The Psychosocial Challenges of Children with Limb Differences:

An Adlerian Perspective

A Research Paper

Presented to

The Faculty of the Adler Graduate School

In Partial Fulfillment of the Requirements for

the Degree of Master of Arts in

Adlerian Counseling and Psychotherapy

By:

Kay Allen

May 2008
Abstract

Parents of children born with a limb difference experience sadness, fear, anxiety, and many questions about how to help their children overcome the difficulties associated with their children’s disability. These parents earnestly want their children to have healthy self-concepts, meaningful relationships, and productive lives. From an Adlerian perspective, this thesis explores factors associated with personality development (lifestyle) and social adjustment in children with limb differences. Five case examples of adults with congenital limb differences are presented. Recommendations are offered about how to encourage parents and their children to meet the psychosocial challenges associated with limb differences. These include Adlerian concepts such as courage and social interest.
The Psychosocial Challenges of Children with Limb Differences:

An Adlerian Perspective

When parents experience the birth of a child, one of the first things they do as new parents is to look over their newborn to verify that their baby has all of his or her body parts. Moreover, in sharing their joyous news with family and friends, these parents often relate feelings of relief in finding that their baby is healthy and has all of his or her fingers and toes. For parents of children who are born with a limb difference, however, a much different scenario can occur as they begin to process feelings of sadness, anxiety, and fear, especially in relation to how the limb difference will impact their child’s self-concept, his or her relationships with others, and his or her ability to perform everyday tasks.

The term *limb difference* as defined in this thesis refers to the complete or partial absence of one or more limbs (arms and/or legs) that can occur either during prenatal development and is present at birth (known as a congenital limb difference) or as the result of amputation or limb loss due to trauma or disease (known as an acquired limb difference). Although the medical community often uses the term *limb deficiency* when referring to the condition of a congenital or acquired limb difference, individuals with limb differences and their family members, as well as the people who support them, typically prefer to use the term *limb difference*. However, the terms *amputee* and *limb loss* are also often used in reference to either congenital or acquired limb differences. In this thesis, *limb difference* will be the term that is used most often.

According to the National Limb Loss Information Center (NLLIC; ACA, 2002), the incidence of congenital limb difference is 1 per 3,846 live births (or 2.6 per 10,000) in the U.S., with upper limb differences (relating to arms) occurring at a rate of 1.6 times more often than
lower limb differences (relating to legs). Although the prevalence of acquired limb differences or limb loss increases with age, especially among individuals 65 years or older with diabetes mellitus, there were an estimated 70,000 children under 18 with an acquired limb loss (not including the loss of only fingers and toes) in the U.S. in 1996 (ACA, 2002).

A comprehensive literature review on the epidemiology of limb differences (Ephraim, Dillingham, Sector, Pezzin, & Mackenzie, 2003) reported that the prevalence of congenital limb differences in the U.S. has remained rather stable since the early 1960s. Ephraim et al. found rates in the U.S. ranging from 3.8 per 10,000 births in New York between 1983 and 1987 to 5.3 per 10,000 births in Atlanta, GA, between 1968 and 1993. However, the study did not specify if these rates included only live births. Of the 35 reports reviewed specifically to determine the prevalence of congenital limb differences, Ephraim et al. found overall rates ranging internationally from 2 to 7 per 10,000 live births.

During the past century, clinicians and researchers have sought to identify and explain the effects of having a physical disability such as a limb difference on children’s personality development, self-esteem, and social adjustment. The goal is to help children overcome negative influences and variables associated with their disability. In his 1907 book *The Study of Organ Inferiority*, Adler proposed that the outcome of an inferior human organ (underdeveloped or malformed) can vary significantly, as the inferior organ interacts with its total environment (e.g., physical, social, psychological, and biological environments) and the ways in which the person compensates, or uses compensation, to overcome his or her inferiority (Ansbacher & Ansbacher, 1956).

As Adler continued to develop his theory of human personality and behavior, known as Individual Psychology, his concept of organ inferiority expanded to inferiority feelings, which
every individual experiences, probably from birth. These have a much greater influence in the
development of personality and in motivating behavior than an actual inferior organ.
Nevertheless, Adler identified organ inferiority as one of several overburdening childhood
situations that can be a discouraging influence as a child develops his or her lifestyle
(personality), in the first 5 or 6 years of life (Ansbacher & Ansbacher, 1956).

In a 1948 study on the psychological and social dynamics of physical disability, Dreikurs
(a major promoter and expounder of Adlerian theory in the U.S. after Adler’s death in 1937)
stressed that a child’s lifestyle (personality) development is a dynamic, interactive process rather
than one that is determined or caused by mechanistic forces. Although a physical disability is an
important influence in a child’s development, it is the child who formulates (mostly
nonconsciously) his or her lifestyle (described in this paper under Factors in Lifestyle
Development in Children with Limb Differences) and interprets the meaning of the totality of his
or her experiences, interactions, and how he or she will respond.

Dreikurs (1948) agreed with other authors of his day that factors necessary for “good
adjustment” in the socio-psychological dynamics of individuals with physical disabilities are “a
sense of security, acceptance by a group, and successful achievement” (p. 52). In a society (e.g.,
Western culture) with messages and images suggesting that a person’s value is somehow
dependent on his or her physical characteristics, parents of children who are born with limb
differences earnestly want to know how to help their children feel secure, feel accepted by
society, and feel that they are capable and able to achieve their goals in life.

In addition to these essential elements, Dreikurs (1948) concluded that courage and social
interest, along with self-confidence, are key factors that children with a physical disability must
develop to make good, positive psychosocial adjustments.
From an Adlerian perspective, this thesis explores factors associated with personality development (lifestyle) and social adjustment in children with limb differences. The goal is to understand the psychosocial challenges associated with limb difference and how to encourage parents and children facing a limb difference to develop the self-confidence, courage, and social interest to meet those challenges.

The Challenges of Limb Differences

The word challenge has several meanings, some of which include “a call to engage in a contest, fight, or competition; . . . an act or statement of defiance; . . . a call to confrontation; . . . [or] a demand for explanation or justification” (American Heritage College, 2000, p. 232). These meanings suggest that the very nature of a challenge includes fighting back, competing to win, making demands of others, or using confrontation. Certainly, parents of children with a limb difference report experiencing these types of challenges at times, especially when they perceive their child is being, or will be, teased, excluded, or criticized for his or her limb difference.

However, challenge is also defined as “a test of one’s abilities or resources . . . [and] to summon to action, effort, or use; stimulate” (American Heritage, p. 232). These are the definitions used in this paper.

Indeed, parents experience a sense of challenge from the moment they become aware of their child’s limb difference. Questioning if they have the ability or the resources to help their child overcome what they perceive will be the challenges of limb difference, such as damage to the child’s self-esteem, inability to perform normal developmental tasks, and feared societal rejection, parents begin their search for answers, often through sources such as the Internet.
Dynamic Variables of Psychological and Social Functioning

Dreikurs (1948) pointed out that most research describes variables (e.g., societal attitudes or severity of disability) that may influence adjustment or maladjustment in children with physical disabilities from a mechanistic view. From this perspective, variables determine or cause a result, such as personality problems or maladjustment.

However, from an Adlerian perspective, individuals are actively creating or choosing their own responses to any variable in a dynamic process, actively interacting with their total internal and external environments. They are not typically aware of doing so. In other words, the individual is influenced by a variable, such as societal attitudes, but the individual actively creates his or her own responses (e.g., perceptions, beliefs, attitudes, emotions, behaviors) to the societal attitudes, actual or perceived. Likewise, individuals influence societal attitudes.

Societal attitudes.

Similar to Maslow’s theory about the hierarchy of needs, Adlerian psychology states that children are born with four primary biological needs: (a) nourishment and contact, (b) protection and safety, (c) mastery, and (d) sensory variation (Mosak & Maniaci, 1999). As infants interact and socialize with their environment, these four basic needs become primary motivating goals (although children determine for themselves the hierarchy of the goals’ importance), which include the goals of attachment (a sense of belonging), security, competence, and cognition.

As a child moves toward meeting these primary goals of attachment, security, competence, and cognition, he or she can be influenced by factors that are encouraging or discouraging in his or her lifestyle development. Although children form their own subjective meanings and interpretations to any influence within their total environment, some factors, such
as pampering or neglectful parenting styles and societal discrimination, tend to be discouraging influences to a child’s self-concept and lifestyle development (Mosak & Maniacci, 1999).

To understand the influence of societal attitudes (e.g., peer rejection) toward physical disabilities such as limb difference, researchers investigated the attitudes of children, especially nondisabled children, toward children with physical disabilities. Replicating an earlier 1957 study on children’s interpersonal perceptions, Richardson and his colleagues (Richardson, Goodman, Hastorf, & Dornbusch, 1961) used a picture-ranking task consisting of a series of six line drawings of children who were identical except for the presence or absence of one of five types of physical disabilities. They examined social preferences and reactions toward children with various physical disabilities.

Participants in Richardson et al.’s study (1961) included 640 boys and girls with and without physical disabilities, ages 10 and 11, from fairly diverse economic and cultural backgrounds, who attended public school or summer camp in New York, California, or Montana. The study divided the children by location and cultural backgrounds into six groups, three of which included only nondisabled children and three in which half of the participants were children with various physical disabilities.

For the Picture Ranking Task, each child was individually shown the series of six line drawings of children of their own sex. Drawings were placed in random order from left to right in front of the child. The child was instructed to look at all the pictures and answer the examiner’s question, “Tell me which boy (girl) you like best?” (Richardson et al., 1961, p. 243). The examiner removed the chosen picture from the child’s view and continued to ask the child which boy or girl he or she liked next best until all six pictures were chosen and the examiner collected the child’s rank order of preferences.
The study results (Richardson et al., 1961) showed that the children in all six groups had the same overall rank order of preference, choosing as most liked the drawing of a child with no physical disability; second choice was a child who had crutches and a left-leg brace; third choice was a child in a wheelchair with legs covered by a blanket; fourth choice was a child without a left hand (limb difference); fifth choice was a child with a facial disfigurement on the left side of the mouth; and sixth choice was a child with obesity.

Although examining children’s overall preferences by subgroups using demographic variables (i.e., sex; presence of a disability; race; living in urban, suburban, or rural areas; socioeconomic status; and setting of the picture-ranking task) showed the same overall preference order as those of the original six groups of children, further analysis revealed that the girls’ last choice tended to be the drawings of children with what the researchers labeled social disabilities (i.e., facial defect and child with obesity); whereas the boys’ last choice tended to be the drawings of children with functional disabilities (i.e., children with crutches, in a wheelchair, or without a left hand; Richardson et al., 1961).

Attempting to understand the children’s ranking of the drawings, one examiner later asked a group of 20 children in Connecticut what factors they had used in making their preference order (Richardson et al., 1961). The child participants agreed overall that children with and without physical disabilities are equally nice and that they did not choose the drawings according to physical characteristics. However, when the examiner asked the children about the difference between their rankings and their reasons, one boy stated that he felt uncomfortable with a child who was disabled. Another boy said he did not know what to say to a child with a disability. Although discomfort with the unknown may be one possible explanation for the
children’s preference pattern, it does not explain why the children with disabilities also chose the same rank-order as nondisabled children.

Questioning how children learn these preferences toward various disabilities, Richardson et al. (1961) suggested that the uniformity in the children’s preference pattern possibly indicated a cultural value in America. Two years later, Goodman, Dornbusch, Richardson, and Hastorf (1963) found significant evidence confirming their hypotheses that children obtain cultural values when they are (a) exposed to the value and (b) they have the ability to learn the value.

Goodman et al. (1963) theorized that, because children obtain their cultural values mainly from adults even though these values are often taught or modeled implicitly without children or adults being aware of it, adults have the same rank order of preferences toward individuals with and without physical disabilities as the children who share their culture. It is interesting to note that the preference pattern of the 72 adults, each a professional working with the rehabilitation of individuals with physical disabilities, was identical in this study to the preference pattern of the children in Richardson’s 1961 investigation.

Another interesting finding was that children of low socio-economic Jewish and Italian neighborhoods in New York City chose a different preference pattern than that of the initial group (labeled the normative group for comparison in this and future studies) of children from Richardson et al.’s 1961 study (Goodman et al., 1963). Although the first preference of both the Jewish and Italian groups was the drawing with no disability, the Jewish children preferred the drawings of facial disfigurement (ranked 2nd), without a left hand (limb difference; ranked 3rd), and child with obesity (ranked 4th). Somewhat different, the Italian children’s preference pattern was the same as that of the normative group, except that they chose the facial disfigurement as their second choice.
Three groups of children with mental retardation or severe mental illness, which included two groups living in institutions, had preference patterns that differed from the normative group and from one another. Goodman et al. (1963) saw this as evidence that children who are not exposed to or unable to learn from exposure to implicitly-taught cultural values will not acquire the values of the dominant culture.

In an Israeli study using Richardson’s Picture Ranking Task, Chigier and Chigier (1968) divided 1,333 boys and girls, ages 10 and 11, living in Israel into 11 ethnic groups (of about 50 girls and 50 boys each) according to the father’s country of origin (e.g., born in Israel, East Europe, North Africa, or the Middle East). Similar to Goodman et al. (1963), the combined results of the 11 groups of Israeli children showed the same rank-order preference pattern for the line drawings with and without physical disabilities as that of the American Jewish children: (a) first choice, no disability, (b) facial disfigurement, (c) without left hand, (d) obesity, (e) leg in a brace with crutches, and (f) in a wheelchair.

However, unlike Richardson et al.’s (1961) study, which found no relationship between socioeconomic levels and preference order, Chigier and Chigier (1968) discovered that socioeconomic status was the only significant factor influencing differences in attitudes toward disabilities. Chigier and Chigier hypothesized that children living in low socioeconomic neighborhoods, who tended to rank drawings with “cosmetic” disabilities (i.e., facial disfigurement and obesity) higher than functional orthopedic disabilities, may do so because they need to depend more on their physical ability to survive. In contrast, children living in middle-class socioeconomic neighborhoods who tended to rank drawings with functional disabilities higher than cosmetic disabilities may stress the importance of intellectual ability and cosmetic physical appearance.
The majority of the multiple studies during a 25-year period using Richardson’s Picture Ranking Task with more than 3,000 children ages 6 to 16 years showed the same overall pattern of preference as that of the original 1961 normative sample of American children. Richardson and colleagues attributed results largely to implicit and explicit cultural values and norms that are learned and influence behavior (Harper, 1999).

In similar studies (as cited in Harper, 1995) focusing on children in non-Western cultures (i.e., Nepal, Antigua, Yucatan, and New Zealand-Urban and Rural Maori), the drawing with no disability was ranked as first preference and the drawing with limb difference (without one hand) was ranked as fourth choice. These results compare with Richardson’s studies in the U.S. In contrast, however, the children’s second preference in four out of five of these locations was the child with obesity, which in U.S. studies was the sixth preference.

Harper (1995) concluded that the non-Western children’s preference order reflected cultural views about body-type in that a larger body size may be viewed as being related to affluence and food availability in those cultures. In contrast, attitudes in the U.S. toward obesity are generally negative. Further, the children’s tendency in non-Western cultures to rank functional disabilities (mobility impaired) as least preferred may reflect the perceived importance of functional mobility for survival in those cultures.

Building on Richardson’s work, Harper, Wacker, and Cobb (1986) modified the Picture Ranking Task to include the question, “Whom would you prefer to do this with?” (p. 328) along with 30 situational activities, such as riding a bike, playing cards, and watching television. In their study with 358 nondisabled children and 60 children with visible impairments in grades 4 through 12, Harper and colleagues found that when the situational context did not require physical skills that may be difficult to perform with a particular disability, rankings were
significantly different for the disabilities shown. In contrast to Richardson’s previous findings, the group of boys with disabilities, which included 22 in wheelchairs (of the total 31 boys with disabilities in the group), preferred the drawing of the child in a wheelchair as their first choice.

At least one researcher, Yuker (1983) asserted that the data from Richardson’s 20 years of investigation using the Picture Ranking Task should not be generalized. Yuker stated that the average rank used by Richardson and colleagues to identify children’s overall preference patterns toward disability may be meaningless, especially if the data showing average outcome are combining greatly varied individual preference patterns. Rather than viewing attitudes toward disabilities as having a culturally uniform preference order, Yuker suggested that researchers examine individuals with varying preference patterns to understand the key factors that influence individuals’ attitudes toward disabilities.

Responding to Yuker, Richardson (1983) reviewed his research and the reasoning behind it, explaining that he and his colleagues “think that much of Yuker’s analysis of [their] work should be viewed as a plea for further clarification and extension of our understanding of how and why people respond to disabilities the way they do” (p. 139).

In an article discussing children’s perceptions of physical differences and the development of stereotypes toward physical disabilities, Harper (1999) cited two theoretical orientations that he and his colleagues kept in mind in their research questions on children’s attitudes toward children with disabilities and how these attitudes might be changed: (a) Richardson’s Violation of Expectation and (b) Davidson and Davidson’s Cognitive Immaturity. Richardson (as cited in Harper, 1999) theorized that in the process of socialization, children form expectations about people’s physical appearance and behaviors that over time become a set of social normative expectations. Consequently, children’s attitudes toward physical disabilities are
a response to a violation of expectations, which, according to Harper, is consistent with aspects of social learning theory.

Noting some of the implications of the violation of the expectation concept, Harper (1999) explained that (a) an individual’s norms are based on each child’s unique, personal experiences; (b) younger children will have fewer experiences from which to base their normative expectations; (c) individuals will probably not be aware of experiencing a violation of expectation as it occurs; and (d) an individual’s awareness of how he or she responds to a violation of expectation may help the person modify or make changes to his or her normative expectations.

Davidson and Davidson (as cited in Harper, 1999) theorized that children’s prejudicial attitudes or responses to peer differences, in addition to being socially learned, may be a response of cognitive immaturity. This can be compared to the levels of development explained in Kohlberg’s stages of moral reasoning.

Similar to the concept of violation of expectation, Centers and Centers’ (1963) study on peer-group attitudes toward children with limb differences found evidence for their hypothesis that when nondisabled children observe a limb difference, they feel a threat to their bodily integrity. This results in greater rejection of children with limb differences by their peers than children without limb differences. Researchers used a 17-item social discrimination questionnaire with 28 classes of grade-school students ages 5 to 12 ($N = 836$), half of which included one child with an upper limb difference ($n = 14$). Although study results showed a greater number of children with limb differences as the saddest or least liked child in the class, it is important to note that children with limb differences were also among the best liked and the happiest children in the class.
In a study of preschool perceptions of orthopedic disability, focusing on children ages 3 to 5 years from middle to upper-middle-class socioeconomic levels, Weinberg (1978) found that nondisabled children begin to perceive and comprehend that another person has a physical disability sometime between the ages of 3 and 4 years. In the first of two experiments, 50 participants (of the total 101 children in the first experiment) were shown a photograph of a 4-year-old same-sex child sitting in a wheelchair. They were asked individually if there was anything different about the boy or girl. Then, pointing to the wheelchair, the examiner asked if the participant knew what the wheelchair was used for and if he or she knew anyone who used a wheelchair.

Researchers considered that a participant comprehended the meaning of the physical disability if the child knew that the chair was a wheelchair, or similar name, and that the wheelchair was used by individuals whose legs were hurt, broken, or unable to function in some way. Results of the first experiment (Weinberg, 1978) showed that children’s awareness of physical disability increases with age: 17% of the 3 year olds, 71% of the 4 year olds, and 75% of the 5 year olds understood that the child sitting in a wheelchair had a disability. Weinberg’s (1978) second experiment using line drawings with 63 children ages 3 to 5 years showed similar results: 22% of the 3 year olds, 64% of the 4 year olds, and 80% of the 5 year olds comprehended that the child was disabled.

An interesting finding in Weinberg’s (1978) study was that, when the children were randomly divided into two groups in which one group was shown only a photograph of a same-sex child without a disability and the other group was shown only a photograph of the same child sitting in a wheelchair, no significant differences were found in the ratings of the nondisabled child and the child with a disability on measures of liking, sharing, ability, and social approval.
However, when the participants were asked to choose which child they would prefer to play with—the line drawing of a child sitting in a regular chair or the line drawing of the same child sitting in a wheelchair—73% of the children chose the child in a regular chair (Weinberg, 1978). Study results showed that the bias toward choosing a nondisabled child increased with age; 64% of 3 year olds, 71% of 4 year olds, and 90% of 5 year olds indicated that the nondisabled child was their first playmate choice. Weinberg (1978) concluded that programs to encourage positive, nonprejudicial attitudes toward individuals with disabilities should begin in preschool and early elementary years when children’s attitudes are beginning to form.

