The Self-Esteem of Adolescents With Cerebral Palsy

(interpersonal relations, personality development, self-concept)

Joyce Magill, Nancy Hurlbut

This paper examined the self-esteem of 22 adolescents with cerebral palsy (CP) (11 girls, 11 boys) who were matched by sex, school, age, and IQ with 22 nondisabled adolescents. Subjects completed the Tennessee Self-Concept Scale (TSCS), the Family Adaptability and Cohesion Evaluation Scale II (FACES II), and a demographic questionnaire. Multivariate analysis of variance revealed that the girls with CP scored significantly lower than (a) the boys with CP, the nondisabled boys, and nondisabled girls on physical self-esteem, and (b) the nondisabled girls and boys with CP on social self-esteem. The scores of the boys with CP were similar to those of the nondisabled groups. This differential effect of disability on males and females is discussed in terms of the interactionist theory and the implications for occupational therapy.

During adolescence the physical self becomes a central concern (1) and aspects of the physical self influence a person's self-esteem or evaluation of self-worth. According to the interactionist framework, self-esteem arises out of interaction with others. One selectively assimilates significant others' (e.g., family's, friends') perceptions of oneself, compares oneself with others, and evaluates oneself against one's own standards (2).

To the physically disabled adolescence not only brings a heightened concern for the physical self but also an increased awareness of the physical and social limitations resulting from their condition (3-5). Is the self-esteem of the physically disabled lowered when they compare themselves with others? Is an extremely self-conscious girl with cerebral palsy (CP) who refuses to swim in the presence of others (6) typical of the physically disabled?

Studies of attitudes towards various disabilities have shown that cerebral palsy is the least favorably viewed of all physical disabilities (7-9) while an absence of any disabilities is the most positively viewed. Thus, if one's self-esteem is influenced by the perceptions of others, persons with CP should score lower than persons without any disabilities on self-esteem measures. If occupational therapists are to fulfill their goal of treating the whole person (10) and assisting him or her to function in an environment that provides negative perceptions, they must be aware of the psychosocial needs of people with CP. Therefore, the self-esteem of adolescents with CP was examined.

Literature Review

There is little literature on the self-esteem of adolescents with CP, whereas a great deal has been written on the development of self-esteem in nondisabled adolescents. Some of the findings on the nondisabled can be applied to the disabled. For instance, the literature describes sex differences in specific areas of self-esteem (11) such as social self-esteem. There should be no relationship between socioeconomic status (SES) and self-esteem for persons with CP because such a relationship has not been demonstrated for nondisabled adolescents (12-14).

Some authors have examined the general self-esteem of adolescents.
with physical disabilities (15-17) or the relationship of self-esteem and such variables as school setting (18, 19), acceptance of disability (20), and parental perception of the child's self-esteem (21). Only two studies compare nondisabled and physically disabled persons; however, persons with CP were not included in these samples. McNern (22), who compared groups of deaf, blind, visually impaired, orthopedically disabled, and nondisabled adolescents, found that the orthopedically disabled group appeared to have the most positive self-esteem profile. Yet the differences between the groups were not statistically analyzed. Kellerman, Zeltzer, Ellenberg, Dash, and Rigler (23) found no significant difference between healthy and chronically ill adolescents on a 10-item overall self-esteem measure, but they did find that, overall, girls scored significantly lower than boys.

Bachman (24) and Gecas (25) found a positive relationship between self-esteem and good family relations. Such a relationship is predicted within the interactionist framework since it is through the family that the individual first learns how he or she is viewed by others and first gains some sense of self-worth. If families of adolescents with CP differ from the families of the nondisabled and if adolescents with CP have lower self-esteem, occupational therapists should be alerted to the potential need for changes within the family. Therefore, family variables were included in the current study.

Since the self-esteem of adolescents with CP has not been studied in depth or compared with the self-esteem of nondisabled adolescents, this paper examines the question of how cerebral palsy and sex relate to adolescent self-esteem. The following related problems are examined: Do adolescents with CP and adolescents without disabilities differ in overall self-esteem as measured by the P score of the Tennessee Self-Concept Scale (TSCS) (26) and does this difference vary with sex? Do adolescents with CP differ from adolescents without disabilities on any of the physical, social, personal, family, self-criticism, or conflict subscales of the TSCS and does this difference vary with sex? Do adolescents with CP differ from adolescents without disabilities on the cohesion portion of the Family Adaptability and Cohesion Evaluation Scale II (FACES II) (27), and does this difference vary with sex?

Methods and Procedures

Sample

The study included all adolescents with CP who were 13 to 18 years old, had the ability to read at least at 6th-grade level, had an IQ score of 80 or more, and could be located in a western Canadian city. Additionally, each adolescent had to have resided with at least one natural parent, adoptive, or foster parent for the past 5 years and the parent had to give written consent for the child's participation.

