects lifelong physical activity practices.^{18, 20} In addition, individuals generally feel much more motivated to engage in physical activity to the extent that they feel they have autonomy, or personal control, over their involvement.^{5, 21} Family support is important in this

sense since such support bolsters children's feelings of personal control, or self-efficacy, to do physical activity.²² Relatedness is also an essential dimension of intrinsic motivation in physical activity and sport and when people report more positive social relationships in this domain they are much more likely to be intrinsically motivated to want to continue the activity.¹⁶ Self-determination theory represents a viable and straightforward motivational approach that can be readily applied to family-based physical activity promotion. Whereas increased physical activity is the ultimate goal, the key concept is that permanent changes in physical activity practices will only occur to the extent that our interventions increase intrinsic motivation and enjoyment which are the consequences of feeling competent, autonomous, and connected to others in the physical activity context.

The focus of this paper will be directed toward family-based physical activity promotion efforts but, particularly, toward efforts that will enhance the physical activity of children and youth. Children and youth should be the principal targets of our interventions because the dramatic rise in obesity among the six to eleven year age group is logically attributable to a corresponding decrease in physical activity among this age group. Second, targeting children and youth is essential because lifelong habits, attitudes and behaviors are established during childhood and adolescence and research indicates that physical activity "tracks" from childhood through adolescence and into adulthood.^{23, 24} In relation to attitudes toward physical activity, we also know that children already have formed fairly stable attitudes about how much they like or dislike physical activity and exercise by the early elementary school years.^{25, 26} Since we are aware that notable declines in physical activity customarily occur during adolescence^{27, 28} early intervention is also desirable in order to offset some of the typical declines that occur during the adolescent years. Family-based physical activity approaches can also be beneficial because other healthful living practices, such as appropriate diet and nutrition, can be reinforced within a consistent family context.

Family Influence on Physical Activity

The family is the most important reference point from which to understand individuals' physical activity behavior and attitudes. Research indicates that there is a strong level of "familial aggregation" in physical activity which means that individuals tend to be quite similar to other family members

in their customary physical activity levels.²⁹ Whereas shared genetic characteristics are certainly an important contributor to common physical activity patterns, other characteristics of the family climate surrounding physical activity exert an even greater influence.²⁹

It is no wonder that the physical activity practices of children should be so strongly influenced by other family members. First, it is through the family that children typically receive their initial exposure to many different types of physical activity. Almost invariably, children engage in exploratory play and learn to walk, run, jump, climb, and ride a bike in the presence of parents and/or siblings and all of this early exposure to physical activity typically takes place before children have become involved in structured physical activity experiences, such as school-based physical education or organized sport programs. Unstructured physical play also constitutes a substantial part of children's overall physical activity levels³⁰ although the importance of child-structured, free physical play is generally undervalued in the design of intervention programs. Parents are particularly important in establishing a family climate surrounding physical activity in that it is parents who typically enable early physical activity opportunities for children. Thus, parents can be considered to be the "gatekeepers" of children's physical activity³¹ in that they enable or constrain opportunities for their children's physical activity involvement.

The physical activity-related behaviors and attitudes of parents are excellent predictors of the physical activity behaviors and attitudes of their children. Research studies that have employed objective assessments of physical activity, such as accelerometers and motion sensors, generally find that there exists a reasonably high level of consistency in the physical activity levels of parents and children. For example, Freedson and Evenson³² used accelerometers to assess the physical activity levels of parents and children and subsequently classified fathers and mothers as "high active" or "low active" according to whether they were above or below the median split for their reference group of fathers or mothers, and employed the same protocol with children. Results indicated similarity in activity categorization between mother and child 73% of the time and between father and child in 67% of the cases. Using a similar protocol, researchers in the Framingham children's study³³ examined the physical activity behavior of children

ages 4 to 7 years and their parents and found that children of two “active” parents were 5.8 times more likely to be “active” than were children of two “inactive” parents. Children from families with one “active” parent and one “inactive” parent were still 3.5 times more likely to be active as were children from families with two “inactive” parents. More recent research conducted in Portugal found significant relationships between the physical activity levels of every possible family member dyad (e.g., mother/father, father/daughter, mother/daughter, siblings, etc.), providing further support for the idea of “family aggregation” around physical activity.²⁹

Since the family is so important in explaining differences among people in their physical activity levels, it is important to reflect upon the means by which families exert influence. Almost all research to date on family forms of influence has centered on parental influence because parents are so clearly influential in shaping the family climate surrounding physical activity. Research on sibling influence has been minimal, at best, but constitutes an important area for growth.²⁰ It is important to understand the nature of parental influence on physical activity behavior because this knowledge base should be used to structure family-based intervention efforts.