In a review of the data on variables that influence attitudes toward individuals with disabilities, Yuker (1994) stated that the beliefs that nondisabled individuals have “about people with disabilities is probably the major variable that influences attitudes” (p. 5). Furthermore, research suggested that two factors, information and contact, are especially important influences on the beliefs and attitudes of nondisabled individuals toward individuals with disabilities.

Information that comes from sources perceived to be credible, attractive, and authoritative (e.g., family members, peers, the educational environment, community leaders, and mass media) tends to have a stronger influence on beliefs and attitudes than some other sources (Yuker, 1994). This information can be explicitly or implicitly conveyed.

Another review of the literature (Yuker, 1988), specifically on the effect of contact on attitudes toward individuals with disabilities, suggested that attitudes are influenced by a combination of the characteristics of the nondisabled person, the individual with a disability, and the interaction. Moreover, research data indicated the following to influence positive attitudes as a result of contact:
For positive attitudes, the nondisabled person should be free of negative beliefs that could hamper positive attitudes; that is, the beliefs that (1) disability is the most important characteristic of disabled persons, (2) disabled people are different, incompetent, inferior, and/or have negative characteristics, and (3) they—the nondisabled persons—are unable to cope with disabled persons and their problems. In addition, the nondisabled person should have (4) demographic and personality characteristics similar to those of the disabled individuals with whom they interact, (5) status that is equal to the status of the disabled person, and (6) educational and occupational socialization that did not emphasize the negative beliefs or status differences mentioned above. (Yuker, 1988, p. 274)

In addition, characteristics of individuals with disabilities that tend to influence positive attitudes as a result of contact are that the individual with a disability “should be (1) competent in the areas that are valued by the other parties to the interaction, (2) socially skillful and able to communicate successfully, and (3) accepting of his/her disability and willing to discuss it” (Yuker, 1988, p. 274).

Furthermore, interactions between individuals with and without disabilities “should (1) involve cooperation and reciprocity, (2) be rewarding to both disabled and nondisabled participants, (3) result in the participants’ getting to know one another as individuals, and (4) persist over time” (Yuker, 1988, p. 274).

Conceding that past research data have not identified how to change attitudes toward individuals with physical disabilities, Yuker (1994) stressed the need for well-designed studies to identify factors that influence positive and negative attitudes, using research questions that
include the interaction of several variables. These included contact, information, characteristics of the nondisabled person, and characteristics of the person with a disability.

*Parental attitudes and family functioning.*

Most parents of children with limb differences have probably never read studies on societal attitudes, such as those previously discussed. However, parents’ fears and concerns about how others will respond to their child’s limb difference suggest an underlying belief that their children will have more difficulties with social interactions and with feeling that they are accepted by peers, and society in general, than children without disabilities. Moreover, parents worry that negative societal attitudes toward limb differences will ultimately damage their child’s self-esteem, sense of security, and perception of self as a valued, worthwhile human being.

In a booklet to encourage parents of children with limb differences, Talbot (1979) acknowledged that after the birth of a child with a limb difference, parents experience painful feelings of shock, depression, anxiety, loneliness, and sometimes guilt and anger. Smith (2006), too, noted that parents are “very distraught and invest a great deal of time in trying to understand and determine exactly why this [limb difference] happened” (p. 52). Many parents feel a sense of guilt or shame, sometimes blaming themselves or wondering if they did something to cause the limb difference.

In addition, parents have fears about their child’s future, with many questions, such as will my child have friends, and, eventually, a loving marriage partner? Will my child be teased? Will my child ever be able to crawl with a missing limb? Will my child feel self-confident despite the limb difference?
Furthermore, parents feel anxious about their ability to help their child overcome the anticipated challenges of a limb difference, as well as how they themselves will handle others’ reactions.

In a book written as a guide to help other parents of children with limb differences, Reyes-Muralles (2001), who has a child with a limb difference, explained that she and her husband believed that helping their daughter to have a positive self-image and to handle any teasing in a positive manner would result in their daughter being okay. Yet, Reyes-Muralles acknowledged at the time of her writing that the fear about their daughter being teased and their ability to handle the teasing was overwhelming. These parents questioned how they would know when to say something to others, what words they would say, and how they would know when it was appropriate to help their daughter.

Many parents identify handling others’ reactions, such as staring and pointing, as one of their most difficult tasks. Whereas most parents hear positive comments about their infants when they are out in the community, in contrast, parents of children with limb differences often see or hear adults and children pointing or making comments to one another (i.e. virtually on every outing), often in voices (whispered or stated directly) that convey shock, pity, or aversion to their child. Parents report feeling hurt, angry, bitter, defensive, or discouraged when people react to their child with pity, rude remarks, or insensitive questions (Anonymous, personal communication, March 7, 2007; Pereiras, 2001; Reyes-Muralles, 2000).

In an article on raising children with special needs, Yura (1983) explained that parents “are filled with a true sense of inadequacy because of the feeling that they are ill prepared to cope with both their loss and the child’s disability” (pp. 369-370). Parents feel a sense of loss for the image of the baby they imagined before and during pregnancy, as well as the loss of the
actual limb or limbs. Others’ reactions to the limb difference that convey sympathy or misfortune for the child’s condition further reinforce the parents’ sense of inadequacy about how to handle the challenges associated with limb difference.

The lack of helpful and encouraging information available to parents during their hospital stay after the birth of a child with a limb difference may be another factor influencing parents’ feelings of inadequacy to deal with issues involving their child’s limb difference. Yura (1983) noted that the initial information parents receive tends to be medically based and discouraging. More than 20 years later, these observations seem as if they still hold true.

One mother reported that she and her husband received almost no information about their daughter’s limb difference during their stay in a metropolitan-suburban hospital after their child’s birth in 2002 (Anonymous, personal communication, March 1, 2007). There was some discussion with the pediatrician regarding possible causes of limb difference, and the parents were given the name and telephone number of a children’s specialty healthcare clinic that they were to contact at a later date. However, neither parent remembered even being told that their child’s condition was called limb difference.

As a result, parents emphatically report the need for relevant information that will equip them to positively respond to their children and the challenges of limb difference. However, a recent letter to this writer from the Amputee Coalition of America (ACA) stated that the ACA knew of no specific program of information available for hospitals to give to parents of children born with limb differences, though many hospitals assemble some type of packet of materials (ACA, personal communication, February 5, 2007). Furthermore, the ACA noted that local support groups for parents and their children with limb differences are rare.
Although information about limb difference is often not readily accessible to parents, clinicians have sought to gain an understanding of the psychosocial needs of children with limb differences (congenital and acquired) to help children toward positive psychosocial adjustment. Varni, Setoguchi, and their colleagues began empirical studies in the later 1980’s through the Child Amputee Prosthetics Project (CAPP). This has been associated with both the University of California (UCLA) and Shriners Hospital in Los Angeles. These clinicians realized that many children with limb differences adapt well. However, others struggle with low self-esteem, depression, and anxiety. Research has sought to identify influences that are protective factors (encouraging influences) and risk factors (discouraging influences) of psychosocial functioning in children with limb differences (Varni, Rubenfeld, Talbot, & Setoguchi, 1989a).

Of interest, their studies (e.g., Rubenfeld, Varni, Talbot, & Setoguchi, 1988; Varni, Rubenfeld, et al., 1989a; Varni & Setoguchi, 1993) consistently showed that demographic variables of gender, age, socioeconomic level, and degree of limb loss were not significantly associated with psychosocial adjustment. Rather, dynamic variables that have the potential for change (e.g., family functioning and perceived social support) were found to be significantly associated with psychosocial functioning in children with limb differences.

A 1989 study (Varni, Rubenfeld, et al., 1989a) measured family functioning on 10 subscales using the 90-item Family Environment Scale (FES) with 42 children ages 6 to 13 (36 with congenital limb differences and 6 with acquired limb differences). Study results found that greater family cohesiveness, moral and religious emphasis (in the personal-growth-orientation dimension of the scale), and family organization (e.g., clear organization and structure in family responsibilities and activities) were associated with fewer internalizing and externalizing
behavior problems and more social competence. In contrast, greater family conflict was associated with more internalizing and externalizing behavior problems.

A later study (Varni & Setoguchi, 1993) with 54 children ages 8 to 13 (46 with congenital limb differences and 8 with acquired limb differences) showed that family support and perceived social support from parents were significant protective factors in children’s psychological adjustment. In contrast, parental psychological distress and marital discord were significantly associated with risk factors, such as children demonstrating higher depressive symptomatology, higher trait anxiety, and lower general self-esteem.

Using the 27-item Family Relationship Index of the Family Environment Scale inventory, Varni and Setoguchi (1993) measured the concept of family support on three subscales. These included family cohesion (the level that family members help and support one another), expressiveness (the level that family members are encouraged to be assertive and express their feelings directly), and conflict (the level that anger is openly expressed as well as aggression and conflictual interactions).

Perceived social support was measured using the Social Support Scale for Children (SSSC; developed by Harter in 1985), which evaluates the level that children perceive significant others care for and like them as a person, listen to and understand them, and treat them as someone who matters. In addition, measures used for Parental Psychological Distress were the Beck Depression Inventory and the State-Trait Anxiety Inventory. Also, both parents separately completed the Dyadic Adjustment Scale to measure Marital Discord.

Varni and Setoguchi (1993) suggested that in seeking to identify the vulnerability for maladjustment of children with limb differences, it is important for health care workers to inquire into the past and present functioning of children as well as their parents.
Results of these studies (Varni, Rubenfeld, et al., 1989a; Varni & Setoguchi, 1993) are not surprising in light of Adlerian psychology, which recognizes the significant influence of family functioning (e.g., family atmosphere, family values, and parenting styles) in the lifestyle development and social adjustment of all children. As children’s lifestyles (personalities) are formed, beginning in the first weeks of life, they are influenced by observing how family members react to different behaviors and attitudes, as well as the conclusions the children themselves make about their observations (Carlson, Watts, & Maniaci, 2006). Likewise, parents (and all family members) are influenced by the behaviors and attitudes of their children.

In a 1993 study on parental attitudes toward their children with disabilities, Gilbride found evidence that the same three contact variables described by Yuker (1988) for positive attitudes toward disability (previously discussed under Societal Attitudes in this paper) are also important for the development of positive attitudes in parents. These include parents’ beliefs that the disability is not the most important characteristic of their child; their child is not different from other children; and they as parents are able to cope with their child’s special needs.

Negative parental attitudes toward a child’s disability can be a significant factor contributing to a child’s difficulties, which may discourage the child from functioning at his or her potential (Yura, 1983). Consequently, similar to Varni and Setoguchi’s (1993) recommendation, Gilbride (1993) advocated that professionals who work with parents of children with disabilities should carefully assess the parents’ beliefs about their ability to cope with the needs of their children.

An interesting finding in Noojin and Wallander’s (1997) study, which measured psychological adjustment in mothers of children with physical disabilities (i.e., spina bifida and
Limb Differences

was that mothers who perceive that they have competence in problem solving are associated with having better self-reported adjustment and less distress.

Research results indicate that it is crucial that social support and encouragement be made available for parents from the time that they first learn of their child’s limb difference. As Yura explained, “Parents must become comfortable with themselves in order to deal effectively with their child, and they may need help in adjusting to the situation” (p. 372). Similarly, Talbot (1979) emphasized the importance of parents having the opportunity to acknowledge and accept their feelings, positive and negative, and verbally express their fears in an atmosphere of trust, understanding, and emotional support.

In addition, parents want to know how to help their children with a limb difference. These parents need encouragement and pertinent resources to help them realize that they are capable of meeting the challenges of limb difference as positive influences in the lives of their children, family, and community.

Clark (as cited in Bowers, 2001), a pediatric orthopedic surgeon, teaches parents of children with limb differences that the most important factor influencing the outcome of their child is the parents’ attitude toward the child’s disability. She stresses that if parents can see (a) their children’s abilities rather than disabilities, (b) view their children as capable and put emphasis on what they are able to do (c) be able to look at their children with or without a prosthesis, and (d) consider them normal children who have differences just as every other child does, then, that is how their children will see themselves as they grow up.

Although Adlerian psychology concurs with Clark in that parents’ attitudes have a significant influence on their children’s beliefs about themselves (e.g., their self-concept and self-esteem), of even greater significance from an Adlerian perspective is the individual child’s
perception of his or her interactions with dynamic variables such as parents’ attitudes and family functioning.

Self-perceptions.

According to Adlerian psychology, the major psychosocial factors that influence a child’s lifestyle development (personality) are parenting styles, family atmosphere, family values, family constellation (including the child’s ordinal and psychological birth order position and how siblings, parents, and others living in the household interact with one another), and one’s community environment (e.g., extended family, friends, neighbors, school, culture, and socioeconomic level; Mosak & Maniacci, 1999). Nevertheless, it is the child’s subjective perceptions of these factors that are even more crucial than the actual, objective factors, such as family atmosphere or parenting styles.

More than 50 years ago, Dreikurs (1948) asserted that in attempts to correlate physical disability and social adjustment, the most decisive factors would be the past and present attitudes of the disabled individual, the individual’s level of courage or discouragement, and the individual’s interpretation of himself or herself and his or her condition. Since then, researchers have found that the attitudes, interpretations, and self-perceptions of individuals with a limb difference may be significant factors in their psychosocial functioning.

Studies that sought to identify variables that influence self-esteem in children with limb differences have found that their self-perceptions may be strongly related to their levels of self-esteem. Rubenfeld, Varni, Talbot, and Setoguchi’s (1988) investigation of 41 children (26 boys and 15 girls) ages 8 to 13 (34 with congenital limb differences and 7 with acquired limb differences) used Harter’s Self-Perception Profile for Children to measure the children’s global self-worth as well as their perceptions of themselves in five domains: perceived scholastic
competence, social acceptance, athletic competence, physical appearance, and behavioral conduct.

The children’s perceptions of the support and approval they received from parents, teachers, classmates, and close friends were measured using the Social Support Scale for Children (Rubenfeld et al., 1988). Further, family functioning was measured by having the children’s mothers complete the Family Environment Scale.

In addition to results showing the significant influence of family functioning on children’s self-esteem, the study revealed that all five self-perception domains (i.e., perceived physical appearance, perceived athletic competence, perceived social acceptance, perceived scholastic competence, and perceived behavioral conduct) were significantly associated with general self-esteem in children with limb differences (Rubenfeld et al., 1988). However, perceived physical appearance showed the strongest association to self-esteem among the self-perception domains ($r = .65, p < .001$).

In addition, all four of the social support domains (i.e., perceived support and approval from parents, teachers, classmates, and close friends) were significantly correlated with general self-esteem, with perceived classmate support having the strongest association ($r = .55, p < .001$; Rubenfeld et al., 1988).

In three later studies, Varni and Setoguchi (1991a; 1991b; 1996) examined the variable of perceived physical appearance in children and adolescents with limb differences. Previous studies had found that perceived physical appearance was strongly correlated with self-esteem in children.

The first study (Varni & Setoguchi, 1991a) included 51 children (32 boys and 19 girls) ages 8 to 13 years (43 with congenital limb differences and 8 with acquired limb differences).
These children were of, on average, middle-class socioeconomic status. From the literature and their previous clinical work, the researchers hypothesized that correlates of perceived physical appearance in children with limb differences included perceived social support, perceived competence/adequacy, parental marital discord, daily stress, and psychological adjustment.

Researchers used the Self-Perception Profile for Children to measure the constructs of perceived physical appearance, perceived competence/adequacy, and general self-esteem. In addition, Harter’s Social Support Scale for Children was used to measure perceived social support (Varni & Setoguchi, 1991a). Daily stress was measured using the Children’s Hassles Scale (CHS) and parental marital discord was measured by the Dyadic Adjustment Scale. In addition, depressive symptoms were measured using the Children’s Depression Inventory (CDI), and self-perceived anxiety was measured by the State-Trait Anxiety Inventory for Children.

This study found that among the social support variables, higher perceived social support from classmates, teachers, and parents were significantly associated with higher perceived physical appearance ($r = .49, .48, \text{ and } .42$, respectively, $p < .001$; Varni & Setoguchi, 1991a). A multiple regression analysis indicated that these correlates accounted for 29% of the variance in perceived physical appearance.

Of the perceived competence/adequacy variables, higher scholastic competence, peer acceptance, and athletic competence were significantly correlated with higher perceived physical appearance ($r = .55, .52, \text{ and } .48$, respectively, $p < .001$). Multiple regression analysis indicated that these variables accounted for 37% of the variance in perceived physical appearance (Varni & Setoguchi, 1991a).

Among the stress variables, higher paternal-perceived marital discord ($r = -.60, p < .001$), maternal-perceived marital discord ($r = -.41, p < .005$), and daily stress ($r = -.45, p < .001$) were
significantly associated with lower perceived physical appearance, with multiple regression analysis indicating that these correlates accounted for 39% of the variance in perceived physical appearance (Varni & Setoguchi, 1991a).

Moreover, the study (Varni & Setoguchi, 1991a) found that among the psychological-adjustment variables, higher perceived physical appearance was associated with higher general self-esteem ($r = .68$, $p < .001$), lower depressive symptoms ($r = -.59$, $p < .001$), and lower trait anxiety ($r = -.50$, $p < .001$).

In contrast, the demographic variables of age, sex, and the degree of limb loss were not significantly associated with perceived physical appearance. Although the results of this study showed that higher socioeconomic status was significantly correlated with lower perceived physical appearance ($r = -0.35$, $p < .001$), researchers reported that socioeconomic status was not, in general, a predictor of perceived physical appearance (Varni & Setoguchi, 1991a).

According to Varni and Setoguchi (1991a), “The pattern of results suggests that aspects of the child’s social environment are statistically significant predictors of perceived physical appearance in children with congenital or acquired limb [differences]” (p. 175). Moreover, these findings indicate that the perceptions of children with limb differences regarding their physical appearance are important influences in their overall psychosocial adjustment.

A second study (Varni & Setoguchi, 1991b) assessed the participants’ (children and adolescents) perceptions of their physical appearance using Harter’s Self-Perception Profile for Children as well as the Self-Perception Profile for Adolescents. According to Varni and Setoguchi (1991b), the perceived physical appearance domain of the assessment for children measured:
the degree to which the children are happy with the way they look, are happy with their height and weight, wish their body was different, wish how they look was different, wish something about their face and hair looked different, and think that they are good looking. (Perceived Physical Appearance section, ¶ 1)

Similarly, the physical appearance domain of the assessment for adolescents measured “the degree to which the adolescents are happy with the way they look, wish their body was different, like their physical appearance the way it is, think they are good looking, and wish they looked different” (Varni & Setoguchi, 1991b, Perceived Physical Appearance section, ¶ 1).

Eighty participants with limb differences (65 with congenital limb differences and 15 with acquired limb differences) between the ages of 8 to 17 years were included in the study. Of these, 51 participants (with a mean age of 10.3 years) were in the children’s group and 29 participants (with a mean age of 14.7 years) were in the adolescent group. Similar to the first study, the participants’ age, sex, and total degree of limb loss were not significantly correlated with self-perceived physical appearance (Varni & Setoguchi, 1991b).

However, among the adolescent participants, the study showed an inverse relationship in that “the greater the degree of upper limb loss, the lower the self-perceived appearance (r = -.37, p < .05)” (Varni & Setoguchi, 1991b). Of further interest, the children’s self-perceived physical appearance was significantly higher than the standardization sample of children without a disability taken from the assessment instrument. Conversely, the adolescents showed a statistical trend toward lower self-perceived physical appearance than the standardized sample of adolescents without a disability.

Varni and Setoguchi (1991b) noted that the large standard deviations in the data from their study for both the children and the adolescents with limb differences indicate the
“considerable variability” in how these children perceive their individual physical appearance. Whereas some children and adolescents with limb differences had low self-perceived physical appearance, others demonstrated high self-perceived physical appearance.

In a third study, Varni and Setoguchi (1996) hypothesized that self-perceived physical appearance was a predictor of psychological adjustment in adolescents with limb differences (congenital and acquired). The study included 44 adolescents (22 boys and 22 girls) ages 13 to 18 years (with a mean age of 14.7 years) of whom 32 participants had congenital limb differences and 12 had acquired limb differences.