With the exception of 1 boy who had been in a foster home since the age of 4 years, all of the adolescents were living with their natural mother, and 84% were living with both parents. Three adolescents (2 girls with CP, 1 boy with CP) were living in relatively long-lasting common law situations, and 4 adolescents (2 nondisabled boys; 1 boy with CP, and 1 girl with CP) lived in single-parent homes. Thus, although there were no nondisabled girls from broken homes, there were equal numbers of girls and boys with CP from broken homes and only one nondisabled boy fewer from a broken home. Therefore, any differences between the sexes could not be explained by differing family structure or maternal loss.

The CP sample consisted of 11 girls and 11 boys who were matched by age, sex, school, and IQ with nondisabled students. This resulted in four groups: girls with CP (mean age = 15.8 years, mean IQ = 101.5), boys with CP (mean age = 15.7 years, mean IQ = 100.0), nondisabled girls (mean age = 15.8 years, mean IQ = 101.1), and nondisabled boys (mean age = 15.6 years, mean IQ = 101.4). As the means and standard deviations for age and IQ were very similar for the groups, one would not expect age or IQ to be confounding variables.

The CP group consisted of equal numbers of boys and girls with mild (n = 5 boys, 5 girls), moderate (n = 4 boys, 4 girls) and severe (n = 2 boys, 2 girls) disabilities. Adolescents with a mild disability were defined as those requiring no assistance in ambulation. An assistive device was required for ambulation by the adolescents with moderate disabilities, whereas the adolescents with severe disabilities were able to ambulate only with wheelchairs. Diagnoses included spastic diplegia (n = 9), spastic quadriplegia (n = 5), hemiplegia (n = 5) and athetoid quadriplegia (n = 3). Because the girls with CP and the boys with CP did not differ in terms of the severity of their disability, results in the area of sex differences should not be confounded by the level of the severity.

One severely disabled girl with CP participated in the pilot study, which assessed the suitability of the instruments for the participants.
She was not included in the subsequent study.

**Materials**

Self-esteem was measured using the clinical and research form of the TSCS (26), which consists of 100 self-descriptive items with five possible responses for each item. The TSCS was chosen because it measures both general and area-specific self-esteem and because it has been used with the physically disabled (23). The following scores derived from the scale were predicted to best identify areas of differences between the CP and the nondisabled groups: (a) overall self-esteem (P score), (b) physical self-esteem, (c) personal self-esteem, (d) family self-esteem, (e) social self-esteem, (f) self-criticism (defensiveness), and (g) total conflict. The P score is obtained by adding physical, personal, family, social, and moral-ethical subscale scores. In this study, the moral-ethical self was not included in the analysis because it was not hypothesized to differentiate between adolescent with CP and nondisabled adolescents. Therefore, the P score is not the sum of other dependent variables. A fairly strong test-retest reliability has been demonstrated (26). The coefficients range from a low of 0.74 (conflict) to 0.92 (overall self-esteem).

Two other measures were also used. Part I of the adolescent form of the FACES II (27) was used to determine the relationship of family variables to self-esteem. The 30-item scale is a self-report measure used to categorize families as balanced (normal amount of bonding among family members), enmeshed (extremely close), and disengaged (very separate). A third measure, a questionnaire developed by the authors, was used to obtain basic demographic information on the CP and the nondisabled samples. The information included SES, avocational interests, future plans, and school background.

**Procedures**

After the pilot study had been completed, the subjects with CP were selected and matched with nondisabled students. Participants completed the questionnaires in a small group (2–4 persons) in the school setting. The tasks required an average of 34 to 44 minutes. The student with CP and his or her nondisabled counterpart were given the questionnaires in the same session. The TSCS and FACES II were introduced by the standard directions and completed by the standard pen and paper format. An exception was made for 3 severely disabled subjects (1 girl, 2 boys), who were tested individually. They read the standard question booklet and indicated a response verbally or by pointing. Bias was avoided since the recorder only had a numbered answer sheet and did not know the specific question being answered. For all subjects, the demographic questionnaire was given last. The order of the TSCS and the FACES II was counterbalanced.

**Design**

A sex-by-disability (male-female; CP-nondisabled), between-subjects multivariate analysis of variance (MANOVA) was done using the program available from the Statistical Package for Social Sciences (28). The alpha level was set at 0.05 and the 8 dependent variables were the 7 subscale scores of interest from the TSCS and the cohesion score of FACES II. MANOVA was chosen over doing several $2 \times 2$ analysis-of-variance (ANOVA) tests because of the problem of rising probability levels. The probability level of the ANOVA is based on the assumption that each ANOVA is done on an independent sample. With repeated ANOVA on the same sample, this assumption is violated. Since the MANOVA tests the dependent variables simultaneously, it was used to solve this problem.