At least four important forms of parental influence exist and influence the physical activity of children. Probably the most important singular form of influence that parents exert revolves around the extent to which parents provide and enable opportunities for their children to be physically active. Children engage in more physical activity outside of the home than inside of it³⁰ but children are rarely able to make autonomous decisions about outdoor play. Early physical activity experiences will logically influence children’s level of attraction to physical activity as well as their competence at physical activity which has implications for future physical activity motivation. As children mature, parents continue to make important physical activity-related decisions such as whether or not to purchase physical activity-inducing toys and sporting goods, about enrolling children in sport programs and swimming lessons and each of these decisions will affect children’s exposure to physical activity and their physical activity competence

A second, related dimension of parental influence pertains to parental support and encouragement to be active. Logically, parents are more likely to provide support and encouragement

for their children’s physical activity when parents themselves see value in physical activity. In an important longitudinal study, researchers found that parental encouragement to be active was associated with higher levels of physical activity among male and female children five years later,³⁴ indicating that early parental support for physical activity contributes to enduring physical activity motivation among children. Research by Heitzler and colleagues³⁵ similarly found that children’s perceptions of parental support as well as parents’ own reports of support were strongly predictive of children’s physical activity involvement.

A third important form of influence consists of parental role modeling practices. Typically, parental role modeling is only thought of in terms of the actual physical activity behavior of the parent as it is observed by the child. However, it should be recognized that parents do not only model behaviors, they also model attitudes and emotions, particularly likes and dislikes relative to physical activity. Consequently, we should regard parental role modeling of physical activity to consist of the attitudinal and emotional responses that are communicated from parent to child, particularly through shared physical activity experiences, as well as parents’ own behavioral practices. In terms of influence, it has been found that children’s own motivation toward physical activity is affected more by parental enjoyment of physical activity than by the actual amount of physical activity performed by the parent.³⁶

A fourth important form of parental influence is in shaping children’s perceptions about their abilities or aptitudes in physical activity. As has been previously discussed, feeling competent is an essential prerequisite for intrinsic motivation in physical activity. Parents have an extremely important role to play in shaping children’s self-perceptions because children have limited experience in most activities and for cognitive-developmental reasons they tend to prefer to utilize adult feedback and judgments in forming their own beliefs about personal competence in various domains.³⁷ Parents are more likely to provide encouragement and positive feedback to their child in those activities in which the parent perceives that the child will be successful than in activities in which success is not anticipated.³⁸ Parental expectations thus become a sort of “self-fulfilling prophecy because these parental expectations affect the types of opportunities that parents make available to children. A growing body of knowledge provides support for the idea that parents exert

considerable influence on their children's perceptions of competence in physical activity and sport.^{39, 40}

Family-Based Approaches to Physical Activity Promotion

Given our extensive knowledge about the important role of family influence in affecting the physical activity behavior of family members, it is logical and timely to consider the family unit as an ideal context for physical activity promotion efforts. Although we need to be strong advocates for making more physical activity opportunities available to all Americans through increased school-based opportunities, better transportation design and urban planning, safer and more accessible parks and recreational opportunities, it is also essential that we attempt to extend the positive influence that families can have on physical activity and to promote physical activity through the family unit. Four types of generic family physical activity promotion efforts are identified below and they are classified as 1) shared and goal-directed physical activity programs; 2) family-based active transportation; 3) parental advocacy for physical activity opportunities; and 4) integrated or multilevel approaches.

Shared and goal-directed physical activity programs. As the nation's physical inactivity and obesity crisis has grown, one promising approach to intervention that has been employed to combat these trends involves shared and goal-directed physical activity programs that seek to engage all family members in the common goal of increasing physical activity behavior. Shared physical activity between parent and child is important because we have knowledge that parents tend to greatly underestimate the physical activity that their children receive⁴¹ and shared physical activity provides parents with a better understanding of their children's physical activity needs. One example of an effective, readily accessible shared and goal-directed physical activity program is the America On the Move program (www.americaonthemove.org). America On The Move was designed with the recognition that shared physical activity provides a form of social support that is an important element of behavior change and thus enlists the involvement of intact social groups, such as families, churches, and workplace groups to foster physical activity. America On The Move offers a relatively simple and straightforward approach to physical activity promotion that also relies upon the use of effective behavioral changes strategies such as goal-setting and self-monitoring of

behavior. Participants are encouraged to identify their baseline level of physical activity by self-monitoring steps taken for one week and to subsequently and gradually increase weekly step count goals and behavior. In terms of behavioral change, the use of step counters and goal setting has recognized benefits in that individuals are able to obtain objective feedback about their progress toward goals. In addition, self-monitoring of physical activity should increase feelings of autonomy and there is good evidence that pedometer usage significantly increases the physical activity levels of children and youth.⁴²

Initial research on the effectiveness of shared physical activity through America On The Move programs is limited but encouraging. In one study, researchers applied the basic precepts of the America On The Move program with intact families who had at least one child who was overweight or at risk for being overweight.⁴³ Family members were encouraged to walk an extra 2,000 steps a day over baseline and to reduce their caloric consumption by roughly 100 calories per day. Results indicated that the intervention was successful in that children in the AOM condition were significantly more likely to reduce their body mass index in comparison to a control group.