The study found that age, gender, and the degree of limb loss were not significantly correlated with perceived physical appearance (Varni & Setoguchi, 1996). Similarly, neither age nor gender was significantly correlated with general self-esteem, depression, or anxiety. In addition, the degree of limb loss was not significantly correlated with either depression or anxiety.

However, the degree of limb loss was significantly correlated with general self-esteem ($r = -.52, p < .001$; Varni & Setoguchi, 1996). Researchers noted that this suggests that the total degree of limb loss may be a risk factor for lower general self-esteem in adolescents. Nevertheless, further statistical analysis suggested that higher self-perceived physical appearance may be a resistance factor, reducing the effects of the degree of limb loss as a risk factor for general self-esteem in adolescents with limb differences.

According to Varni and Setoguchi (1996), study results indicate that “the adolescent’s perception of his or her physical appearance is relatively independent of the objective rating of total limb loss” (p. 206). They pointed out that the assessment of perceived physical appearance
measures the adolescent’s perception of and satisfaction with his or her total overall physical appearance, not just perceptions of limb loss.

Consistent with previous studies, results of this investigation found that higher self-perceived physical appearance was significantly associated with lower depressive symptoms, lower trait anxiety, and higher general self-esteem (Varni & Setoguchi, 1996). Further statistical analysis of the data using a path-analytic conceptual model suggested that general self-esteem may mediate the effect of self-perceived physical appearance on psychological adjustment in adolescents with limb differences.

In addition, the adolescents’ perceptions of close friendships, scholastic competence, athletic competence, and social acceptance were significantly correlated with general self-esteem (Varni & Setoguchi, 1996). In light of the results of this study, the researchers suggested that interventions to improve perceptions in competence and adequacy domains may increase general self-esteem.

Findings from these studies (i.e., Varni & Setoguchi, 1991a; 1991b; 1996) indicate that perceived physical appearance may be an important influence in the psychological adjustment of children with limb differences. Moreover, studies suggest that children’s self-perceived physical appearance is influenced by psychosocial environment factors that are potentially modifiable (e.g., marital discord; social support from parents, teachers, and classmates; peer acceptance; daily stress; and scholastic and athletic competence).

In addition to research on perceived physical appearance, other studies (i.e., Varni, Rubenfeld, Talbot, & Setoguchi, 1989b; Varni, Setoguchi, Rappaport, & Talbot, 1991) examined the effects of perceived social support (from parents, teachers, classmates, and close friends) and
perceived daily stress (or microstressors) on depressive symptoms and psychological adjustment in children with limb differences.

In two studies (i.e., Varni, Rubenfeld, et al., 1989b; Varni, Setoguchi, Rappaport, et al., 1991), the participants’ (ages 8 to 13 years) mean scores on the assessment instruments (i.e., the Children’s Depression Inventory, Children’s Hassles Scale, and Social Support Scale for Children) were comparable to the mean scores of the standardized normative samples of physically healthy children taken from the assessment instruments. As a group, the children with limb differences, on average, did not experience significant differences in the level of depressive symptoms, number of daily microstressors, or perception of social support from parents, teachers, classmates, or close friends than children without limb differences.

However, similar to findings in other studies, researchers found considerable variability in the number of depressive symptoms among children with limb differences (Varni, Rubenfeld, et al., 1989b; Varni, Setoguchi, Rappaport, et al., 1991). To understand factors that influence this variability, researchers designed studies (e.g., Rubenfeld et al., 1988; Varni & Setoguchi, 1991a; Varni & Setoguchi, 1991b; Varni & Setoguchi, 1996; Varni, Setoguchi, Rappaport, & Talbot, 1992) to identify multiple variables that function as protective factors in the psychosocial adjustment of children with limb differences.

Varni, Rubenfeld, et al. (1989b) found that higher perceived social support from classmates, parents, and teachers (three separately measured domains of social support) were significantly correlated with lower depressive symptoms in children with limb differences. These findings suggest that greater social support may be a protective factor in the psychological adjustment of children with limb differences, whereas lower social support may be a risk factor.
In addition, a larger number of microstressors (the children’s perception of the number of negative events experienced) was also significantly correlated with increased depressive symptoms (Varni, Rubenfeld, et al., 1989b).

Similarly, Varni, Setoguchi, Rappaport, et al. (1991) found that the four social support domains (classmate, teacher, friend, and parent), self-esteem, and microstressors were all significantly correlated with depressive symptomatology in children ages 8 to 13 years with limb differences. However, classmate social support had the strongest correlation with both depressive symptomatology \( (r = -.79, p < .001) \) and with self-esteem \( (r = .59, p < .001) \).

Researchers acknowledged that even though these variables (i.e., social support from classmates, teachers, friends, and parents; self-esteem; and microstressors) were significantly associated with depressive symptomatology using zero-order correlations, “It is possible that one or more of these variables is not predictive of depressive symptomatology when the effects of the other variables are controlled for” (Varni, Setoguchi, Rappaport, et al., 1991, p. 1056).

Further analysis using multiple regression with the variables of self-esteem, the four social support domains, and microstressors as predictors of depressive symptomatology showed that social support from classmates (beta = -.767, \( p < .001 \)) and social support from teachers (beta = -.359, \( p < .01 \)) were the only significant predictors of depressive symptomatology when controlling for the other variables (Varni, Setoguchi, Rappaport, et al., 1991).

Another multiple regression analysis indicated that social support from classmates was the only significant predictor of self-esteem when controlling for the other social support domains (i.e., support from parents, teachers, and close friends) and microstressors (Varni, Setoguchi, Rappaport, et al., 1991). However, self-esteem was not a significant predictor of
depressive symptomatology when researchers controlled for the effects of the social support domains and microstressors.

Findings from this study suggest that low classmate social support may be a vulnerability factor for children with limb differences (Varni, Setoguchi, Rappaport, et al., 1991). For example, children who experience or perceive low levels of social support from classmates may be at greater risk for increased depressive symptoms and lower self-esteem.

To further examine the relationship between perceived social support and psychological adjustment in children with limb differences, Varni, Setoguchi, Rappaport, et al. (1992) measured depressive symptomatology, trait anxiety, general self-esteem, degree of limb loss, and perceived social support among 49 children (30 boys and 19 girls) ages 8 to 13 years (42 children with congenital limb differences and 7 children with acquired limb differences). Similar to findings in earlier studies, researchers (Varni, Setoguchi, Rappaport, et al., 1992) found that higher depressive symptomatology, higher trait anxiety, and lower general self-esteem were significantly correlated with lower perceived social support in all four domains (i.e., classmate, teacher, friend, and parent social support). Further analysis using multiple regression indicated that higher perceived social support from classmates and from teachers were significant predictors of lower depressive symptomatology. In addition, higher social support from classmates was the only social support domain that was shown as a significant predictor of lower trait anxiety and higher self-esteem.

The demographic variables of gender, socioeconomic level, and degree of limb loss were not significantly correlated with perceived social support. Furthermore, age was not significantly correlated with social support from classmates, teachers, or close friends (Varni, Setoguchi, Rappaport, et al., 1992). However, a significant inverse correlation was found between age and
perceived social support from parents, which suggests that the older children may perceive less parental social support. Furthermore, none of the demographic variables were significant predictors of depressive symptomatology, trait anxiety, or general self-esteem.

According to Varni, Setoguchi, Rappaport, et al. (1992), their findings are consistent with other social support studies (cross-sectional and longitudinal) with children, adolescents, and adults that have found that perceived social support is a significant predictor of psychological adjustment. However, they acknowledged that longitudinal studies are needed to further investigate “antecedents and consequences” of perceived social support in children with limb differences (Varni, Setoguchi, Rappaport, et al., 1992, p. 41).

Varni, Setoguchi, Rappaport, et al. (1992, p. 33) noted that the definition of “perceived social support refers to the cognitive appraisal by individuals that they are cared for and valued; significant others are available to them if needed, and they are satisfied with their interpersonal relationships (Heller et al., 1986).” These researchers acknowledged that the meaning of perceived social support (which includes individuals’ own cognitive appraisals) “suggests that it is not social connections per se that are protective against psychological maladjustment but, rather, how the individual perceives and interprets his [or] her social network that determines the protective function of social support” (Varni, Setoguchi, Rappaport, et al., 1992, p. 33).

Factors in Lifestyle Development in Children with Limb Differences

Research (e.g., Varni, Setoguchi, Rappaport, et al., 1992) suggests that an individual’s interpretations and perceptions of self, others, the environment, and his or her belonging and significance in the world may be more influential in determining psychosocial functioning than objective experiences and events. These findings are consistent with Adlerian psychology.
Therefore, realizing how children’s perceptions are influenced and formed is essential to helping parents and clinicians further understand the psychosocial challenges of children with limb differences and how to encourage these children and their parents toward positive psychosocial functioning.

From an Adlerian perspective, an individual’s perceptions and interpretations are always consistent with his or her lifestyle, which begins to develop in the first days and weeks of life (Carlson et al., 2006). The lifestyle, which is synonymous with personality, is an individual’s characteristic way of perceiving, thinking, feeling, and acting (Mosak & Maniacci, 1999). Oberst and Stewart explained that lifestyle is, “the ‘I’, expressing the wholeness of personality” (p. 19).

Critical to understanding human behavior and the development of each individual’s unique lifestyle from an Adlerian perspective are some underlying basic principles or assumptions of Adlerian psychology. First, a human being is viewed holistically, as a whole person: biologically, psychologically, socially, and spiritually. Therefore, each individual can only be understood in his or her totality, not by examining certain aspects of a person, such as one’s biological condition (Mosak & Maniacci, 1999).

In addition, Adlerian psychology views individuals as self-determining and creative (Dewey, 1991). Rather than humans developing or behaving as a result of mechanistic or deterministic factors, individuals decide themselves (often nonconsciously) how they will perceive, feel, or act in response to interactions with their total environment (internal and external).

A third Adlerian principle is that individuals are goal directed (Dewey, 1991). All human behavior has a purpose and is always movement toward a goal, even though the individual is often unaware of this purpose or goal.
Fourth, individuals’ interpretations and perceptions of reality are subjective (Dewey, 1991). Individuals subjectively give meaning to experiences in life. For example, a child with a limb difference may not feel that he or she is disabled, whereas a nondisabled child may have strong feelings of being inferior and “disabled” in the use of his or her limbs.

Further, all human behavior is socially embedded and has social meaning (Carlson et al., 2006). Individuals are social beings who are born into social groups, such as immediate and extended families and communities. Therefore, an individual’s behavior cannot be understood apart from his or her social context.

An individual’s lifestyle functions as a guide to organize one’s thoughts, feelings, and behaviors; as a “limiter,” setting limits on what an individual chooses to do or not do; and as a predictor, helping the individual predict what will happen and how to respond internally and externally (Carlson et al., 2006).

Carlson et al. (2006) explained that in the functioning of the lifestyle, three main processes occur: (a) biased apperception, (b) self-reinforcement, and (c) arrangement. Individuals are biased (usually nonconsciously) in their perceptions and perceive their total environment from their own biased beliefs, attitudes, and assumptions. An individual’s lifestyle seeks out or looks for that which will reinforce his or her perceptions and expectations. Further, the lifestyle creates or arrange for experiences that will confirm for the individual that his or her lifestyle perceptions and convictions are correct and justified.

Adlerian psychology identifies four factors that are major influences in a child’s lifestyle development: (a) biological factors, (b) degree of activity, (c) psychosocial dynamics, and (d) goodness of fit (Carlson et al., 2006).
Biological factors that influence lifestyle development include (a) organ inferiority (i.e., structurally deficient organs or organ systems), (b) needs (i.e., the four primary needs that all children require to survive and thrive: nourishment and contact, protection and safety, mastery, and sensory variation), (c) processing neurodynamics (i.e., an individual’s style of processing information, such as having an internal versus external locus of control or having a high versus low tolerance for ambiguity), and (d) goals (i.e., the four biological needs become socialized goals as infants and children interact with their environment, which include the goals of attachment, security, competence, and cognition; Carlson et al., 2006).

Degree of activity, another major influence in the development of the lifestyle, refers to the energy or activity level that a child uses to adapt to or master life’s challenges (Carlson et al., 2006). Adlerians view degree of activity as being a transitional concept in that it has elements of both biological functioning and behavioral responses that are learned through early socialization.

Psychosocial factors that influence a child’s lifestyle development include a child’s ordinal and psychological birth order, parenting styles, family atmosphere, family values, family constellation, and community environment (Carlson et al., 2006).

In describing goodness of fit (the fourth major influence of lifestyle development), Carlson et al. (2006) asserted that the key to all the other factors that influence a child’s lifestyle “is not necessarily their presence or absence but rather the degree to which the dynamics of the child match the dynamics of the caregivers and the community” (p. 54). For example, a child who has strong athletic abilities may thrive in an environment in which his or her abilities are encouraged and developed. In contrast, a child who has little talent or interest in athletics may feel inferior or discouraged in a competitive family environment or community that highly values sports and athletic ability.
Self-concept, self-ideal, and convictions.

Each person’s unique lifestyle (personality) includes the individual’s conscious and nonconscious (i.e., out of awareness) convictions and goals. Carlson et al. (2006) explained that the lifestyle has two main parts: (a) convictions about what is (regarding the self-concept and the individual’s worldview) and (b) convictions about what should be (regarding one’s self-ideal and one’s ethical convictions).

A person’s self-concept contains the total beliefs that the individual has about who “I am” and who “I am not” (Carlson et al., 2006). For example, a child might have some beliefs about the self that state, “I am a girl; I am smart; I am not good at sports.”

An individual’s worldview (which is another set of convictions about what is) includes a person’s total beliefs about everything else that is “not me,” such as “Men are,” “Women are,” “Life is,” “God is,” or “Work is” (Carlson et al., 2006). Infants and children form convictions and beliefs about their self-concept and their worldview as they learn from direct experience and observe, mirror, interact with, and receive feedback from caregivers, family, and others in their environment.

In contrast, an individual’s convictions about what should be (i.e., a person’s self-ideal beliefs and ethical convictions) “are learned through a repeated pattern of frustration with the environment and idealizing comments from caretakers” (Carlson et al., 2006, p. 56). Whereas self-ideal statements are the “I shoulds or should nots” about oneself, ethical convictions are a person’s ideals and the “shoulds or should nots” about other people, the world, and life.

Mosak and Maniacci (1999) explained that self-ideal convictions contain the long-range goals of one’s personality, such as, “I should (or should not) . . . in order to belong and be
significant in the world.” Ethical convictions, which also provide direction for the lifestyle, contain one’s perceptions about what is right and wrong.

These four main convictions of self-concept, worldview, self-ideal, and ethical convictions that make up the lifestyle dynamically interact with one another to become the cognitive map an individual uses to understand, predict, and manage life (Mosak & Maniacci, 1999). One’s convictions, then, motivate or pull the individual toward the dominant lifestyle goals on which he or she has decided (mostly nonconsciously) that will enable him or her to find a place of belonging, significance, and security. A person’s convictions and dominant goals become instructions for behavior as the individual determines what he or she must do to achieve his or her self-ideal goals (Shulman & Mosak, 1990).

For example, a child with an upper limb difference may hypothetically have convictions such as, “I have a short arm and one hand (self-concept), other people have two hands (worldview), I should be able to do what others do (self-ideal), and everyone should be able to participate in sports (ethical conviction).” From these convictions, the child will choose (usually nonconsciously) the “therefores” about the behaviors that he or she will use to achieve his or her goal of being able to do what others do and the child’s expectation about being able to participate in sports, such as, “Therefore, I must . . . .”

Fairfield (1983) explained that “the self-concept is not a static condition of mind, but rather a fluid, dynamic, moment-to-moment decision made by the child. It represents the child’s conclusion as to how to find a place in life” (p. 362). Children form their self-concept and their conclusions about how to find their place from the information they receive from their own bodies, their families, society, and their total internal and external environments.
Parents of children with a limb difference are often fearful that their child will develop a negative self-concept if the child hears from others, especially children, in the community continual remarks or questions about his or her disability. One parent reported that while at parks, swimming pools, or anywhere there are other children, her child (age 4, with an upper limb difference) hears or sees other children (whom she has never met) make comments to one another with voices or faces that seem shocked as they exclaim or murmur to one another, or to their parents, phrases such as, “Look at that girl, she doesn’t have an arm!” “Freaky!” “That’s weird!” (Anonymous, personal communication, March 7, 2007). Sometimes other children will discuss her child’s limb difference with one another and laugh amongst themselves.

Other children (who generally appear to be between ages 4 and 10) will often ask, “What happened to your arm?” “Did it get cut off?” or “Where is your hand?” (Anonymous, personal communication, March 7, 2007). Many children try to look at or touch the end of this child’s short arm, sometimes with facial expressions that communicate either confusion or distaste. Some children want to bring this little girl to their parents or friends so that others, too, can see her limb difference.

In response to the reactions of others in the community, this mother is concerned that her daughter will develop mistaken self-concept beliefs such as, “I am weird, freaky, ugly, and strange.”

Mosak and Maniacci (1999) explained that a child’s self-ideal “forms out of a sense of inferiority. We become aware of what we are not, and the object of that ‘not’ becomes what we would ideally desire” (p. 53). Although self-ideal convictions can have negative outcomes (e.g., maladaptive behavior or neurosis) when individuals base their worth on achieving unrealistic
shoulds, convictions can also motivate or “pull” individuals toward their aspirations and what they hope to accomplish in life.

Organ inferiority and inferiority feelings.

Adlerian psychology recognizes that all individuals experience feelings of inferiority. However, inferiority feelings may or may not be based on an actual inferiority or weakness. From an Adlerian perspective, the terms inferiority and inferiority feelings are defined differently (Mosak & Maniacci, 1999).

The term inferiority refers to an objective and measurable condition or criterion, such as limb length or height (Mosak & Maniacci, 1999). According to Dreikurs (1948), “Inferiority can refer to any objective inadequacy in function or in status. But it does not necessarily produce an inferiority feeling” (p. 45). Rather, individuals decide for themselves the significance of any objective inferiority, such as a limb difference.

In contrast, inferiority feelings result from an individual’s subjective evaluations and assumptions of being inferior in some context, such as physically, socially, or psychologically (Dreikurs, 1948). Therefore, an individual may have inferiority feelings with no actual objective inferiority.

According to Adlerian psychology, inferiority feelings occur when the interactions of one’s lifestyle convictions (i.e., self-concept, self-ideal, worldview, and ethical convictions) are incompatible or incongruent with one another (Mosak & Maniacci, 1999). More specifically, if one’s self-concept (I am) does not measure up to one’s self ideal (I should be), the individual will experience inferiority feelings or low self-esteem (Carlson et al., 2006). Similarly, when the self-concept does not measure up to one’s worldview (people are, life is), the individual will have feelings of being inadequate. Further, if the self-concept falls short of one’s ethical convictions,
the individual will experience feelings of guilt. Adlerians view feelings of inadequacy and guilt as forms of inferiority feelings.

Adler believed that individuals are motivated by their inferiority feelings to move from a felt minus situation to a perceived plus situation (Mosak & Maniaci, 1999). Undoubtedly, all infants and children experience feelings or perceptions of being “less than” as they observe and interact with parents, siblings, and others in their environment who are or who appear to be stronger and more capable than they are. Children, then, strive to move toward what they perceive will be a plus situation in the achievement of their self-ideal and lifestyle goals.

As children strive toward finding their place of belonging and significance in life, they can be influenced by factors that are encouraging or discouraging. Children who are encouraged are more likely to have a “Yes, I can” attitude and will use problem solving or compensation methods to overcome feelings of inferiority and to meet challenges (Carlson et al., 2006). In contrast, children who are discouraged may be afraid to take risks and may use ineffective methods (e.g., excuses or distance-seeking) that they perceive (nonconsciously or consciously) will safeguard and protect their sense of self.

Adler (as cited in Ansbacher & Ansbacher, 1956) hypothesized that children with an organ inferiority will feel a minus situation more intensely than children in general. The term organ inferiority refers to any human organs or organ systems that are structurally or functionally weak or deficient (Carlson et al., 2006). The significance of an organ inferiority is that, like inferiority feelings, it presents the individual with challenges, difficulties, or stresses that the individual needs to meet or overcome.

However, as Crookshank (1936) stated, “The important thing is not the organ inferiority itself, but what the individual does about it. The personality is not determined by the inferiority
but by the reaction of the individual to the inferiority. The inferiority may be turned to the best use or to the worst possible use!” (p. 52).