Since the sample was relatively small, there was a possibility that the study would fail to find significant results because of variability within the groups. This type of error (Type II) was tolerated in the study because of our desire to identify relatively powerful effects that would be clinically significant. While other variables may have an effect on self-esteem, intervention should be based on the most significant findings. Other intervening variables can be identified in subsequent studies.

**Results**

The $2 \times 2$ MANOVA with 8 and 33 degrees of freedom revealed no significant main effect (using the Pillai test) for disability; it did reveal a significant effect for sex ($F = 2.621, p = 0.024$) and a significant sex-by-disability interaction effect ($F = 2.528, p = 0.029$). An examination of cell means given in Table I indicates that the lower scores of the girls with CP are primarily responsible for the observed effects. Univariate F tests (1, 40 degrees of freedom), which are part of the MANOVA output, revealed no significant interactions between sex and disability on overall self-esteem, family self-esteem, personal self-esteem, conflict, cohesion, and self-criticism scores. However, there was a significant interaction on physical self-esteem...
The interaction effects were examined by doing simple effects contrasts, an option available within the MANOVA program. The results are summarized in Table 2. On physical self-esteem, the univariate F tests showed that the girls with CP were significantly lower than the boys with CP \((F = 10.73, p = .002)\) and the nondisabled girls \((F = 9.61, p = .004)\) and that the nondisabled girls did not differ from the nondisabled boys \((F = 0.9, p = .771)\). On social self-esteem, the girls with CP scored significantly lower than the boys with CP \((F = 5.81, p = .021)\) and the nondisabled girls \((F = 12.82, p = .001)\). This was the one subscale where the nondisabled girls scored higher than the nondisabled boys \((F = 4.59, p = .04)\), which finding is consistent with the literature.

Discussion

The subjects with CP were not significantly different from the nondisabled subjects on most of the self-esteem subscales and on the cohesion measure; however, there was a significant sex-by-disability interaction effect and a significant main effect for sex. The scores for the girls with CP accounted primarily for the main effect and the interaction effect, the scores of the boys with CP were very similar to those of the nondisabled in all areas, and on the specific self-esteem subscales the girls with CP always had lower scores than the other three groups. There was no significant difference between the sexes on overall self-esteem \((P\) score), which is in keeping with some of the literature relating to the nondisabled \((11, 29, 30)\).

The literature relating to nondisabled adolescents predicted that the males would score lower than the females on the specific social self-esteem subscale \((11, 31)\). The nondisabled adolescents in this study followed this pattern. In the CP sample, the females scored significantly lower than the males, which is opposite to the pattern for the nondisabled.

An explanation for the lower self-esteem of girls with CP in the social area can be found in the interactionist framework. Girls, compared with boys, place more emphasis on social interaction \((31-33)\) and are more aware of what others think of them \((34)\). They place an emphasis on values such as attractiveness, which enhance social interaction. Several authors \((33, 35)\) have suggested that for girls, but not for boys, attractiveness is very closely linked with the self-concept. It would appear that the self-concept of girls is more easily affected by a condition such as CP, which has an influence on their social interactions. CP has been associated with impaired social relationships \((36, 37)\). This negative societal perception of CP would be assimilated by a girl, lowering her self-esteem, especially in physical and social areas.

Few specific developmental implications can be drawn from these findings because it is unclear when sex differences in the self-esteem of children with CP begin and whether the differences persist into adulthood. A longitudinal study is needed. It appears from Teplin, Howard, and O'Connor's \((38)\) comparative study of 15 children with CP 4 to 8 years old that the difference does not become apparent until sometime after the age of 8 years. Their study, which used nondisabled children as a compar-

<table>
<thead>
<tr>
<th>Table 1 Cell Means and Standard Deviations for 2 × 2 MANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>P score</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
<tr>
<td>Physical</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
<tr>
<td>Personal</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
<tr>
<td>Family</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
<tr>
<td>Social</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
<tr>
<td>Self-crit.</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
<tr>
<td>Conflict</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
<tr>
<td>Cohesion</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
</tbody>
</table>

CP, cerebral palsy.
Attention with respect to their feelings about themselves need to be discussed and others. The standards they use can be initiated. We can assist girls during the course of regular treatment sessions even though these sessions are focused primarily on the physical problems of CP. Discussion of the effects of wheelchairs and aids on the girl’s self-perception of her attractiveness can be initiated. We can assist girls with CP in consciously redefining attractiveness both in themselves and others. The standards they use for self-evaluation and the persons with whom they compare themselves need to be discussed to determine their appropriateness.