Family-supported active transportation. A second form of favorable familial support for physical activity can be achieved through active transportation. One of the primary reasons for the decline in physical activity among young people has been that relatively few children and adolescents use active forms of transportation (e.g., walking, bicycling, skateboarding, etc.) to arrive at, and return from, school. Research indicates that the number of children who walk to school has declined in the last decade and current estimates are that less than 15% of children and adolescents aged 5 to 15 years actively commute to and from school.⁴⁴

An expanding body of research on active transportation indicates that active transportation has many associated benefits. One particular benefit is that children who walk or bike to school tend to remain more active over the course of the day than do their counterparts who are transported to school.^{45, 46} Active transportation has typically been promoted as a means of enhancing children's physical activity but parents will increase their physical activity to the same extent as their children if they accompany their child to and from school.

Parental advocacy for physical activity opportunities.

A third important role for families in physical activity promotion efforts is to serve as advocates for increased opportunities for children to engage in physical activity through after-school and organized youth sport programs. After-school programs are ideal venues for physical activity promotion as an estimated 6.6 million youth are currently involved in such programs and an additional 22 million families report that they would be interested in after-school programming if such opportunities were available to them.⁴⁷ After-school programs constitute a highly desirable child care alternative for parents in the after-school hours and counteract parental concerns about unsafe neighborhoods and social circumstances that constitute important obstacles to parental encouragement of their child's physical activity.⁴⁸ Research indicates that youngsters receive almost half of their daily physical activity during the after-school hours⁴⁹ and the hours immediately following the school day are particularly important for physical activity promotion. A recently conducted meta-analysis on the effects of after-school program impact on physical activity and fitness found that involvement in school-based after-school programs results in desirable changes in physical activity levels, physical fitness, body composition, and blood lipid profiles of youth participants.⁵⁰ School-based after-school sites are ideal venues for physical activity promotion because of the availability of playgrounds, gymnasiums and recreational spaces which are all contained within a relatively safe environment. However, many after-school programs do not have an extensive physical activity focus and parental advocacy for these opportunities can be an important form of family influence in addition to advocating for the expansion of after-school availability for youth.

In a similar way, parents can also assume a more involved role in advocating for increased physical activity for youth involved in organized youth sport programs. There has been a tendency for many organized youth sport programs to become exclusionary and to emphasize physical talent and ability over open participation.¹⁰ Furthermore, organized youth sport programs rarely identify promotion of physical activity and physical fitness as core program goals.¹¹ Parents of young participants can become stronger advocates for a

change in focus in youth sport programs, particularly entry-level programs, and to advocate for the need for a greater emphasis on physical activity and correspondingly less emphasis on "elitism" and talent development that increasingly come to characterize modern youth sport programs.

Integrated and multilevel approaches. Integrated, or multilevel, approaches that connect families with other social institutions, such as schools or churches, or by expanding neighborhood accessibility constitute an important new direction for physical activity promotion. A fundamental consideration in integrated or multilevel approaches is that physical activity interventions will have greater success when they can engage individuals across varied social settings.⁵¹ The Program X intervention program developed by Lubans and colleagues⁵² is an example of such a program in that it was designed to increase the physical activity of adolescents through self-monitoring via pedometers, school-based instruction and social support, parental information materials and social support, and increased opportunities to be involved in lifetime physical activity behaviors. The intervention program was successful in increasing both physical activity behaviors and certain nutritional practices and is just one example of multilevel approaches that can realize success in the future.

If we align our physical activity promotion efforts with our knowledge base about physical activity motivation and behavioral change, it is apparent that family influence is an extremely important, but relatively untapped, resource for promoting lifelong physical activity behavior. Given the magnitude of concerns about physical inactivity in this country, it is time to move beyond traditional thinking and traditional strategies for physical activity promotion. If we stay rooted in the past, we will be unable to address current and future challenges related to physical activity participation. Family-based physical activity promotion efforts have tremendous potential for facilitating physically active lifestyles among Americans and to strengthen feelings of enjoyment and intrinsic motivation toward physical activity.

We need to be strong advocates for increasing the availability of physical activity opportunities for all American youth and their families through increased school-based opportunities, better transportation design and urban planning, and improved access to parks and recreational opportunities. However, we should not lose sight of the fact that the family is the most important form of social influence upon physical activity, and family-based physical activity promotion efforts represent a greatly underutilized and cost-effective resource for the promotion of physical activity. Family-based approaches also have the potential to foster desirable lifestyle habits and enjoyment of physical activity that can facilitate physical activity involvement for a lifetime.

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