Adlerian psychology asserts that individuals may apprehend or compensate for an organ inferiority on three levels: somatic, sympathetic, and psychic (Mosak & Maniacci, 1999). For example, an individual with a limb difference may compensate on a somatic level by strengthening (consciously or nonconsciously) his or her unaffected limbs. On a sympathetic level, the individual may develop his or her own unique methods of functioning to compensate for actions that might otherwise be accomplished using the affected limb. Finally, individuals may compensate on a psychic level, such as deciding on goals (positive and negative) that the individual perceives will enable him or her to overcome feelings of inferiority and move from a felt minus to a perceived plus situation.

*Coping and safeguarding behaviors*

Mosak and Maniacci (1999) explained that there are two main positions that individuals usually take toward life’s stresses (e.g., feelings of inferiority). Individuals can view stresses as challenges and respond to them using coping behaviors, or they can view stresses as problems and respond using safeguarding behaviors.

Coping behaviors include direct problem solving methods and compensation (Mosak & Maniacci, 1999). When individuals use direct problem-solving methods, they focus on the task, identifying and using resources and skills that are needed to meet or resolve the challenge or stressor.

However, as Mosak and Maniacci (1999) pointed out, some challenges may be difficult to resolve using direct problem-solving skills. In those cases, individuals may use compensation (another form of coping behavior) either within the area of challenge, in another area, or they
may overcompensate. For example, a child with a limb difference may choose to compensate for
difficulty in performing certain physical tasks within the area of challenge by using a prosthetic
device to help with physical functioning. The child may also choose to compensate by training or
developing skills in other unrelated areas, such as music or education.

Overcompensation is another form of extended compensation that individuals use as a
coping resource to move from a felt minus (inferiority feelings) to a perceived plus. According to
Adlerian psychology, the term overcompensation refers to people working very hard to exceed
what would normally be expected of individuals with or without a particular challenge or
difference (Mosak & Maniacci, 1999). For example, an individual with a limb difference may
overcompensate for the absence of a limb by rigorously training to participate as a paralympic
athlete. Mosak and Maniacci (1999) stated, “Overcompensation, if directed toward constructive
goals, may culminate in excellent achievements” (p. 84).

In a study to measure the degree of overcompensation by children with visible physical
disabilities compared with nondisabled children, Coleman and Croake (1987) administered the
California Test of Personality (CTP) to 26 randomly selected children (ages 9 through 15 years)
with visible physical disabilities (e.g., limb differences, mobility problems, and severe burns)
and a control group of 26 nondisabled children who were matched to the sample group by age,
sex, race (15 Black children and 11 white children), IQ (within 10 points), socioeconomic status,
birth order position, and from schools within the same county as those in the sample group.

This study found that the children with physical disabilities scored higher than the control
group of nondisabled children on two measures of the CTP: (a) self-reliance (e.g., independent
and able to handle situations for themselves; disability mean = 47.7; control mean = 34.8; p = <
.03) and (b) sense of personal worth (e.g., feel well thought of by others and have confidence in
their ability to be successful in the future; disability mean = 52.7; control mean = 37.5; p = .03; Coleman & Croake, 1987). No significant differences were found in the other CTP measures between the two groups.

Additional subsample comparisons revealed that boys with disabilities scored higher on the self-reliance measure (n = 17; mean = 51.9) than boys in the nondisabled control group (n = 17; mean = 39.1) and girls with disabilities scored higher on the sense-of-personal-worth measure (n = 9; mean = 64.0) than girls in the control group of nondisabled girls (n = 9; mean = 40.0; Coleman & Croake, 1987).

Similar to results of the total sample, comparisons by race showed that the Black children with disabilities scored higher on self-reliance and sense of personal worth than nondisabled Black children (Coleman & Croake, 1987). However, the control group of nondisabled white children scored higher on the construct of “feeling of belonging” (e.g., feeling loved by family, encouraged by friends, and accepted by others) than the white children with disabilities (control mean = 47.3; disability mean = 21.0). No differences were found among the Black children (those with and without disabilities) on feeling of belonging.

Comparing data among children with disabilities, researchers found two differences between boys and girls (Coleman & Croake, 1987). Boys with disabilities scored significantly higher on self-reliance than girls with disabilities. Further, boys with disabilities scored higher than girls with disabilities on the construct of freedom from withdrawing tendencies.

Study results demonstrating higher scores for children with disabilities on the constructs of self-reliance and sense of personal worth are consistent with Adler’s theory of overcompensation for felt inferiority (Coleman & Croake, 1987). In addition, researchers reported that the overall findings of the study suggest that children with disabilities “tend to be
self-reliant, independent, able to handle situations for themselves, emotionally stable, responsible, feel well thought of by others, have faith in their future success, and believe that they are capable” (Coleman & Croake, 1987, p. 366).

In contrast to the use of positive coping behaviors (e.g., direct problem solving methods and compensation directed toward constructive goals), discouraged individuals tend to respond to life’s stresses and feelings of inferiority using nonconstructive or ineffective strategies (consciously and nonconsciously), which Adlerian psychology refers to as safeguarding behaviors (Carlson et al., 2006).

The six main safeguarding methods (similar to defense mechanisms) described by Adler include (a) symptoms, which individuals create nonconsciously (e.g., a headache) to avoid tasks or challenges that seem too difficult; (b) excuses, in which individuals use conscious verbal rationalizations to avoid meeting challenges; (c) aggression, which can take the form of depreciation (e.g., putting down other people), accusation (e.g., blaming others for one’s inability to meet challenges), and self-accusation (e.g., hurting oneself in some way so that others feel hurt); (d) distance seeking, in which individuals move away from challenges (i.e., backward movement), stand still, hesitate (e.g., procrastination), and/or create obstacles to avoid meeting challenges; (e) anxiety, which individuals create to avoid challenges; and (f) exclusion tendency, in which individuals exclude social situations and interactions that may compromise their lifestyle convictions and goals (Carlson et al., 2006; Mosak & Maniacci, 1999).

From an Adlerian perspective, individuals strive to protect their sense of self from three threats: (a) threats to one’s physical self, (b) threats of being looked down upon by others (e.g., with humiliation or punishment), and (c) threats of looking bad to oneself (Mosak & Maniacci, 1999). Discouraged individuals use safeguarding behaviors to protect their self-esteem, reduce
feelings of inferiority, and move toward their individual lifestyle goals (which are based on their own subjective perceptions, convictions, and private logic) of how to belong, be significant, and be secure in their environment (Mosak & Maniacci, 1999).

In two studies focused on elementary school-aged children (ages 8 to 11) with mild physical differences (e.g., body structure and neuromuscular differences that were non-life threatening), Timberlake (1985; 1990) examined behaviors used by the children to protect their self-concepts and to cope with having a physical difference. Understanding that children in Erickson’s psychosocial developmental stage of industry versus inferiority (ages 6 through 11 years) are especially concerned with feeling a sense of mastery or competency in areas such as academics and peer-group relationships, Timberlake (1990) asserted that children who perceive their physical difference as the “the central organizing factor for all of the perceptions of self as defective and worthless” (p. 202) may be so preoccupied with using defensive-adaptive behaviors to protect their self-concept that they will have little energy left to meet the developmental tasks of middle childhood, such as developing positive peer relationships and academic learning.

To gather parents’ and teachers’ observations of self-protective behaviors used by these children to cope with having a physical difference, Timberlake (1985) developed a defensive – adaptive coping scale, which grouped 10 defensive-adaptive behaviors (viewed by the study as coping behaviors) into one of three dimensions related to the child’s physical difference: Eradication of Difference (child attempts to completely eliminate the physical difference), Symbolic Repair of Difference (child attempts to symbolically repair the physical difference), and Ritualistic Encapsulation of Difference (child seeks to wall off the physical difference from self and others). The Eradication-of-Difference dimension included behaviors in which children
either pretended the physical difference was cured or stated that they did not have a physical difference (Timberlake, 1985).

Symbolic Repair of Difference included four behaviors. The child (a) collects items (e.g., dolls, cars, or thimbles) to make up for the physical difference, (b) pretends to be another person (e.g., a member of a famous sports team or a fictional character), (c) strives to be an expert in an area not related to the physical difference, and (d) overachieves in an area closely associated with his or her physical difference (Timberlake, 1985).

Ritualistic Encapsulation of Difference included four behaviors that children use in attempts to “wall off” their physical difference from the self and others, including (a) obsessively planning ahead to feel in control of situations, (b) being possessive and claiming everything as “mine,” (c) elevating oneself as better than others, and (d) refusing to talk about the physical difference as well as keeping others from mentioning it (Timberlake, 1985).

The first study (Timberlake, 1985) included the parents and teachers of 20 children (ages 8 to 11) who had mild physical differences and were also experiencing academic difficulty (e.g., failing a subject, having difficulty reading, or not working up to ability) with no identified intellectual learning disabilities. In addition to all the children having academic difficulties, 80% were experiencing at least two problems in psychosocial functioning, such as peer relationship problems, behavioral problems, and emotional/affective problems.

The study (Timberlake, 1985) found (according to the parents’ and teachers’ views) that 85% (n = 17) of these children used five to eight of the defensive-adaptive behaviors between several times a week to several times a day to protect their self-worth from feelings of inferiority related to their body image as being different or defective.
There were no statistically significant differences between the two groups in the use of behaviors from the Ritualistic-Encapsulation-of-Difference dimension (Timberlake, 1985). However, an interesting finding was that the children with congenital physical differences (or acquired before age 12 months) used the defensive-adaptive behaviors from the Symbolic-Repair-of-Difference dimension significantly more often than the children who acquired their physical difference at an older age, between ages 3 and 6 (Timberlake, 1985). In contrast, children who acquired their physical difference between ages 3 and 6 were significantly more likely to use the Eradication of Difference behaviors than those who acquired their difference before age 12 months.

Timberlake (1985) explained that children form self-concept beliefs about their body image as they observe and compare themselves with others and perceive others’ reactions and attitudes toward them. A child born with a physical difference (or who acquires the difference before age 12 months) will gradually be confronted with what he or she does not possess and will experience feelings such as loss and envy.

To cope with these feelings and the associated challenges, Timberlake (1985) hypothesized that children who are born with physical differences (or who acquire a physical difference before age 12 months) are more likely to use defense methods that symbolically repair the physical difference to protect the self-concept. In contrast, children who acquire a physical difference later (e.g., from ages 3 and 6) may be more likely to use defense methods that erase or deny that the physical difference exists in order to protect the child’s perception of his or her body image as it was before acquiring the physical difference.

According to Timberlake (1985), the children’s difficulties in academics and psychosocial functioning suggest that the defensive-adaptive behaviors used by the children are
not sufficient to protect their self-concepts or develop positive psychosocial functioning. Moreover, it seems that the children in this study felt overwhelmed with their life challenges.

A second Timberlake study (1990) with the mothers and teachers of 60 children (ages 8 to 11) with mild physical differences compared the use of 10 defensive-adaptive coping behaviors and psychosocial functioning between two groups: children who were successful academically (i.e., passing grades; n = 30) and children experiencing academic problems (i.e., at least one failing grade; n = 30).

The study (Timberlake, 1990) found statistically significant differences in the use of coping behaviors in children doing well in academic and social functioning compared with children experiencing academic failure and social difficulty. The children experiencing academic failure used the 10 defensive-adaptive behaviors significantly more often (daily or several times a day) than children experiencing academic success in order to cope with the physical self.

For example, 100% of the children experiencing academic failure used one or both Eradication of Difference behaviors (pretending the difference is cured or stating that he or she does not have a physical difference) at least daily, whereas none of the children experiencing academic success used these behaviors every day (Timberlake, 1990). Overall, at least 80% of the children experiencing academic failure used each of the ten defensive-adaptive behaviors either daily or several times a day in order to cope with the physical self. In contrast, from zero to 33% of the children experiencing academic success used these behaviors as frequently.

In addition to significant differences in the use of defensive-adaptive behaviors to cope with the physical self, the study (Timberlake, 1990) found significant differences in psychosocial functioning in the school classroom (as perceived by teachers) between the two groups of children experiencing academic success and academic failure in each of nine measured
dimensions: self-image (e.g., feels good about self and is mature), peer relationships (e.g., shares with others and resolves peer issues on own), adult relationships (e.g., appropriately uses teacher’s help as a resource), self-control of actions (e.g., functions well if distracted and in unstructured situations), motivation (e.g., is a self-starter and works up to potential), handling the learning demands of school (e.g., handles the pressure of competition well and adjusts well to class-routine changes), learning style (e.g., has confidence in approaching new experiences), expression and handling of feelings (e.g., expresses needs and feelings appropriately), and behavioral indicators of physical health (e.g., appears in good physical health).

Children experiencing academic success demonstrated behaviors from these nine dimensions significantly more often than children experiencing academic failure (Timberlake, 1990). Timberlake viewed these behaviors (from the nine dimensions) as psychosocial assets in coping with the psychosocial challenges and learning demands of school. In contrast, the absence or minimal presence of these behaviors suggest vulnerabilities for children in social and academic functioning.

Among the children experiencing academic failure, the study (Timberlake, 1990) found 12 psychosocial asset behaviors that at least 70% of these children never or rarely demonstrated (as observed by teachers). For example, all of the children experiencing academic failure never or rarely demonstrated the asset behaviors of resolving peer problems on their own, working up to potential, and adjusting well to changes in classroom routine. Similarly, between 90% and 97% of the children experiencing academic failure never or rarely demonstrated the asset behaviors of feeling good about self, being mature, sharing things with others, functioning well in unstructured situations, approaching new experiences confidently, and expressing needs and feelings appropriately.
Further, between 70% and 74% of the children experiencing academic failure never or rarely demonstrated the psychosocial asset behaviors of functioning well if distracted, being a self-starter, and facing the pressure of competition well (Timberlake, 1990).

In contrast, of the 12 psychosocial asset behaviors that were never or rarely demonstrated by 70% or more of the children experiencing academic failure, only two of these asset behaviors were found to be rarely or never demonstrated by the group of children achieving academic success: working up to potential (16.6%) and facing the pressure of competition well (50%; Timberlake, 1990). In other words, all of the children experiencing academic success used 10 of these 12 psychosocial asset behaviors on a regular basis (as observed by teachers) to cope with the psychosocial and academic learning demands of school.

Multiple regression analysis showed that the joint effect of the defensive-adaptive behavior patterns used to cope with the physical self and the psychosocial asset behaviors used to cope with the learning challenges of school accounted for 57% of the variance in the level of academic functioning among the children in this study (Timberlake, 1990). Acknowledging that almost half of the variance in academic functioning is accounted for by other variables besides the two variables studied, Timberlake suggested that parental attitudes and unresolved feelings about physical differences most likely account for some of the variance influencing academic functioning.

To help children with mild physical differences cope effectively with the academic and psychosocial challenges of elementary school, Timberlake (1990) proposed helping children and their parents work through conflicts associated with the physical difference, increase the child’s psychosocial asset behaviors, decrease the child’s use of defensive-adaptive behavior patterns to cope with the physical self, and increase the child’s academic skills.
Courage and social interest.

From an Adlerian perspective, constructive goals for meeting challenges and overcoming difficulties always include the concepts of courage and social interest. In his article on the social and psychological dynamics of physical disability, Dreikurs (1948) reported that courage and social interest are the key elements necessary for children to make good psychological and social adjustments. Similarly, Adler (as cited in Dreikurs, 1948) stated that in children with a physical disability, “A good compensation will be made only where there are courage and a favorable situation” (p. 42).

According to Mosak (as cited in Carlson et al., 2006), “To have courage means the willingness to take a risk even when the outcome is uncertain” (pp. 142-143). Lew and Bettner (2000) stated that children with courage face their challenges. They take reasonable risks to resolve them, despite having fears, and they are willing to try again after failure. Children with courage feel equal to other human beings. They have a sense of confidence and hopefulness.

Children develop courage as they are encouraged by others in their environment, especially their parents in the early years of life. Carlson et al. (2006) defined encouragement as “instilling courage in individuals, such as by showing faith in them, expecting them to be responsible for themselves, and valuing them for who they are” (p. 277). Children, and all individuals, who have been encouraged are more likely to respond to the challenges of life courageously.

Along with courage, it is crucial to help children (and all individuals) develop social interest for positive psychosocial adjustment and to help them constructively meet the challenges and tasks of life. In fact, Adler considered social interest to be “the barometer of the child’s normality” (Ansbacher & Ansbacher, 1956, p. 154). The term social interest refers to an
individual having a sense of “community feeling”, which includes an overall attitude of empathy and caring toward others and their interests as well as behaviors that demonstrate cooperation, responsibility, and equality (Adler, 1938/1998; Carlson et al., 2006).

Oberst and Stewart (2003) explained, “Having Social Interest means feeling like part of a family, a group, a couple, and the human community. . . . It means to participate, to contribute, to share; to feel accepted, appreciated, and loved, as well as to accept, appreciate and love other people” (p. 17). Humans are social beings. Therefore, the way in which they interact with others is extremely important for their psychological health and well-being.

Although Adler believed that children are born with an innate potential for social interest, he emphasized that social feeling and social interest must be consciously developed in children and in all individuals (Ansbacher & Ansbacher, 1956). According to Adler, the three main tasks (or challenges) of life, which include love-intimacy, friendship, and work (or play in the case of children), involve social relationships and occur in a social context. Adler asserted that these three challenges of life “can only be solved with an adequate degree of social interest” (Adler, 1938/1998, p. 40).

From an Adlerian perspective, courage and social interest are closely related constructs. Adler (1938/1998) believed that an individual’s courage is reinforced by strengthening his or her social interest. Furthermore, individuals who manifest social interest may demonstrate behaviors such as courage, the courage to be imperfect, cooperation, contribution that considers the welfare of others, compassion, and commitment (Mosak & Maniaci, 1999). Infants and children begin to develop courage and social interest as they experience encouragement and positive interactions with their parents, family members, and others in the community.
A study (Edwards, Gfroerer, Flowers, & Whitaker, 2004) examining the relationship between social interest and perceived coping resources in children (127 third-graders) found that social interest is significantly and positively correlated with coping resources (i.e., academic confidence, social confidence, family support, peer acceptance, and behavioral control). To measure social interest, the study used the 9-item Belonging-Social Interest scale from the BASIS-C Inventory (Basic Adaptive Styles in School-Childhood; Curlette et al., 1997; as cited in Edwards et al., 2004). Edwards et al. reported that social interest and belonging have a reciprocal relationship. Children with high social interest feel a sense of belonging in their environment, and children who feel a sense of belonging have a higher level of social interest.

Another study (Kern, Gfroerer, Summers, Curlette, & Matheny, 1996) with adults (173 female college students; mean age of 21) investigated the relationship between personality styles (lifestyle dynamics) and coping resources (i.e., self-disclosure, self-directedness, confidence, acceptance, social support, financial freedom, physical health, physical fitness, stress monitoring, tension control, structuring and organizing resources, and problem-solving). Similar to the results in Edwards’ et al. (2004) study, data showed that Belonging-Social Interest was positively and significantly correlated with 11 of the 12 coping resources examined.

In addition, study (Kern et al., 1996) results showed that the adult participants who perceived their childhood as positive (e.g., felt encouraged and accepted in their family-of-origin and social environment) tended to have a higher level of social-support coping resources as adults. In contrast, adults who viewed their childhood as discouraging tended to have lower coping resources for dealing with stress.

Researchers in these studies (Edwards et al., 2004; Kern et al., 1996) suggested that encouraging children’s sense of belonging and social interest may increase or strengthen their
coping resources and their ability to deal with the challenges and stresses of life in childhood and, subsequently, later as adults.

In an article on raising children with special needs, Yura (1983) stated that a physical disability may have a significant influence on a child’s lifestyle (personality) development in that “they [physical disabilities] may perpetuate a lack of a sense of belonging” (p. 371). Similarly, Fairfield (1983) explained that children with a disability begin life with more of a felt minus because of the challenges of the disability and, therefore, may more strongly question their belonging in life.

Yura (1983) acknowledged that children’s feelings about themselves are influenced by society. However, the strength of parents’ attitudes, whether positive or negative, will tend to correspond with the degree to which they influence the attitudes and behaviors of their children. Therefore, parents of children with special needs can positively encourage and influence their children by helping them to develop positive coping methods from a social-interest perspective (i.e., methods that are socially useful or constructive) to meet the challenges and stresses of life. For example, parents can model family values that convey an attitude of cooperation, mutual respect, empathy, problem-solving, responsibility, and contribution to the welfare of the family and community.