Beginning at an early age, sessions for physical treatment should include the development of interpersonal skills that will allow the girls to feel more confident and at ease in social situations. Some of these skills might include learning to put others at ease with their disability, initiating interaction, and enhancing physical attractiveness. Such skills are easily incorporated into regular treatment. The therapist can arrange to see two children together or encourage interaction between children in adjacent areas or in the waiting rooms.

The therapist can also alert the parents to the potential areas of difficulties that these girls may face. Parents can learn how to teach interpersonal skills and provide social situations that allow the implementation of these skills. Additionally, parents can become aware of their own and society’s definitions of attractiveness and seek to emphasize realistic values early in the child’s life.

Occupational therapists may also encourage the formation of groups for adolescent girls with CP. Many of the girls with CP in this study indicated a desire to meet other adolescents with CP. All the adolescents in the CP sample were attending regular classes, and most of them did not know other teenagers with CP. Such a group could be run by a female adult with CP who has dealt with many of the struggles these girls are facing. Such leadership would provide the girls with an appropriate role model and allow them a choice of others with which to compare themselves. Such a group might follow the activity group counseling approach suggested by McKibbon and King (39) who argued that the group assisted the group members in developing friendships and an understanding of themselves, allowing them to accept themselves as worthy of love. One activity which might be included is aquatics. Peganoff (6) found that one girl with CP progressed to the point she could swim with peers comfortably. (However, it is not clear if it was aquatics or the large amounts of individual attention she received that led to the change.) Aquatics may be a useful group activity.

Whatever means are used, occupational therapists have the potential for positively influencing the self-esteem of girls with CP who appear to be the group most at risk for incorporating society’s negative perceptions into their self-concept. To ignore this aspect of a physically disabled adolescent is to fail to treat the whole person.

**Table 2**

Results of Simple Effects Contrast Matrix (5, 36 degrees of freedom) (Pillai’s Test)

<table>
<thead>
<tr>
<th>Contrast</th>
<th>F Ratio</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPG vs. NDG</td>
<td>5.603</td>
<td>.001</td>
</tr>
<tr>
<td>CPG vs. NDB</td>
<td>1.045</td>
<td>.347</td>
</tr>
<tr>
<td>NDB vs. NDG</td>
<td>3.332</td>
<td>.014</td>
</tr>
<tr>
<td>CPG vs. CPB</td>
<td>4.171</td>
<td>.004</td>
</tr>
</tbody>
</table>


Implications

Even without the results of the longitudinal study, it is apparent that girls with CP need particular attention with respect to their feelings about themselves in physical, social, and personal areas. Occupational therapists can assist these girls during the course of regular treatment sessions even though these sessions are focused primarily on the physical problems of CP. Discussion of the effects of wheelchairs and aids on the girl’s self-perception of her attractiveness can be initiated. We can assist girls with CP in consciously redefining attractiveness both in themselves and others. The standards they use for self-evaluation and the persons with whom they compare themselves need to be discussed to determine their appropriateness.

Beginning at an early age, sessions for physical treatment should include the development of interpersonal skills that will allow the girls to feel more confident and at ease in social situations. Some of these skills might include learning to put others at ease with their disability, initiating interaction, and enhancing physical attractiveness. Such skills are easily incorporated into regular treatment. The therapist can arrange to see two children together or encourage interaction between children in adjacent areas or in the waiting rooms.

The therapist can also alert the parents to the potential areas of difficulties that these girls may face. Parents can learn how to teach interpersonal skills and provide social situations that allow the implementation of these skills. Additionally, parents can become aware of their own and society’s definitions of attractiveness and seek to emphasize realistic values early in the child’s life.

Occupational therapists may also encourage the formation of groups for adolescent girls with CP. Many of the girls with CP in this study indicated a desire to meet other adolescents with CP. All the adolescents in the CP sample were attending regular classes, and most of them did not know other teenagers with CP. Such a group could be run by a female adult with CP who has dealt with many of the struggles these girls are facing. Such leadership would provide the girls with an appropriate role model and allow them a choice of others with which to compare themselves. Such a group might follow the activity group counseling approach suggested by McKibbon and King (39) who argued that the group assisted the group members in developing friendships and an understanding of themselves, allowing them to accept themselves as worthy of love. One activity which might be included is aquatics. Peganoff (6) found that one girl with CP progressed to the point she could swim with peers comfortably. (However, it is not clear if it was aquatics or the large amounts of individual attention she received that led to the change.) Aquatics may be a useful group activity.

Whatever means are used, occupational therapists have the potential for positively influencing the self-esteem of girls with CP who appear to be the group most at risk for incorporating society’s negative perceptions into their self-concept. To ignore this aspect of a physically disabled adolescent is to fail to treat the whole person.

**REFERENCES**