Adlerian psychology recognizes that physical disability (organ inferiority) is a significant influence in a child’s lifestyle (personality) development. However, the child’s perception of the disability has a significant influence on whether a child maximizes or minimizes his or her potential. Yura (1983) stated, “To maximize the child’s potential, parents need to be sensitive to their child’s self-perceptions that can lead to misinterpretations of worth” (p. 373).
Adler believed that, unless they receive proper training in early childhood, children who feel overburdened by situations in early childhood when the lifestyle is developing (i.e., the first four or five years of life) are more vulnerable to formulating mistaken lifestyle apperceptions, beliefs, convictions, and goals about their worth as a human being and how to find a place in life (i.e., to belong, be significant, and be secure). Barry (as cited in Adler, 1938/1998) explained:

Because the lifestyle is only in formation in the first five to seven years, the individual’s subjective experience is limited and is therefore likely to be subject to either mistaken beliefs or guided by faulty evaluations, such as ‘Life is cruel’, ‘No one likes me’, ‘All people are unkind’, etc. These mistaken beliefs can be seen as a function of the individual’s private logic. (p. 12)

As Dreikurs and Soltz (1964) stated, “Children are expert observers but make many mistakes in interpreting what they observe. They often draw wrong conclusions and choose mistaken ways in which to find their place” (p. 15).

From an Adlerian perspective, proper training (or education) in early childhood is crucial to prepare and equip children to meet and adapt to the challenges of life with courage and social interest (Adler, 1938/1998). This training and preparation includes encouraging and helping children to correctly perceive their innate, equal worth as human beings who belong and can contribute to the welfare of oneself and others (incorporated into their self-concept and self-ideal convictions and goals). The goal is to help children through encouragement and training to develop self-concept and self-ideal convictions and attitudes that state, “I belong; I am capable; I matter, and I can handle what comes” as well as positive goals of cooperation, self-reliance, contribution, and resilience (Lew & Bettner, 2000).
Dreikurs and Soltz (1964) explained that encouraging children requires the avoidance of discouragement through the use of humiliation or overprotection and that parents and others know how to encourage their children in ways that will help them to feel a sense of self-respect and accomplishment. According to Yura (1983), it is crucial for parents of children with special needs to (a) understand themselves and how their attitudes influence their child rearing and (b) understand their child and how he or she may perceive life.

Although parents may be unaware of the term social interest, most understand that for positive self-esteem and psychosocial adjustment, children (and all individuals) need to feel that they belong and are valued within their family and their social environment. With this in mind, parents seek to help their children eliminate feelings of inferiority and inadequacy using various methods (e.g., encouragement, praise, or protective measures) that they perceive will help to increase and protect their children’s self-esteem.

Yura (1983) stated that in training children with special needs for belonging and contribution, it is essential that parents avoid overindulging or overprotecting their children, which Adlerian psychology refers to as pampering. According to Adlerian psychology, pampering is one of the most discouraging influences in a child’s personality development (Mosak & Maniaci, 1999). Bettner and Lew (1996) explained:

Few adults see that pampering is . . . a serious form of deprivation. It deprives children of the opportunity to learn the skills they need to survive in the world. Pampered children are handicapped since they do not see themselves as obligated or able to take their places as equal members of society. They resent the feeling of dependency and, at the same time, see it as their right to be served. These children may get angry and even punish those who do not meet their demands. (p. 103)
In the book *We Have a Problem: A Parent’s Sourcebook* (Marks, 1992), one mother told her story about the problems she encountered with her 6-year-old son, who was born with a physical difference (i.e., cerebral palsy). He wore a brace on one leg and walked with a limp. Although both mom and dad were committed to “minimizing [their son’s] built-in unhappiness” (p. 276), dad thought that meeting their son’s every need as well as excusing him from chores might be spoiling him. Mom admitted that she usually agreed to purchase toys when her son asked for them because he deserved to have fun. In the mornings, her son dawdled and found excuses for not being ready on time, insisted that mom make him complicated breakfasts, and often fought with his older sister (who was angry that she had chores while her brother did not).

Mom resented her son’s teacher who thought that his lack of friends was not the result of the other kids (as mom thought) but because he was difficult to make friends with (Marks, 1992). Sister agreed that her brother was “a brat.” Mom acknowledged, “No matter how generous I was in buying him goodies or in giving him every little smidgen of my time and patience, it was never enough for him” (Marks, 1992, p. 277). Finally, after her son repeatedly misbehaved while visiting family friends out-of-state by “demanding his way, no matter how much people gave in to him” (p. 279), she and her husband sought professional help.

Through puppet play, the therapist in this case helped the child to understand how using behaviors such as selfishness, jealousy, and teasing as well as generosity, empathy, and self-control affected others (Marks, 1992). The child also learned new ways to feel strong and accepted. In particular, the therapist noticed that the child’s “insatiable appetite for ‘getting something’ . . . was his way of reassuring himself that Mommy cared” (p. 280).

With the therapist’s help, mom and dad learned to set limits with their son and expected him to participate in daily chores (Marks, 1992). By the end of his first-grade school year, the
child’s teacher reported that he was making “big strides in becoming a helpful member of the class” (p. 281). His sister also agreed that he was improving. The therapist explained to the parents that setting limits and giving children responsibilities are constructive and loving activities that help children grow up. He stated, “Asking little or nothing of a child only reinforces his [or her] sense of inadequacy. But there are few things that children value—and relish—quite so much as their own accomplishments” (p. 281).

From an Adlerian perspective, discouraging behaviors such as pampering and neglect are not viewed as causal forces or certainties. They are understood as statistical probabilities (Adler, 1938/1998). Pampered children tend to develop mistaken convictions and goals in which they expect others to meet their demands and solve their problems. Consequently, children who are pampered often lack the courage and skills needed to deal with life’s challenges using constructive, socially-adaptive methods and behaviors.

Children who are discouraged are more likely to use safeguarding behaviors (e.g., excuses, blaming others, distance-seeking, or misbehavior) to protect their self-concept from feelings of inferiority and inadequacy, which tend to be socially useless (i.e., nonconstructive or destructive; Carlson et al., 2006). In contrast, children who are encouraged tend to face life’s challenges and difficulties with courage. They use coping behaviors such as problem solving and compensation, and they move toward their lifestyle goals in ways that are socially useful. Socially useful or prosocial (i.e., constructive) behaviors and solutions consider the welfare of others as well as the self.

Adlerian psychology recognizes that children, and all individuals, respond to the challenges and difficulties of life according to their subjective lifestyle convictions (i.e., self-concept, self-ideal, worldview, and ethical convictions) and long-term goals (i.e., self-ideal
statements of how to belong and be secure and significant in the world; Mosak & Maniacci, 1999). In discussing lifestyle development in children with special needs, Fairfield (1983) stated that if parents can take their focus off their child’s disability and “relate to the child as an individual who is able and expected to contribute to the family (and therefore ultimately to life itself),” the child is more likely to conclude that he or she belongs and has a place in life “merely by the fact of existence” (p. 362).

However, as Dreikurs (1948) stated, “Whether the individual compensates for his [or her] disability or increases his [or her] inferiority feeling depends on the conclusion which each individual draws, on his [or her] courage and social interest” (p. 51). Dreikurs asserted that an individual’s lifestyle, courage, and social interest “are the most important factors determining the social adjustment of individuals with physical [disabilities]” (p. 52). Furthermore, it is “not what the child has—in heredity endowment and environment—but what he [or she] does with it, is all important. Courage and social interest, or the lack of them, determine whether a disability permits a good adjustment” (p. 53).

Meeting the Challenges of Limb Differences

To further understand how to help parents and their children meet the psychosocial challenges of limb difference, five adults (three women and two men, ages 23 to 87) with congenital limb differences were interviewed individually (face-to-face by this writer in 2007) using an informal format in which several questions were asked of each participant. These included, “What was challenging for you as a child regarding your limb difference?” “What challenges have you encountered as an adult having to do with your limb difference?” “What was encouraging for you as a child?” “What has been encouraging for you as an adult?” and “What advice would you give to parents of children with a limb difference?” In addition,
participants were asked questions about their current situation and their family-of-origin. Of interest were family values, parenting styles, sibling constellation, and birth order.

Participants were found through various sources, such as word-of-mouth by acquaintances or relatives of the participants, the Internet, and a chance meeting in a public setting. Four participants were born with a below-elbow upper limb difference and one participant was born with both upper and lower limb differences (i.e., no arms, a short leg, and four toes on each foot).

Before each interview (which averaged between 2 to 3 hours in length), participants were told that the purpose of this thesis was to understand the challenges of limb differences and to help and encourage parents and their children to meet the challenges associated with their limb differences. All participants readily agreed to be interviewed and seemed open and honest in their answers. Furthermore, all seemed encouraged that the information from their interview could help others with a limb difference. Participants’ names have been changed.

Case Examples of Adults with Limb Differences

Jen

Jen, in her early 20s, has a congenital below-elbow upper limb difference. She grew up as the second of four children and the only girl among her siblings. She had a brother 3 years older and two brothers who were 4 and 6 years younger. Jen described her parents as “loving and very encouraging and supportive without pampering.” An important value in her family was “being individuals who are caring and respectful of others.” Jen explained that this value was not blatantly stated, but it was modeled by her parents in the way that they lived. She stated, “It was inherent. You’re nice to others because you’re supposed to be.”
One value that was explicitly stated in Jen’s family was the importance of being polite in public. Jen remembered, “Time and time again, the wait staff complimented my parents on how well behaved us four kids were.” Jen recalled that she and her siblings “fought all the time.” She explained that her parents taught them that it was okay to fight, but it was also important for them to understand how their words could hurt or impact another person. Religious faith was important in Jen’s family throughout her childhood.

In describing her childhood, Jen stated that she always had many friends and participated in “all kinds of sports.” She especially loved gymnastics (starting at age 3), soccer, and cross-country skiing (starting at age 4). Jen has never used a prosthetic, although she had one at age 4, which she brought to school for show-and-tell. Also, in junior high school, Jen was fitted for a prosthetic tool for holding a cross-country ski pole. However, “it didn’t work” for her. Consequently, Jen skied with one pole.

When asked about the challenges Jen experienced as a child due to her limb difference, she explained that for the most part, kids are easy and they “get” her limb difference pretty quickly. She stated, “Most problems came from adults [not her parents] thinking I couldn’t do things myself or insisting that I needed help.”

At 8 years old, the director of the dance company in which Jen had danced for several years requested that she not be in a performance because she would not be aesthetically pleasing. Jen said that it was not hard for her at the time. Her parents intervened in situations when it was necessary to advocate for her rights—that she was capable of doing things herself.

Jen reported that there were only a couple of things she was never able to do: monkey bars (if her arm with the limb difference grabbed the bar, she would hit her head on the bar) and
making braids (because she could not reach). However, Jen reported that she learned to make a ponytail; “It took a long time to learn—learning was a progression—like a lot of things.”

As a child, when Jen was asked about her arm, she would usually reply, “I was born like that.” “Some kids would ask over and over, and sometimes kids would tell me, ‘Take your hand out,’ thinking my hand was hidden in my arm.” Jen remembered that as a little girl, she asked her mother if she would have two hands when she was a mommy, and “Mom cried.”

Jen reported that challenges in junior high were similar to what everyone else goes through. She became really shy and quiet in junior high school. “I didn’t want anyone to notice my limb difference.” She acknowledged that she was younger than most other kids in her grade because she had skipped an elementary grade, which may have contributed to her shyness. However, in high school, the junior and senior girls on her soccer team went out of their way to be friendly to all the younger girls on the team, which Jen felt helped her to get over her shyness. Jen believes that for teenagers, social support from classmates is the biggest thing that will help self-esteem or take it away.

As an adult, Jen stated, “I feel the older I get, the easier it is to realize, I am who I am. I don’t think of myself as a disabled person. It wasn’t until I was around others with a disability in the paralympics that I realized I have a disability. Before that I wouldn’t have put myself in that category.” Jen said that she does not get asked often about her limb difference now as an adult. “When people notice, they usually just stare.” Furthermore, children from about 8 to 10 years old also stare, and they seem shy in asking about her missing hand. Sometimes Jen will approach children who are staring and ask, “Do you want to ask me any questions? It’s okay.”

Jen finds it somewhat offensive when adults stare at her. Mostly Jen dismisses it, although sometimes thinking, “You’re an adult, haven’t you seen differences by now?”
However, she also stated, “I can’t really be too judgmental of them.” Jen found it very interesting that “most people tell me they didn’t notice my arm until they got to know me more.” For example, when she moved into her college dorm room, she spent 4 or 5 hours with her new roommate before she noticed her limb difference. Jen speculated, “It’s natural for me and not a big deal for me, which could be why people don’t notice.”

When asked what was encouraging for Jen as a child, she believes that participating in sports made a big difference in the way other kids saw her and in the way she saw herself. “If I hadn’t been friendly and a good athlete, it might have been a lot more difficult because I wouldn’t have had the social connections with other kids.” Also encouraging was that “My parents never treated me any differently because of my limb difference,” which Jen believes “was the best thing they could have done for me.” She stated, “They never pampered me. I was expected to do chores and activities just as my other siblings. My parents let me do normal kid things without trying to be overprotective.”

Jen added, “Of course, when I was younger, I would have liked it if my parents had given me special treatment and told me I didn’t have to do certain chores because I only had one hand. Now I’m so grateful that they never did anything to single me out.”

Jen explained that her dad was innovative in helping her learn to do tasks with one hand, such as tying her shoes or riding a bike. “Dad would try to do the task as if he had the same limb difference,” so that he could teach Jen how to do the task. Jen remembered that mom was also helpful and taught her to jump rope. She described her gymnastic coaches as “amazing.” They helped her figure out ways to move her body for balance while performing exercises on the uneven bars. For example, they told her to “reach with your arm [the arm with the limb difference] as if you are going to grab the bar.”
Currently, Jen is a single woman and a college graduate. She has trained and competed for the past several years as a paralympic athlete. She believes she will probably go back to school to train further for a career in either coaching, sports medicine, physical therapy, or as a certified personal trainer. Jen wants a job in which she has contact with individuals and is able to encourage them.

Jen has been working as a public speaker for a large insurance provider that promotes and encourages companies and organizations to focus on individuals’ abilities rather than their disabilities. Jen reported that she loves this job and finds it enjoyable. She stated, “When I think about myself as disabled, the thing that I think about most is that I’m exactly the same as everyone else. The word disability has no place in my life because I’m able.”

In her public speaking presentations, Jen talks about changing the conception of disability. During her presentation, she often tells the audience:

Yes, I have a disability. But, think about your own lives. I guarantee that everyone in this room has something they’re dealing with, even if you can’t see it. I look around the room and see all these people with two hands and, honestly, I don’t know what they do with the other one.

Jen feels that adults are rewarding to encourage because “they can do so much with so little encouragement.” Giving an example, Jen explained, “In a fitness club, if someone’s goal is to lose weight, I can give them tools so that they are able to reach their goals on their own.”

When asked what she would tell parents of children with a limb difference, Jen said she would tell them to encourage their children and allow them to try activities. “Don’t tell children they cannot do something because of their limb difference. Let them try.” Jen also believes that parents should not force children to wear prosthetics.
When Jen was asked at the conclusion of the interview how she believes the limb difference has influenced her life, her response was, “Hugely—because I have been able to travel the world. It has made me really step back and consider myself at a much younger age than most.” Jen has been asking herself the question, “What does it mean to be who I am, disabled?” Jen explained that she is not sure if her good friends are thinking about these things yet. She stated:

Having one hand has brought a lot of focus in my life, such as considering what it means to be a person. It has made me more tolerant and given me an understanding that no matter what differences people have, they’re all just the same. Because of physical differences, I’ve thought about other differences. Everybody is the same no matter what differences they have. For me having one hand is totally natural and not something to be ashamed of.

Sara

Sara, in her early 20s, has a congenital below-elbow upper limb difference. She grew up as the middle child of three children, with a brother 2 years older and a sister 2 years younger. Sara described her parents as very positive and encouraging but not pampering. They told her that God knew she could handle having a limb difference and that God blessed her in other ways. They also told Sara, “Everyone has differences. Yours is more noticeable than some others.”

Sara does not remember her older brother saying much about her limb difference. Her younger sister seemed to be aware of Sara’s challenges and often attempted to help her by making one of her hands available for Sara. For example, her sister would often stand on Sara’s side that has the limb difference, offering to help Sara if needed. Sara believes her sister did so unconsciously.
When asked about the challenges she experienced as a child due to her limb difference, Sara stated, “There weren’t very many challenges having to do with my limb difference.” One challenge was, “I could never do the monkey bars. I hated not being able to do things. It would make me try that much harder.” Sara explained:

One day I decided I would learn to braid my hair, telling Mom, ‘I’m going to braid my hair today.’ Instead of trying to discourage me, Mom simply said, ‘Okay.’ Mom did not interfere with me going into my bedroom by myself all day as I learned to braid my hair. When I came out of my bedroom, it was not the most perfect braid, but I had done it.

Sara now braids her own hair, and she can French braid other people’s hair.

Sara acknowledged, “I compensate [for my limb difference]. When I was little, I was meticulous about my appearance and wore cute clothes. I had Mom do my hair. I wanted everything else about my appearance to be perfect. It was one of my coping tools.”

Sara did not see anyone with her limb difference until she was in eighth grade. She stated, “So, I felt very much alone.” Sara wondered why she was the only one with a limb difference. Sara’s parents would tell her, “Yes, you do have a difference, but there are lots of people with differences.” Her parents also told her, “Maybe it’s a blessing because by others’ reactions, you have the upper hand in seeing what the person’s character is like and you can decide whether you want to be friends.” Sara reported that her parents helped her to understand that everyone has things with which they are dealing.

At age 5 or 6, Sara’s mother noticed that she did not play with dolls very often. Sara told her mom that she did not know if she wanted to have kids with one hand. Sara’s siblings also wondered if they would have children with one hand. Mom pointed out, “What difference does it make? You love your child regardless.”
Sara noted that, in third grade, it was good for her to see that an uncle who had three fingers (rather than five) on one of his hands was a happy adult with a family. It helped to reinforce Sara’s hope for the future as an adult. She would be happy and have a family someday.

In seventh grade, after asking her mother a lot of questions about her uncle, Sara’s parents sent her to visit her uncle’s home and family for a week. However, they never talked about their limb differences. Then, several years ago, Sara’s uncle acknowledged to her that he did not handle his limb difference well as a child. He had his mother sew pockets in his clothing so that he could hide his hand. Her uncle complimented Sara on her strong self-confidence and positive attitude.

Regarding teasing, Sara stated, “I really didn’t have a hard time with teasing. Usually it was boys who teased, but not very often.” Sara remembered one time in second grade when a boy said that she got into a car accident (causing her limb difference). This hurt her feelings. Sara told the boy, “That’s not what happened.”

Sara remembered another incident in second grade in which a boy called her arm a mean name, which she said was the most devastating. She explained, “I did not want to tell my mom, and I was embarrassed. I always knew my parents felt bad about my arm, so I didn’t want them to know if I was having trouble.” After being upset for 2 days, not wanting anyone to know what happened, Sara told her mother. Sara’s mother assured her that the boy’s words were not true, and Sara accepted her mother’s explanation. Sara’s mother also encouraged Sara to tell her when things happened that bothered her rather than keeping them to herself. Sara stated that the boy only said the comment once, and she does not know if her mother contacted the school or the boy’s parents.

When children teased, stared, or asked questions, Sara usually thought, “They just don’t know [about limb differences]. They’re curious. They want to know, and they don’t know how to
ask.” Sara thinks that it is hard for children to understand a limb difference because they want to know the exact reason why she does not have a hand. Sara acknowledged that in some ways there was almost a level of “celebrityism” that went along with her limb difference, being the only one with a physical difference. There was no diversity in her suburban elementary school, such as disabilities or color.

At age 3 or 4, Sara started dance (ballet, tap, and jazz), attending with her best friend. She stated, “Dance was my life as a child.” Sara remembered her mom asking if she ever felt uncomfortable while dancing during the recitals, to which Sara replied, “Of course not, Mom.” By sixth grade, Sara was part of a semi-professional ballet group with a dance company, and she helped teach the younger children. In ninth grade, when she expected to join the dance company as one of the best dancers of her age group, her mother was told that Sara could not be part of the company because a ballerina must look balanced.

Sara’s parents explained to her that what the dance company had done was not right. Her parents taught her that sometimes not understanding her limb difference is an acceptable excuse for others’ ignorance, but there are other times when it is an unacceptable excuse and you need to know how to stand up for yourself. Although Sara chose not to continue dancing after this incident, her parents’ handling of the matter conveyed to her that she was important to them. She explained, “I learned that there will be trials in my life and either I can internalize them or I can realize that ‘You are who you are’ and that these things that happen help to prepare you for future trials and only make you stronger and better able to handle them.”

Sara stated, “I really think attitude is everything. I could dwell on it [my limb difference] and make it be an excuse and blame everything on it. But, you need to decide, are you going to make the most of the things that you do have, feeling fortunate for what you have?”
Regarding challenges in her teens, Sara reported that she had a relatively normal life. She went to all the dances, had boyfriends, was on the varsity cheerleading squad, and went on the same amount of dates in high school as all her friends. Her elementary through high school years “were very normal.” She said, “I would not have been identified by others at school as the girl without a hand.” When Sara asked her friends from high school what they thought about her limb difference back in their school days, they told her they never thought about it and it was not an issue for them.

However, Sara acknowledged, “I don’t think I mentally prepared myself for college.” Attending a large university, Sara felt that she was now in an environment in which she was the girl with one hand, knowing no one. She explained, “You’re trying to find yourself anyway, with a lot of insecurities in general, when starting college.” Sara had always had a lot of girlfriends, but when she entered college she wondered if she would still go on dates and if men would be attracted to her.

Sara debated if she should tell her future college roommates before meeting them about her limb difference. She was concerned that if she told them on the phone, they would worry ahead of time and her limb difference would be all they would see about her. Sara acknowledged that people’s fear paralyzes them. She stated, “If others are given a chance to get to know you a little bit so they can see you as a ‘normal’ person, the fear factor tends to subside.” Sara decided to let her roommates find out about her limb difference when they met while moving into the dorm together.

Sara was with her roommates at least 7 hours before they noticed the limb difference. They did not notice while unpacking together, nor when Sara took out her screwdriver to put shelves together, which her roommates did not know how to do. Similarly, one man Sara dated
in college did not notice her limb difference until their fifth date when he attempted to grab her hand. Looking shocked, he asked about her arm, “What is this?” They went on a few more dates, but he seemed nervous after finding out.

Sara understands that her limb difference is hard for some people. She stated, “I respect him for continuing to try dating even though he was nervous. I try to put myself in other people’s shoes. If they don’t have experiences or conversations with individuals with differences, they may feel uncomfortable not knowing what to say.” Sara acknowledged that when he was surprised about her limb difference, she did not tell him, “I can do everything.” Sara wonders if it would have made a difference in his level of comfort with her if she had told him that she can do everything.

Regarding current challenges as an adult, Sara acknowledged that she used to think that people would outgrow the curiosity and side comments, which has not happened. However, Sara said she genuinely thinks that when people ask questions or stare at her arm, they do this because they either have a level of empathy from which they want to know what happened to her or because they are genuinely interested, wondering how she does things with one hand that they do with two.

Sara believes that children’s curiosity is genuine. With some adults, however, it is not as genuine. Rather, sometimes it feels more like a judgment of her. Sara stated, “Sometimes, when I hear adults make comments about me, I think, ‘How can you be an adult and not have experienced some types of disabilities? How can you have lived so many years and have no knowledge about disabilities?’”

Generally speaking, Sara would rather have someone ask her about her arm rather than make comments about her. “Sometimes I respond, ‘Yes, I was born like that. I’ve been like this
my whole life, and I’m really no different. My arm might look different, and I have to do some things a different way, and that’s okay.’”

Sara noted that when you think about how people do things, everybody does things a little different. She stated, “So many people who see my limb difference see it as, ‘Wow, you’ve really overcome a challenge in your life!’ Other people who look at my arm see it as a disability.”

When asked what was encouraging for Sara as a child, she remembered that when her teachers demonstrated to the class how to do specific techniques for art projects, such as how to cut out flower petals, Sara’s teachers would often give her the sample flowers. This way Sara was able to cut out some of her own flowers and still finish her project at the same time as the other children. Sara did not think anyone ever noticed she got the teacher’s examples.

Sara also believes it was helpful to have siblings. She smiled as she stated that having siblings was healthy competition.

Currently, Sara is a single woman, who recently graduated from college with a teaching degree. When interviewed for this paper, she was in the application and interview process for a job as a teacher. When asked how the limb difference has influenced her life, Sara stated that she believes her arm was a factor that led her into teaching, especially her life experience with people being curious about her arm and her exposure to differences at a young age.

When Sara began student teaching, she did not want to make the children feel uncomfortable. Sara said, “Then I thought about it and realized, ‘What a great learning experience!’” She explained, “In working with children for the first time, they are sort of unsure about what is going on with my arm. But after a few hours, it is almost as if they feel empowered
having this new knowledge. I have had kids say after being with me a few hours, ‘I wish I was born with one hand.’”

Sara also believes that her emotional IQ and empathy for others is heightened because of her limb difference. She stated:

As a kid, I always stood up for everyone. Having a limb difference has made me more aware of other people in general, and that everyone is going through something, such as an eating disorder or a health issue in the family. It has made me more aware of other people’s feelings and has given me a greater appreciation for things that others might take for granted. I have an appreciation of people for who they are. It has given me a level-headedness.

When asked what she would tell parents of children with a limb difference, Sara made the following recommendations:

Do not treat children with a limb difference any differently than other children. Give them room to figure things out themselves. Parents and teachers affirm and reaffirm with the child that the limb difference is okay, and it is okay to be different. Let us celebrate everyone. Give the child language that he or she can convey to others that reinforces that the limb difference is okay. Support your child and let the child know that he or she can talk to you. Encourage your child with the confidence that he or she can do things.

Sara noted that it was empowering for her in some ways to think that God knew she could handle the challenges of her limb difference. She acknowledged that sometimes it was hard not knowing exactly why she had a limb difference, so the idea that God had a purpose for her gave it a little more meaning. In addition, Sara stated that how she responds to her limb
difference and others sets the tone for how other people will feel. She stated, “If I feel like my limb difference is not a big deal, others will feel that way, too.”

Regarding how to handle staring, Sara acknowledged that it is easy to think that people are staring, but it is useful to realize that they are probably just curious. Sara explained, “They don’t know how you do things with one hand, so you can help them by telling them how you do things. Usually they are interested in you.”

Sara explained that some children are afraid when they see a limb difference, possibly fearing that they will somehow lose a limb. However, Sara believes that children are very empathetic. Often they will tell her that the limb difference “is sad.” Sara helps others understand by telling them, “It’s not sad. I appreciate your kind words, but it’s not sad.” Sara explained, “You can combat what others are saying by responding, ‘It’s okay; I’m able to do things; it’s not a big deal.’”

Sara recommended that parents talk to their child’s teachers before the school year starts. She suggested that if the classroom has a student of the week, the child could be the first student, which would make it easier to reinforce that differences are okay and would highlight other characteristics of the child besides his or her limb difference. Sara explained that teachers are very well trained today in awareness of what is going on socially in their classrooms and how to help children adapt. Teachers are very observant and well equipped with tools to help children make a disability less of an issue.

For example, a child with autism may need a special pencil that helps the child to write more easily. The teacher can explain to the students that the pencil is a tool that helps the child to learn and that everyone uses various tools to help them learn, such as flashcards or practicing how to do something. Sara also noted that there is more diversity in schools today, and children
are reminded of differences in the schools. However, there are still going to be bullies and difficult family environments.

Sara stated that when she is asked the question, “If you could change anything about yourself, what would you change?” people are always surprised when her answer is not her limb difference. Rather, her response would most likely be something like losing weight or fixing the gap in her tooth. Sara wonders whether or not, if she had two hands, she might be more conceited and care more about things that do not matter. Sara acknowledged, “The effects of my arm are much more positive than negative.” Furthermore, Sara is very grateful that her parents raised her the way they did.

Lynn

Lynn, in her late 40s, has a congenital below-elbow upper limb difference. Lynn grew up as the oldest and only girl of three children. She has a brother who is 3 years younger and one who is 5 years younger. Lynn’s family lived in a suburb of a mid-sized city. She described her childhood as difficult.

Lynn’s parents met in the United States after emigrating as young adults (in their late 20s) from Germany after World II. Her father was a German soldier who spent time as a prisoner of war. Lynn’s father made the decisions in the family “like a dictatorship.” Lynn stated, “Mostly, Dad worked and, then, at night read the paper and watched television. We kind of served him. Dad was a taskmaster, and he didn’t communicate.” However, Dad liked to play board games on weekends, which he would sometimes play with Lynn and her brothers.

Lynn described her mother as a “traditional stay-at-home caretaker,” who was “subservient to her husband.” Lynn explained that her mother was not allowed to be sick in terms of her father’s needs, “Dad’s needs always came first.” Mom never learned to drive a car.
and her only friends were the women in her Bible study whom she met during the day while Dad was at work. Although Mom was a Christian, she was careful not to talk about God with Dad. Lynn believes that Dad was either an atheist or agnostic.

Lynn described her parents as blue-collar, of lower-middle-class socioeconomic level. Her parents were extremely thrifty with the money they had. Although they rarely went on outings as a family, once or twice a year, they might go to an ice cream or hamburger stand. All of Lynn’s relatives lived in Germany except for one uncle (her mother’s brother) and his family. Lynn did not care to be around her aunt “because she was mean” to Lynn’s mother and seemed to have an attitude that her family was better than Lynn’s.

Lynn’s mother told Lynn the story of how Dad blew up in anger when Lynn was 2 years old, throwing a glass at the ceiling, which shattered around the room. As Mom picked up the broken glass, she told her husband that she would leave if he ever did such a thing again. Mom was very careful around Dad not to upset him. Lynn believed, “The potential for his anger was always there.”

Lynn reported that her parents never talked about her limb difference. She stated that the limb difference “was a silent thing—the big white elephant—silence and the big white elephant. It was very painful.” Lynn spent a lot of time hiding her limb difference and was “pretty artful at it.” She stated, “I was very aware that I was different.” Lynn described her attitude regarding her limb difference during childhood as “embarrassment, shyness, what will they think of me?”

Lynn explained that, beginning at an early age, people would ask questions about what happened to her arm. Lynn felt self-conscious once the questions ended and there was silence about her limb difference. She stated, “I was different, so I felt embarrassment.” Lynn acknowledged that people often thought she was stuck up, “But really I was floundering. I felt
insecure.” Lynn did not recall having any assistance or encouragement from her parents regarding her limb difference, such as how to respond to others’ reactions or what occupation she could pursue in the future. Lynn explained that her parents “were more socially isolated and had no resources to help them know how to counsel me.” She added, “I think about the potential missed by how I was raised.”

Lynn’s mother tended to be protective and discouraged Lynn from activities such as riding a bicycle in fear that Lynn would get hurt. She said, “I was not encouraged by my parents to try things to find out what my potential was. I was left to my own devices to figure things out.” Lynn explained that her parents were not proactive on her behalf. However, she does not believe that her parents meant to be discouraging. Rather, Lynn believes that with her parents’ level of education and social skills, they did not have the resources or encouragement themselves to know how to help her.

At home, Lynn had “a complaining chair.” She stated, “I was sad and unhappy.” Lynn sat in the kitchen chair as Mom worked at the counter, and Lynn would “unload” her feelings of unhappiness about school, lack of friends, and being bored. Lynn stated that her family could not help her intellectually in how to make sense of life. She remembered being told by her mother (when Lynn was an adult) that “Mom cried, and cried, and cried” after Lynn’s birth regarding her limb difference.

As a child, Lynn liked to play school, color, draw, and read. Lynn acknowledged that her dad was proud of the work she did in school and he would help her with her homework. She stated, “Dad was pleased that I was a bright student.” Dad also seemed to favor Lynn as the “oldest and most responsible child” and the fact that she was a girl. Lynn’s father never wanted
any male children because of (unknown) dynamics between Lynn’s father and his own father, whom Lynn’s mother described as an evil man.

When asked about other challenges Lynn experienced as a child due to her limb difference, Lynn stated that, like home, her limb difference was not dealt with at school with the teachers. Lynn said, “It was kind of like this unspoken thing.” Physical education was her “worst subject” because “I couldn’t function the way others do.” Lynn explained that children with cognitive disabilities were sent elsewhere to school, so she was the only child in her school with a disability. She thought, “I am the different one.”

As a child, Lynn did not experience much teasing, “only a handful of times.” However, Lynn noticed staring often. In sixth grade, a boy called her arm “a stub,” which Lynn thought at the time “sounded awful.” In seventh grade, she was called “pizza face” due to severe acne. Lynn explained that if she were asked now what she would rather have—severe acne or being without an arm—she would choose to be without an arm. Lynn stated, “My husband tells me how beautiful I am. But to me, what I see, my face stands out. I feel like I look so odd to me.”

Beginning in first grade, Lynn was taken to church by her neighbors. Describing her feelings during her junior-high years, Lynn stated, “In a way, church was very hard because I was embarrassed to be there as my own family. I felt like a family of just one junior high kid. I was with myself. I felt like the odd man out—uncomfortable being there.” When she asks herself why she kept going, Lynn said she may have thought, “I should.”

Lynn believes she has dealt with chronic depression since at least junior high school. She reported missing much of high school because she “always had a stomachache,” and Mom would allow her to stay home. As a young adult, Lynn wondered if she was anorexic because she
did not like food and was underweight. However, as an adult Lynn realized that she was probably struggling with major depression.

In her mid-20s, after being diagnosed with clinical depression by her physician, Lynn received treatment in therapy. She said, “It helped to talk things out.” She also attended group therapy that focused on depression and relationship issues. Lynn remembered thinking, “I never want to feel like this again.” She acknowledged that she has had “bouts of depression” since. Lynn wonders if her parents also struggled with depression. Regarding her mother, she stated, “I think she is more handicapped than I am.”

Lynn married at age 30. Lynn’s husband had custody of his two children, ages 7 and 9. Lynn described this marriage as difficult, stating, “I was an oddity again,” in her stepfamily relationship. Together they adopted a 1-year-old daughter. After 16 years of marriage, Lynn went through an unwanted divorce.

As an adult, Lynn finds it discouraging when people insist on helping her, such as trying to bag her groceries, when she is capable of doing the task herself. Lynn stated, “It bothers me when they don’t respect that I want to do it myself.” She explained, “I feel encouraged when my capabilities are acknowledged.” Citing an example of a respectful encounter, Lynn remembered that on a snowy day at the grocery store, a cashier said to her, “I see that you’re doing very well, but I see that it’s snowing really hard. Would you like some help pushing your cart through the snow?”

Lynn does not like being called “honey” or “dear” by others because of her limb difference. She also does not like hearing people say, “God made you special,” in reference to her limb difference. Lynn does not believe that God “purposely did this to her arm.”
Lynn acknowledged that it is still difficult for her at parks. She explained that children make rude comments about her arm, such as, “That looks gross,” and parents feel uncomfortable. Furthermore, people make comments about her to one another. She stated, “It’s like I’m not a person.” In response, Lynn often uses the phrase with children, “Most people have two hands, don’t they?” Lynn, then, acknowledges that she has one hand. With older children who appear to be rude, Lynn tends to ignore them or say as little as possible.

Two years ago, Lynn began taking Middle-Eastern dance classes, which she believes has helped her to build her confidence. However, Lynn acknowledged her belief that when dancing, “I don’t look symmetrical.” Lynn described herself as “sensitive, workaholic, thorough, and a hard worker.” She stated, “I probably set myself apart, but I also feel others may not be as open to me as they are to others.”

When asked what was encouraging for Lynn as a child, she stated that in high school, her English teacher (whom she described as “very hard but a great teacher who was loved by everyone”) took her under his wing and met with her once or twice a week after school. Lynn remembered the teacher telling her, “You can be anything you want.” She stated, “He tried to instill in me that I could do anything. He was, I believe, the most significant, positive energy in my life.” The teacher continued to encourage Lynn by writing letters to her when she attended college.

In high school, with information from the Division of Vocational Rehabilitation (DVR) and by going to the library to research the requirements of various occupations, Lynn identified future occupations that she could do with one hand. She stated, “I spearheaded the idea about going to college, and the DVR man came up with funds to help.” Lynn’s father also helped by paying for college expenses, which she paid back.
Lynn stated that throughout her college years, “I learned how to be open and show who I was.” She explained that before college, she never fit into any group. Lynn did not date until after graduating from college. After college, Lynn attended graduate school.

Currently, Lynn works as a special education teacher in a large suburban school district. Lynn has been happily married to her current husband for 3 years. Her husband has two children from a previous marriage, a teenager whom they see every other weekend and a young adult who lives on her own. Lynn has joint custody of her preteenage daughter (from her previous marriage), whom Lynn described as “thriving and emotionally stable.”

When Lynn was asked what she would tell parents of children with a limb difference, she stated:

Do not overprotect children because they will compensate. Do not put limitations on your children specifically because of their limb difference. Talk about your child’s limb difference with the child’s school and teachers. Tell your child that everyone has differences and that it is okay. It is important to encourage your child.

Lynn believes it is crucial to give a child vocabulary to discuss his or her limb difference, such as “Everyone has differences and that is okay.” She stated, “I never had a phrase like that in my repertoire.”

As the interview came to a close, Lynn was asked how her limb difference has influenced her life. Lynn stated:

I am more understanding and sensitive to how people are thinking and feeling. I am thankful for who I am. I notice little social cues about others. I try hard at everything, going above and beyond. I have come to realize that the way people treat me is how I come across to them. If I’m open and share and I am confident, I can have fulfilling
relationships. It has been a process. I think my differences have helped me to be open and reach out to other people.

John

John, in his mid 50s, has a congenital below-elbow upper limb difference. He grew up as the oldest of two children, with a brother who is 7 years younger. John described his parents as hard-working and kind. His family lived in a mid-sized city neighborhood, of lower-middle-class socioeconomic status. Important values in John’s family were “do the right thing” and “kindness to others.” John reported that he “had a pretty normal childhood.” He stated, “I liked being outside, being active, and playing with my friends.”

John typically played with the neighborhood children who were his age rather than his younger brother. John described his brother during his childhood years as “a pest” who tried to follow him. John remembered the atmosphere in his home as “generally good,” but they “struggled financially.” However, John does “not remember ever being deprived.” He stated that he was happy with a used bike, and he wore the clothes that were given to him.

When asked about the challenges John experienced as a child due to his limb difference, John stated that it is difficult to remember challenges specific to the limb difference. He stated, “There wasn’t a point in which I had an arm and then I didn’t. There was a continuity throughout life.” However, John reported that his “most distinctive challenge was the question of an artificial limb.” He explained, “For me it was awful wearing the prosthetic. It was heavy and hot.”

At age 7, John “had the opportunity to obtain an artificial limb with a hook.” John felt obligated to wear the prosthetic because of the expense for his parents. He also thought that his parents expected him to try wearing it for at least a year. When John was not wearing the
prosthetic, his parents would ask him, “Why don’t you wear your arm?” John reported that sometimes when wearing the prosthetic, children called him, “Captain Hook.” In response to the children, John said, “I probably agreed.”

After wearing the prosthetic throughout third grade, John refused to wear it. John thought the prosthetic was very uncomfortable, and he did not “see the point to wearing it because I never felt there was anything I could do with the prosthetic that I couldn’t do without it.” John stated, “I don’t remember anything I came across that I couldn’t do because I had one arm.”

As a teenager, John does not remember having any challenges specific to his limb difference. He believes his challenges “were the regular challenges of any teenager.” John stated that he has “tendencies toward shyness, but it also goes away.” John acknowledged that “there may be some organic predisposition to depression.” However, John does not think the depression is related to his limb difference.

John does not remember his parents talking with him regarding what to tell other people about his limb difference. However, he remembers that he always told people what the facts were. Furthermore, John does not remember asking his parents why he has a limb difference. However, he stated, “I may have expressed frustration and asked them, ‘Why me?’ or, ‘What’s this all about?’”

Looking back, John realizes that staring or questions about his arm were because “people were curious.” He stated, “I don’t think I was picked on more than anyone else.” However, when John experienced teasing or comments about his arm, he thought to himself, “They don’t know.” He would tell others the facts, “I was born without a hand.” Then, if an individual continued in a disrespectful manner, John thought something like, “Fine, whatever, if that’s the way you want to be,” and he ignored them. John stated that people are different in how they view or react to his
limb difference. He acknowledged, “Some people act like it’s no big deal.” John realizes that even people with differences look at others who are different from them, wondering about the difference.

As John tried to think of challenges that were specific to his limb difference, he stated, “I remember a lot of victories: learning how to swim, riding a bike, and playing ball with my friends, and being an equal part of it [the game], and being able to keep up with them.” John further explained, “It seems so normal [having one hand]. I wanted to do things [like playing baseball], so I learned how to do it. Some people can do it this way, and I do it this other way.” John stated, “It wasn’t that it was a challenge, but that I wanted to do these things. If I wanted to do things like play ball, I had to learn how and figure out how to do it. I wanted to work it out.”

When John was asked what was encouraging for him as a child, his response was that he had friends and he “did things like the other kids,” such as playing baseball with the neighborhood children. Furthermore, John stated, “There were always good people—neighbors, friends, social situations—nice people who looked at me as a person. I was seen as ‘one of the kids’ in the neighborhood.”

Boy Scouts was another “very encouraging” influence on John as a child, “learning to tie knots, sleeping in the woods, being away from home.” He stated, “I could chop wood, run around, and be with people.” John was pleased that, as an adult, he had overcome his previous inability to climb a rope. As a parent chaperone at Boy Scout camp, John took a class that included an obstacle course in the trees. After learning how to climb a rope one-handed, John realized, “Not only could I do it, but I did do it.” John said his attitude is, “Just show me how it needs to be done, and I’ll adapt it from there.” John noted, “We have our whole bodies to work with. We don’t have to put them into categories.”
Currently, John is married (for more than 25 years), with two grown sons and a grandson. John recently retired from his longtime job where he worked with customers in a call center of a large corporation. He is now working part-time.

As an adult, John often uses humor when individuals ask him what happened to his arm. Sometimes, John will tell a fictional humorous story, but, then, “I always come clean and tell the facts, which is simply that I was born with one hand.” John’s wife (who joined the interview toward its completion) told the story of how years earlier their daycare person called stating that she needed to settle a dispute between two children who were arguing over what happened to John’s arm. One child insisted that “Jesus kept it” and another child was sure that “a tiger bit it off.” Both children heard their side of the story first-hand from John.

When John’s grandson was between ages 3-1/2 and 4, he asked John every night for about 3 weeks, “Grandpa, where is your arm? How did it happen?”

John’s wife noted that John has never used his limb difference as an excuse for anything. “He does everything. He changes diapers, paints, cleans, fixes, hunts, fishes, shovels snow.” Currently, the only thing John said he cannot do because of his limb difference is drive a stick shift, because the shift is on John’s right side (with the limb difference).

When John was asked what he would tell parents of children with a limb difference, he stated:

Do not make assumptions that your child is not capable of doing certain things. Find out what the child likes and give the child opportunities to learn and participate. If the child is not able to do something right away, don’t worry about it. Let the child figure things out. Let them be kids. Let them fall down. Treat children with a limb difference like any other kid—because they are. Kids get discouraged whether they have two arms or they have
the best things in life. Don’t take it to heart. It is not because they have one arm, it is because they are kids. Everyone gets discouraged.

When John was asked how he believes the limb difference has influenced his life, he replied that it has given him “a way of looking at things that might be different than others, having less need to categorize people in little boxes.” He said, “I don’t rush to judgment of others. I always know there is another side.” John stated that having a limb difference has made him more forgiving and understanding of others. Furthermore, John explained:

I’ve always known I have to work a little bit harder and prove myself a little bit harder to others and to myself. It was great to hear surprise in others. It felt good to surprise someone and hear comments such as, ‘Oh, you can get on the horse.’

John’s wife described him as calm and easygoing. She stated that John’s limb difference has “never been an issue for him” throughout their marriage. She noted that John’s limb difference “is always the ice breaker in a conversation with others.” John agreed that his limb difference is “often a good conversation starter, and people will talk with him about someone they know who has a physical difference.”

Furthermore, John’s wife acknowledged that John has challenged her vocabulary and thinking. She explained, “John has called me on my use of the word “normal” to describe differences. John believes it is more appropriate and correct to use the words regular or average rather than the word normal to describe differences.” For example, the average person has two hands. Having one hand is normal for John.

David

David, in his mid 80s, has both upper and lower limb differences. He was born with no arms and one of David’s legs is shorter than the other, extending only to the knee of his other
David explained that he has no thigh on his shorter leg. He also has four toes on each of his two feet. Although David walked as a young adult, he currently gets around by either rolling (which he does mainly at home) or using a wheelchair. At times David uses his mouth to move things. However, David does not put any type of tool (e.g., a pen) in his mouth. David uses his feet in place of hands.

David grew up in a mid-sized city as the middle child of five children, with a brother 7 years older, a brother 5 years older, a sister 3 years younger, and a sister 8 years younger. Values that were important in David’s family were “everyone doing chores, family members helping one another out, everyone being responsible, and children obeying their parents.” David stated that religious faith and attending church were also very important values among the parents and children in his family. David described his parents as encouraging.

When asked about the challenges David experienced as a child due to his limb differences, he stated that it was most challenging to learn how to use his feet “for everything.” David further explained:

But, when you’re born this way it just comes natural. It didn’t bother me. It’s something I had to do. I never felt sorry for myself. I did what I could do with what I had. I focused on abilities. If you can do something, why worry. I knew there were certain things I couldn’t do. So what? It didn’t bother me.

After stating that the hardest thing to learn was threading a needle with his feet, David added, “But, I did it.”

David acknowledged that the most painful event in his life occurred when he was about 40 years old. While he waited in the car for his wife at a friend’s house, David heard a boy between 10 to 12 years old exclaim to his mother, “Come, Mom, look at the freak!” David
described hearing these words as “very hurtful” and “the most painful event” in his life. When asked how he responded to this boy, David stated that he ignored the comment. “I figured he doesn’t know any better, and he has to be taught. He probably had never seen a handicapped person.” David added, “I have learned to accept things and adjust.”

In his early 20s, David tried using a prosthetic for his shorter leg. However, with no hands, he was unable to balance himself effectively. After trying for 6 months, David decided the prosthetic was not helpful and stopped using it.

As an adult, David does not like it when others try to do things for him that he can do for himself.

When asked what was encouraging for David as a child, he remembered that when he was very young, his mother often put him on the floor with toys on a blanket. David explained that between ages 12-to-18 months, “I figured out how to roll over to my mother’s sewing machine cabinet and open the bottom drawer with my toes.” David’s mother decided to fill the drawer with small toys and objects so that “I [David] could continue to try opening the drawer again and again if I wanted to.”

In describing how his father was encouraging, David said, “Dad would not baby me.” David explained that when he turned 21, his father took him to the courthouse so that he could register to vote. However, when the clerk looked at David and suggested, “I’ll let your dad sign for it,” his father replied, “Oh, no you don’t!” Instead, Dad instructed David to sign his own signature, which he did using his toes.

Also encouraging was that “Dad would never have [David] perform for someone” in order to demonstrate what he was able to do despite having a disability. David also remembered that his older brother “was mad and disgusted” with their aunt because she asked David to
showoff what he could do in front of her friend. David’s brother felt that his aunt was using
David’s abilities the wrong way, “like I was a circus performer.”

David stated that his parents treated him like his siblings, “If I did something wrong, I got
a spanking like the other kids.” David explained that his parents let him do what was proper at
that time. He remembered, “I played with the kids in the streets. We weren’t supposed to play in
the streets. So, when someone yelled, ‘Cop!’ everyone scattered with great energy.” David
remembered being able to scatter as quickly as his friends.

As a child, David played street football and baseball with the other children in his
neighborhood as well as hockey on a neighbor’s backyard skating rink. David was the practice
goalie. On the baseball team, David pitched using his foot. The team had a special rule that if a
fly ball hit David, it was considered an out.

David also credits an aunt as being very encouraging. He explained, “She came to the
house one day when I was a young child and said, ‘This is the day that David is going to learn to
walk.’” David’s aunt worked with David until he was able to walk by himself. By bending his
longer left leg at the knee, David was able to stand and walk on his left knee and right foot.

From David’s perspective, his parents “made opportunities available.” David explained
that his parents and his aunt did not force him to do things, “They just let me do them.”
Furthermore, David said, “I had help along the way, teachers, friends, relatives. They would tell
me, ‘You can do it.’ And, I’d go ahead and do it. It’s not like being born with everything and
losing it.” David does not remember ever asking his parents questions about why he had physical
differences.

Another “very encouraging” influence for David was his church. David remembered
being shy as a child, and he believes that church enabled him to meet other people besides the
children in his neighborhood. David’s oldest sister and her friend would take David to church (a mile from home) in a little red wagon.

At age 7, David’s uncle went to the school board and persuaded them to allow David to attend the public school with the other children. David said, “I had fun learning things.” Then, while David attended high school, the school board paid an adult attendant to push David to his various classes as he sat on the top of his desk, which had four wheels attached.

As a teen and young adult, David could walk about 8 or 9 blocks. He also rode the streetcar himself.

Currently, David is married (for more than 50 years), with three grown children and four grandchildren. His wife, who was present throughout the interview, is of short stature (also known as dwarfism). She explained that, like David, she has lived with physical differences all her life. Before retirement, David worked as a bookkeeper and accountant for a non-profit agency, using his toes to operate the adding machine and typewriter.

David and his wife love to educate others about their physical differences and have talked with children in various schools. David explained, “Kids in third grade are most interesting to talk to because they are not embarrassed to ask questions.” In contrast, David reported that 5th and sixth graders do not ask questions. He reasoned, “It could be that they don’t want to pry.”

When David and his wife go to the mall, they often hear children between the ages of 3 and 6 ask questions about them to their parents. David stated, “Parents are the worst. They hush up the kids.” However, David explained, “We walk up to those people. They don’t meet too many people who are disabled like we are.”

Three times a week, David visits friends in the food court of a mall while his wife walks for exercise. David explained that he often approaches children who seem curious about his limb
differences to ask if they have any questions. David believes their parents appreciate that David notices their child. David said, “Kids ask me, ‘Where’s your hands?’ or ‘Where’s your arms?’” His usual reply is simply that, “Jesus didn’t give me any, and I’m okay with that.”

David’s wife also stops to talk with children in public. For example, she has heard children say to their parents, “Look at the little grandma!” David’s wife stops to talk, explaining, “I’m short, I’m a mom and a grandma, and my name is Mrs. Nelson. My arms and legs are short, but my body is tall.” David’s wife stated that parents usually appreciate their open attitude.

David and his wife explained, “When we stop to talk to children, we hope that when they meet other people with a disability in the future, they will know how to treat them with respect, rather than staring, pointing, or making side comments.” Both agreed that people usually stare or make comments “because they don’t understand.” They stated, “So, we will explain.”

David and his wife do not consider themselves to be disabled people; rather they are people with a disability.

When asked what he would tell parents of children with limb differences, David said he would tell them, “Do not hide your child. Incorporate your child into all the activities of the family.” Furthermore, David stated that it is important to encourage parents. He said, “Tell parents of a child with a difference that it is good to see that we are all different.”

Discussion

The participants’ responses convey the significance of encouragement in helping parents and their children to positively meet the challenges associated with limb differences, and life in general.

A recurrent theme among the participants’ responses was the importance of helping children to understand that they are capable and able to handle life’s challenges by giving them
opportunities to learn and participate, by treating them like other children (e.g., siblings and children, in general), and by not overprotecting them. All of the participants said they would tell parents of children with a limb difference to encourage their children to participate in activities rather than assume they are incapable of succeeding because of the limb difference. Similarly, when asked what was encouraging for them as children, the participants’ responses reflect the need to feel capable and connect with others.

Many of the childhood circumstances that participants remembered as being the most encouraging involved being encouraged by others to meet and overcome challenges. Jen is grateful that her parents did not give her special treatment because of her limb difference and that they expected her to do chores and participate in activities just as her other siblings. Sara remembered that her mother did not try to discourage her when Sara spent an entire day alone in her bedroom learning how to braid her hair. Lynn credited her teacher’s belief in her abilities as being the most significant and positive energy in her life. This gave Lynn the courage to investigate vocational options and to follow through with obtaining both college and master’s degrees.

Participating in group activities, such as neighborhood baseball games and Boy Scouts “as one of the kids” was cited as being encouraging in John’s childhood. John felt encouraged as he learned to chop wood, tie knots, sleep in the woods, and be with people. Similarly, David felt encouraged when he was given opportunities to “figure out” how to do things for himself, such as opening drawers with his feet. Like other participants, David was grateful that his parents did not “baby” him. Instead, David’s parents, siblings, and extended-family members told him, “You can do it.”
The importance of feeling capable and able to handle life’s challenges continued to be evident in the participants’ responses regarding what has been encouraging for them as adults. For example, Lynn feels encouraged when her capabilities are acknowledged. Jen, who encourages organizations to focus on individuals’ abilities rather than disabilities, stated that disability has no place in her life “because I’m able.” Likewise, David enjoys helping children and their parents understand how he is able, despite having no arms.

Sara stated that it is empowering for her to think that God knew she could handle the challenges of having a limb difference. John is encouraged when he overcomes obstacles using his abilities, such as climbing a rope with one hand. John’s attitude is to watch how others do a task with two hands and, then, he will adapt how to do it with one hand.

Certainly, all of the participants experienced psychosocial challenges in childhood that were related to their limb differences (e.g., others’ questions, stares, and hurtful comments; thoughts and feelings about having a limb difference; and feelings of inferiority). However, the participants’ responses indicate that parents’ attitudes can be a significant, positive influence in helping their children to face and overcome the challenges of life with courage and social interest.

Factors described by participants as encouraging in childhood included family atmospheres in which the parents modeled love, cooperation, mutual respect, kindness, support without pampering, encouragement, responsibility, equality among siblings, and care for others. In contrast, childhood perceptions of ongoing marital conflict between parents (even if covert) and being unable to communicate thoughts and feelings openly with family members were reported as discouraging influences.
Another important dynamic reported as encouraging in childhood was participating as a member of a group within one’s neighborhood or community. Participants’ responses indicate the significance of children feeling a sense of belonging as an equal and valued member within one’s family and community environment beginning in early childhood.

Jen stated that participating in sports “made a big difference” in the way other kids saw her and in the way she saw herself. Jen realized that if she had not been friendly, as well as a good athlete, she might not have had the social connections with other children.

John recalled that there were always good people, such as neighbors, friends, and others in social situations, who viewed him as a person and “one of the kids” in the neighborhood. Similarly, David remembered his participation in street games with the neighborhood children as an encouraging influence.

The importance of helping children to feel capable and connected with others is also evident in the participants’ responses when asked what was challenging for them as children. For example, Jen explained that “most problems came from adults who insisted on helping” her with things she could either do, or learn to do, herself.

John remembered his most distinctive challenge in childhood was having to wear a prosthetic in third grade. John did not want to wear the prosthetic because, in addition to the discomfort (i.e., being hot and heavy), John felt there was nothing he could do with the prosthetic that he was unable to do without it.

David reported that his greatest challenge in childhood was learning how to do everything with his feet. Yet, David pointed out that he focused on his abilities rather than what he was unable to do because of his limb differences.
Being unable to do certain tasks, such as swing on the monkey bars or make braids, was challenging for Sara as a child. However, Sara acknowledged that her inability to perform a task “made [her] try that much harder.”

Lynn remembered that her mother discouraged her from trying activities, such as riding a bicycle, in an effort to protect Lynn from injury. In contrast, Lynn would advise parents not to overprotect or put limitations on their child specifically because of a child’s limb difference. Lynn emphasized that it is important for parents to encourage their children.

A difficult challenge for Lynn was that her parents “never talked about” her limb difference with her, nor did they proactively advocate for her in the community (e.g., her school). Perceiving her parents’ silence as “the big white elephant,” around others Lynn felt embarrassment and shyness as a child regarding her limb difference.

Lynn and other participants stressed the need for parents to help their children develop vocabulary that they can use to discuss their limb difference, especially phrases conveying that the limb difference is acceptable. Lynn recommended that parents tell their child, “Everyone has differences and that is okay.” Similarly, Sara stated that parents and teachers should “affirm and reaffirm with the child that the limb difference is okay, and it is okay to be different.” Further, Sara said, “Give the child language that he or she can convey to others that reinforces that the limb difference is okay.”

In addition to encouraging children, David stated that it is also important to encourage parents. David said, “Tell parents of a child with a difference that it is good to see that we are all different.” Participants’ responses suggest that parents need to understand, and believe themselves, that physical differences are acceptable before they can convey this truth to their children and others.
Sara reported that her parents helped her to understand that everyone has differences and challenges with which they are dealing.

Jen and Sara described similar difficult situations in which they were excluded from their dance companies after years of dedicated preparation, not because of their lack of ability, but simply because of a physical difference. Although both young women cited their experience as a challenge in childhood and the outcome with the dance companies was not what they wanted, they remembered feeling encouraged when their parents advocated for them. Jen explained that her parents intervened in situations when it was necessary to advocate for Jen’s rights. Similarly, Sara remembered that her parents’ handling of the matter with the dance company conveyed to her that she was important to her parents.

In addition, Sara stated that she learned from this incident that she will experience trials in her life. However, as Sara said, “Either I can internalize them [i.e., trials and difficult experiences] or I can realize that ‘You are who you are’ and that these things that happen help to prepare you for future trials and only make you stronger and better able to handle them.”

The participants’ responses indicate that encouragement from parents and others, such as extended family members and teachers, helped them to develop courage to face difficult situations and meet the challenges of life using constructive behaviors that demonstrate social interest (e.g., manifesting an attitude of empathy, cooperation, responsibility, mutual respect, and contributing to the welfare of others).

As adults, all of the participants have continued to experience others’ staring and rude or hurtful comments about their limb differences. However, the participants’ responses indicate that they seek to face these challenges with both courage and social interest. For example, David and his wife often walk up to children and their parents who seem curious and ask if they have any
questions. David believes that people usually stare or make comments “because they don’t understand.” David stops to talk with people hoping that, when these people meet others with a disability in the future, they will treat them with respect.

Similarly, Jen sometimes asks children who are staring, “Do you want to ask me any questions? It’s okay.” Lynn often says to children, “Most people have two hands, don’t they?” Lynn proceeds to acknowledge that she has one hand.

Sara explained that she tries to put herself in other people’s shoes. She stated that if people “don’t have experiences or conversations with individuals with differences, they may feel uncomfortable not knowing what to say.” Although Sara senses that some adults are judging her, she acknowledged that, in general, when people ask questions or stare at her arm, she believes they do so because they are either empathetic wanting to know what happened to her or they are genuinely interested in how Sara does things with one hand that others do with two.

John recognizes that his limb difference is “often a good conversation starter,” which encourages people to talk with him about someone they know who has a physical difference.

Of importance, the participants’ responses regarding how they believe their limb difference has influenced their life reflect both their level of courage and their degree of social interest. Jen reported that having a limb difference has helped her to be more tolerant and has given her an understanding that “no matter what differences people have, they’re all just the same.” As a public speaker, Jen encourages others to focus on individuals’ abilities rather than disabilities.

Similarly, Sara stated that having a limb difference has made her aware that everyone is going through some kind of challenge or difficulty. This has helped her to develop an appreciation of people for who they are. Sara believes her limb difference is a factor that led her
Lynn, who works with children as a special education teacher, stated that having a limb difference has helped her be understanding and sensitive about how other people are thinking and feeling. Furthermore, Lynn believes that her differences have helped her to be open and reach out to other people.

John, who often uses humor, stated that having a limb difference has made him more forgiving and understanding of others. He stated, “I don’t rush to judgment of others. I always know there is another side.”

Finally, David, who enjoys educating others about physical differences, has come to realize that all people have differences. He stated, “It is good to see that we are all different.”

Recommendations to Meet the Challenges of Limb Differences

The participants’ accounts (previously described in this paper under Case Examples of Adults with Limb Differences) of what they found to be challenging and encouraging (in childhood and throughout life) as well as what they would tell parents of children with a limb difference provide a valuable source of information to help parents and their children meet the psychosocial challenges of limb differences.

Parents have many questions about how to help their children with limb differences overcome difficulties associated with their disability. Furthermore, parents worry about their ability to help their children deal constructively with social reactions to their child’s physical difference (Anonymous, personal communication, March 7, 2007; Talbot, 1990). Talbot (1990) stated that parents’ “self esteem and faith in their abilities is vulnerable. They sense that their child’s self-esteem will be vital to his [or her] psychological health, but they are unsure of how to
help him [or her]” (pp. 76-77). These parents earnestly want to know how to help their children have healthy self-concepts, meaningful relationships, and productive lives.

Talbot (1990) acknowledged that most parents have never had prior experience with limb differences. Therefore, these parents need encouragement and relevant resources to help them recognize that they are capable of meeting the psychosocial challenges of limb difference, and parenting in general, by being positive influences in the lives of their children, family, and community.

Information (as previously discussed throughout this paper) from research on limb differences and physical disability, from principles of Adlerian psychology (e.g., concepts of personality [lifestyle] development and effective parenting), and reports from individuals who have experienced limb differences indicate a number of objectives to be considered by clinicians and health care providers as they encourage and equip parents (and their children) to meet the psychosocial challenges of limb difference.

These include helping parents (a) work through their questions, feelings, and fears about their child’s limb difference, (b) learn methods to constructively respond to societal reactions, (c) understand factors of childhood personality development and social adjustment, (d) understand effective parenting skills, (e) learn methods to help their children develop positive coping skills, and (f) learn how they as parents can support their child in the community.

First, in providing psychological support for families, Talbot (1990) emphasized that it is essential for health care professionals to demonstrate an attitude that is accepting, empathic, and non-judgmental toward parents (or family members) as they begin to share their feelings, concerns, and questions about their child’s limb difference.
In a qualitative study investigating what parents of children with limb differences perceived to be helpful in the services they received from health care professionals in the first year of their child’s life, Andrews (2007) found that parents valued positive attitudes toward their child’s limb difference (e.g., positive predictions about the child’s quality of life). Parents wanted health care professionals to treat them and their children with limb differences with the same positive attitude and support that they would provide to children without physical differences or disabilities.

Similar to the findings by Knussen and Sloper (as cited in Andrews, 2007), Andrews concluded that health care professionals have a more positive influence on parents when they do not underestimate the family’s coping strategies and “do not overestimate the stress related to the child’s disability status” (p. 35).

Of importance, the parents in this study (Andrews, 2007) reported frustration with the lack of information (e.g., pamphlets, handouts, or referrals to support groups) they received from health care providers regarding issues pertaining to limb differences. Overall, parents reported that the most helpful information and support they received specific to limb differences was provided by other parents of children with limb differences. This information was mainly accessed through parental support groups (e.g., the International Child Amputee Network [I-CAN]), which most parents eventually found themselves by searching the Internet.

Talbot (1990) acknowledged that in providing support for parents of children with limb differences, many parents find it “invaluable” (p. 77) to meet other children with limb differences and their parents. One parent in Andrews’ (2007) study stated:

Links to other parents who were experiencing the same issues we faced . . . was by far the MOST important information. The combined knowledge of these people far surpassed
anything we ever received from experts in the field. I can’t express this enough. It was critical, comforting, and incredibly valuable. (pp. 64-65)

Another parent responded, “Through support groups we learned that our child would be ok in life and be able to do and be whatever she wanted” (p. 65).

Researchers (e.g., Gilbride, 1993; Varni & Setoguchi, 1993; Yura, 1983) have recommended that in working with parents of children with physical disabilities, it is important for health care professionals to assess the parents’ beliefs and attitudes about their ability to cope with the needs of their children. Gilbride (1993) suggested that the development of positive parental attitudes toward disability include parents’ beliefs that the disability is not the most important characteristic of their child; their child is not different from other children; and they as parents are able to cope with their child’s special needs.

An area of concern for many parents is knowing how to respond constructively to others’ reactions (e.g., pointing, staring, and pity). Individuals with limb differences emphasize the need for parents to help their children develop vocabulary that they can use to discuss their limb differences, especially phrases conveying that the limb difference is acceptable and not something to be pitied.

As children (even those who are preverbal) with limb differences hear their parents respond to others’ questions in a “simple, matter-of-fact and positive manner” (Talbot, 1990, p. 77), their children will begin to learn language and develop attitudes that will equip them to respond positively to others. Talbot stated that most parents of children with limb differences try to help their children develop an attitude that is open, confident, and straightforward. They can respond to others’ questions and reactions “in an honest, non-defensive manner” (p. 80).
In response to others’ staring, individuals with limb differences suggest that parents and their children can choose to ignore it or they can ask the staring individual, “Do you have a question?” Parents can help their children understand that people are curious when they experience something new or different, and people (including those with differences) often stare because they are trying to understand the difference (Talbot, 1990).

When parents or their children encounter remarks that express that the limb difference is sad or something to be pitied, parents can respond similarly to Sara, an adult with a limb difference (discussed under Case Examples of Adults with Limb Differences in this paper), who tries to help others understand differences by replying, “I appreciate your kind words, but it’s not sad. It’s okay. I’m able to do things. It’s not a big deal.” Sara stated that how she responds to her limb difference and others sets the tone for how people will feel. Sara stated, “If I feel like my limb difference is not a big deal, others will feel that way, too.”

Similarly, St. John (2005), a woman whose leg was amputated at age 5, recommended that parents help their child to feel comfortable with his or her physical difference. To help children with limb differences develop a positive body image, St. John offered three tips. First, parents can help children to be comfortable with their physical difference by allowing the difference to be seen and out in the open. When parents attempt to cover up a limb difference, it can send the message that the difference is something about which to be ashamed. Second, empower children and teens with information and opportunities for the healthy development of their entire body. St. John (2005) stated, “Looking attractive in general can make more difference in their life than having a missing limb” (p. 16). Third, encourage children to participate in physical activities that they will enjoy to help them develop “more confidence in the value of their body, its abilities, and its attractiveness” (St. John, 2005, p. 16).
Parents of children with limb differences express concern about wanting to know what they can do to help their children develop a healthy self-concept. Making information available to parents about personality (lifestyle) development may help parents to feel more empowered as they make decisions about what will positively influence their child’s developing lifestyle (e.g., self-concept, perceptions, beliefs, attitudes, and goals).

Furthermore, sharing information with parents from the perspective of adults with limb differences regarding what they found encouraging in childhood may be especially encouraging to parents. For example, factors described as encouraging in childhood by individuals with limb differences (discussed under Case Examples of Adults with Limb Differences in this paper) included family atmospheres in which the parents modeled love, cooperation, mutual respect, kindness, support without pampering, encouragement, responsibility, equality among siblings, and care for others. In contrast, childhood perceptions of ongoing marital conflict between parents (even if covert) and being unable to communicate thoughts and feelings openly with family members were reported as discouraging influences.

Understanding effective parenting skills is another important resource that may help parents feel more equipped to help their children develop healthy self-concepts, whether or not their child has a physical difference. Adlerian psychology has long recognized the importance of providing parent education to all parents (Dinkmeyer & Sperry, 2000). The objective is to help parents gain understanding and learn effective parenting skills for raising happy, courageous, and responsible children who meet the challenges and tasks of life demonstrating love, cooperation, and respect for themselves and others. Carlson et al. (2006) noted that parents’ “need for education is not a sign of weakness but rather a sign of intelligent commitment to the growth of their children and themselves as a parent” (p. 263).
Effective parenting skills include encouraging and helping children to correctly perceive their innate, equal worth as human beings who belong and can contribute to the welfare of oneself and others (incorporated into their self-concept and self-ideal convictions and goals). Through encouragement and training, parents can help their children develop self-concept and self-ideal convictions and attitudes that state, “I belong; I am capable; I matter, and I can handle what comes” as well as positive goals of cooperation, self-reliance, contribution, and resilience (Lew & Bettner, 2000).

Adlerian parenting classes and study groups or books such as Bettner and Lew’s (1996) *Raising Kids Who Can: Use Good Judgment, Assume Responsibility, Communicate Effectively, Respect Self and Others, Cooperate, Develop Self-Esteem, and Enjoy Life*; Lew and Bettner’s (2000) *A Parent’s Guide to Understanding and Motivating Children*; and Popkin’s *Active Parenting* series (e.g., Popkin, 2002) are some of the excellent resources to help parents understand childhood behavior and learn effective parenting techniques.

Another resource to encourage parents of children with limb differences is to provide information about helping their children develop positive coping skills and behaviors to deal with the psychosocial challenges related to their limb difference. For example, parents may value learning strategies that they can teach to their children to deal with teasing. In *Easing the Teasing: Helping Your Child Cope with Name-Calling, Ridicule, and Verbal Bullying*, Freedman (2002) emphasized that all parents should be proactive and intentional about teaching their children coping skills to empower them and reduce feelings of hurt and helplessness. Freedman’s book is a valuable resource for parents who want to learn specific skills to help their children deal with teasing.
One of the strategies that children can use when being teased about a physical characteristic is to simply agree with the teaser in a pleasant, confident manner (Freedman, 2002). For example, a child can tell the teaser, “You’re right. I don’t have a right hand.”

Involving children in role-playing, practicing various strategies to deal with teasing (e.g., self-talk, “I” messages, ignoring, reframing, and humor), and brainstorming various responses help children to feel more confident in dealing with teasing situations.

Helping parents learn how they can support their child in the community is another important resource to encourage parents as they seek to understand how to assist their children with limb differences develop healthy self-concepts and positive psychosocial functioning. For example, adults with limb differences advise parents to talk with their child’s school and teachers before the academic year begins. Dunn, McCartan, and Fuqua (1988) suggested that parents’ communication with teachers helps to facilitate positive attitudes and an understanding of the child’s disability. In addition, children are more likely to hear consistent, positive information about their limb difference from both parents and teachers.

The parents of a child with an upper limb difference conveyed the importance of parents meeting with their child’s teachers before the school year begins (Anonymous, personal communication, March 7, 2007). Before beginning 3-year-old preschool, these parents asked the teacher about coming to class the first day to explain their child’s limb difference and answer the other children’s questions. The teacher, however, did not believe the limb difference would be an issue and thought that most of the children would not notice the difference.

On the contrary, the child experienced stress during the first weeks of school as she observed the reactions of the other children toward her arm as well as their repeated questions. Furthermore, it was not until parent conferences, a few months later, that the parents found out
their child had been withdrawing from group activities. Although the teacher thought it was normal for some children to show withdrawing tendencies, these parents knew it was not normal for their child who usually enjoyed participating in group activities.

The parents suspected that the teacher might have been trying to protect the parents’ feelings by not telling them. In retrospect, the teacher realized that many of the children who repeatedly asked questions about the limb difference were closer to age 4 (Anonymous, personal communication, March 7, 2007).

After noticing the following summer that their child seemed anxious about beginning 4-year-old preschool, the parents asked their child if she would like one of them to come to class the first day to tell the other children about her limb difference and help her answer the children’s questions. The child agreed it was a good idea. On the first day of 4-year-old preschool, the teacher had all the children sit in a circle as the teacher read a portion from a children’s book about differences (Anonymous, personal communication, March 7, 2007). Telling the children that everyone has differences, the teacher asked the children to notice how they were different from their classmates (e.g., hair, eye, and skin color or size). When the teacher asked if anyone would like to share his or her difference with the class, the child with the limb difference raised her hand stating that she had a little arm. The child agreed to tell the class about her arm as her father came from the back of the class to join the group.

This father explained to the children that his daughter was born with the limb difference; she can do everything that they do, although she might do some things differently; the limb difference is not something to be afraid of; they will not get a limb difference by touching the end of her arm; and everyone has differences and that “is okay” (Anonymous, personal communication, March 7, 2007). The father also explained how to hold his daughter’s little arm
when the children played games, and he asked the children if they had any questions that he and his daughter could answer. Surprisingly, none of the children had questions. However, a couple of children talked about physical difficulties that they had dealt with, such as a broken leg.

Later that day, the child with a limb difference called her grandmother exclaiming in delight that she told the other kids about her little arm and she had many friends at school (Anonymous, personal communication, March 7, 2007). After seeing their daughter so encouraged and enthusiastic throughout 4-year-old preschool, the parents decided with the child to do a similar discussion with the class on the child’s first day of kindergarten. The parents reported that the classroom discussion again went well and their child continues to enjoy and look forward to school.

Furthermore, the parents and their child have repeated similar discussions when the child has joined a new group of children, such as a scouting or sports team, to explain that the child was born with a limb difference, everyone has differences, and differences are okay (Anonymous, personal communication, March 7, 2007). The parents have observed that the other children seem satisfied with their explanations and their daughter’s limb difference seems to be a non-issue among most of the children after these discussions.

These parents stated that not all children want or need classroom discussions about their limb difference at the beginning of a school year (Anonymous, personal communication, March 7, 2007). The parents know of other children with limb differences whose teachers have simply read a book about differences on the first day of class followed by conversations with the children about differences. Other parents shared that their children seem to do well answering others’ questions as they come up.
Freedman (2002) emphasized the importance of parents and schools teaching children an appreciation of differences, including lessons about empathy, respect for others, and mutual support. Individuals with limb differences and their parents can provide a valuable source of information, ideas, and encouragement to parents of children with limb difference as they seek answers to questions about how best to encourage their children at home and in their communities.

Conclusion

Research to identify factors that influence the psychological and social adjustment of children with limb differences has consistently found that demographic variables of gender, age, socioeconomic status, and the degree of limb loss are not significantly associated with psychosocial adjustment in children with limb differences (Rubenfeld et al., 1988; Varni, Rubenfeld, et al., 1989a; Varni & Setoguchi, 1993). In contrast, dynamic variables that have the potential for change, such as family functioning and perceived social support, were found to be significantly associated with psychosocial functioning in children with limb differences.

Of importance, many studies (Varni, Rubenfeld, et al., 1989b; Varni & Setoguchi, 1991b; Varni, Setoguchi, Rappaport, et al., 1991) showed that as a group, children with limb differences, on average, do not experience significant differences in the level of depressive symptoms, number of daily stressors, and perceptions of degree of social support (i.e., from parents, teachers, classmates, and close friends) compared with children without limb differences. However, researchers concluded that the large standard deviations in the research data (e.g., measuring the number of depressive symptoms and self-perceived physical appearance) among children with limb differences suggests the need to identify variables that function as protective
factors (encouraging influences) and risk factors (discouraging influences) in the psychosocial adjustment of children with limb differences.

Studies (e.g., Rubenfeld, et al., 1988; Varni & Setoguchi, 1996) investigating variables that influence self-esteem found that (a) higher family functioning (e.g., family cohesiveness, moral and religious emphasis, and clear family structure), (b) higher self-perceptions in perceived physical appearance, perceived athletic competence, perceived social acceptance, perceived scholastic competence, and perceived behavioral conduct, and (c) higher perceived social support from parents, teachers, classmates, and close friends are all significantly associated with higher general self-esteem in children with limb differences.

Of these variables, perceived physical appearance (a child’s perception of and satisfaction with his or her total overall physical appearance, not just perceptions of limb difference) and perceived social support from classmates (the degree to which children perceive significant others care for and like them as a person, listen to and understand them, and treat them as someone who matters) showed the strongest association to self-esteem in children (ages 8 to 13) with limb differences (Rubenfeld et al., 1988). These results suggest that children’s self-perceptions are strongly related to their levels of self-esteem.

Further research (e.g., Varni & Setoguchi, 1991a; 1991b) to investigate variables of perceived physical appearance in children and adolescents with limb differences found that (a) higher perceived social support from classmates, teachers, and parents; and (b) higher perceived scholastic competence, peer acceptance, and athletic competence are significantly associated with higher self-perceived physical appearance. In contrast, higher parental-perceived marital discord and higher daily stress are significantly associated with lower perceived physical appearance (Varni & Setoguchi, 1991a). In addition, higher perceived physical appearance was
associated with higher general self-esteem as well as lower depressive symptoms and lower trait anxiety (Varni & Setoguchi, 1991a; 1991b).

Statistical analysis showed that these variables (i.e., perceived social support from classmates, teachers, and parents; perceived scholastic and athletic competence; peer acceptance; parental-perceived marital discord; and daily stress) explain 78% of the variance in perceived physical appearance in children and adolescents with limb differences (Varni & Setoguchi, 1991b). These findings suggest that children’s self-perceived physical appearance is influenced by psychosocial environment factors that have the potential for change.

Other research (e.g., Varni, Rubenfeld, et al., 1989b; Varni, Setoguchi, Rappaport, et al., 1991; 1992) investigating the influence of perceived social support on the psychosocial adjustment of children and adolescents with limb differences found that higher perceived social support from classmates, parents, teachers, and friends (four separately measured domains of social support) are significantly associated with lower depressive symptoms, lower trait anxiety, and higher general self-esteem in children with limb differences. However, classmate social support showed the strongest association with depressive symptomatology, trait anxiety, and self-esteem (Varni, Setoguchi, Rappaport, et al., 1991; 1992).

Multiple regression analysis with the variables of self-esteem, the four social support domains, and microstressors showed that social support from classmates and from teachers were the only significant predictors of depressive symptomatology when controlling for the other variables (Varni, Setoguchi, Rappaport, et al., 1991). Self-esteem was not a significant predictor of depressive symptomatology when researchers controlled for the effects of the four social support domains and microstressors.
These findings indicate that greater social support and greater self-perceived physical appearance are protective (encouraging) factors in the psychosocial adjustment of children with limb differences, whereas lower social support and lower self-perceived physical appearance may be risk (discouraging) factors. Other protective (encouraging) factors include higher family functioning and higher self-perceptions in perceived athletic competence, perceived scholastic competence, and perceived behavioral conduct.

Adlerian psychology recognizes that all children are influenced by factors that are encouraging or discouraging in their lifestyle (personality) and social development. Children who are encouraged tend to courageously face life’s challenges and difficulties. They use coping behaviors such as problem solving and compensation, and they move toward their lifestyle goals using prosocial (i.e., constructive) behaviors and solutions that consider the welfare of others as well as self (Carlson et al., 2006).

Parents of children with limb differences earnestly want to understand how to help their children meet the psychosocial challenges of having a limb difference (e.g., societal reactions). However, parents report frustration with the lack of information (e.g., pamphlets, handouts, or referrals to support groups) they receive from health care providers regarding issues pertaining to limb differences (Andrews, 2007). Therefore, relevant, encouraging information that will equip parents to help their children meet the psychosocial challenges of limb differences needs to be readily available to parents and their children.

Parents in one study (Andrews, 2007) reported that the most helpful information and support they received specific to limb differences were provided by other parents and their children with limb differences. Certainly, recommendations made by adults with limb differences provide a wealth of information to parents who want to know how to help their
children develop healthy self-concepts and positive psychosocial functioning. The following are some of their encouraging recommendations for parents of children with limb differences:

Encourage your children and allow them to try activities. Don’t tell children they cannot do something because of their limb difference. Let them try. Do not treat children with a limb difference any differently than other children. Give them room to figure things out themselves. Parents and teachers affirm and reaffirm with the child that the limb difference is okay, and it is okay to be different. Let us celebrate everyone. Give the child language that he or she can convey to others that reinforces that the limb difference is okay. Support your child and let the child know that he or she can talk to you. Encourage your child with the confidence that he or she can do things. Do not overprotect children because they will compensate. Do not put limitations on your children specifically because of their limb difference. Talk about your child’s limb difference with the child’s school and teachers. Tell your child that everyone has differences and that it is okay.

It is important to encourage your child. Do not make assumptions that your child is not capable of doing certain things. Find out what the child likes and give the child opportunities to learn and participate. If the child is not able to do something right away, don’t worry about it. Let the child figure things out. Let them be kids. Let them fall down. Treat children with a limb difference like any other kid—because they are. Kids get discouraged whether they have two arms or they have the best things in life. Don’t take it to heart. It is not because they have one arm, it is because they are kids. Everyone gets discouraged. Do not hide your child. Incorporate your child into all the activities of the family. (from Case Examples of Adults with Limb Differences in this paper)
References


**Note--** in paper show (Adler, 1938/1998)


Archives of Physical Medicine and Rehabilitation, 84(5), 747-761.


Limb Differences


Rehabilitation Psychology, 28(3), 131-140.


Varni, J. W., Setoguchi, Y., Rappaport, L. R., & Talbot, D. (1992). Psychological adjustment and
perceived social support in children with congenital/acquired limb deficiencies. *Journal of Behavioral Medicine, 15*(1), 31-44.


