Mahon, Michael J.

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Manitoba Univ., Winnipeg.

86

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Reference Materials - Directories/Catalogs (132)

- Adapted Physical Education; Athletics; Autism; Camping; Classroom Techniques; Leisure Education; Mainstreaming; Mental Retardation; Motor Development; Multiple Disabilities; Physical Fitness; Play; Psychomotor Skills; Publications; Recreational Activities; Self Concept; Self Esteem; Skill Development; Special Olympics; Student Evaluation

The bibliography contains 150 annotated citations of research articles on individuals with mental retardation who were studied in relation to their physical activity settings. Citations provide information on the title, author, journal or related document in which the article appears, and the content or focus of the article. Citations are indexed in the following categories, all related specifically to mental retardation: autism, adapted physical education, camping, Down's Syndrome, integration or mainstreaming, leisure education, motor development and skill acquisition, motor evaluation, motor performance, multiple disabilities, physical activity, physical education, physical fitness, play, psychological factors, recreation, self-concept and self-esteem, Special Olympics, sport, and teaching techniques. Appended materials include an order form for articles, an abstract submission form, and an order form for copies of the publication itself. (MSE)
ABSTRACTS IN ADAPTED PHYSICAL ACTIVITY

VOLUME 1
AAPA

ABSTRACTS IN ADAPTED PHYSICAL ACTIVITY

VOLUME 1

RESEARCH ON MENTALLY HANDICAPPED INDIVIDUALS IN RELATION TO PHYSICAL ACTIVITY SETTINGS

BY

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A PROJECT FUNDED BY MANITOBA SPECIAL OLYMPICS
ACKNOWLEDGEMENTS

Manitoba Special Olympics recognizes with appreciation the financial support received from the Manitoba Sport Directorate for this project.

Thanks are expressed to the Manitoba Special Olympics Board of Directors and staff for their support and assistance.

Producing a document of this nature would be an insurmountable task if not for the assistance of other colleagues. I would like to extend my sincere thanks to some of these people. They are:

Dan Johnson, without whom this document would not exist, who provided invaluable guidance throughout this project.

Marcy Pollock, who gave so much of her free time sitting at a computer doing countless searches. This project would not have survived without her.

Dave Barber, an expert with the MAC, who provided technical assistance.

Jan Ivey, for her data inputting.

The working committee, for their direction and encouragement.

And finally, to Maureen Mahon, my wife, who inputted the largest portion of the data, many a day with our daughter Kate sitting on her knee.

Michael Mahon
Faculty of Physical Education
and Recreation Studies
The University of Manitoba

ATTENTION

ARTICLE 35 IS UNAVAILABLE

PLEASE ACCEPT OUR APOLOGIES!
INTRODUCTION

The idea of developing this annotated bibliography came to fruition during a conversation between Dan Johnson, Executive Director of Manitoba Special Olympics and Michael Mahon, regarding the lack of information that is available to practitioners on current research findings in the areas that this document highlights. It was decided at that time that the problem lay not in the amount of information in existence, but the accessibility of this research. There is an abundance of research which has studied people who are mentally handicapped in physical activity, sport, and recreation settings. This information can be utilized effectively by teachers, sport/recreation professionals, volunteer leaders and parents in setting up, modifying and evaluating their programs. One step towards resolving this problem is the document that follows, which is the result of a funding commitment on the part of Manitoba Special Olympics.

This project was initiated with the meeting of an interested group of professionals to come up with a focus for the document. The working group consisted of:

Maureen Dowds, Manitoba Special Olympics
Dave Fitzpatrick, Winnipeg School Division #1
Andrea Hamilton, Parent to Parent
Dan Johnson, Manitoba Special Olympics
Leona Johnson, Manitoba Special Olympics
Michael Mahon, Manitoba Special Olympics
Marcy Pollock, University of Manitoba

The focus that these individuals decided upon was to develop a computer based system in which research could be entered in abstract form which would be both retrievable by author/title/topic upon request, as well as amenable to being produced in book form once per year. It was decided that this research should relate to people who are mentally handicapped and the following areas:

Physical Activity/Education
Motor Development/Skill Acquisition
Play
Physical Fitness
Integration/Mainstreaming
Special Olympics
Downs Syndrome
Self Concept/Self Esteem
Motor Performance
Psychological Factors

Sport
Motor Evaluation
Autism
Physical Education
Leisure Education
Multiple Handicaps
Teaching Techniques
Recreation
Camping

The purpose behind developing this system was not to compile all of the research relating to these topic areas. Rather, the purpose was to sift through the thousands of available articles, and come up with the most relevant and up to date research which would be useful to the practitioners already referred to. It is hoped that this document will be a helpful tool for individuals working with people who are mentally handicapped in a physical activity setting.
It is our intention to continue to update this literature database on an annual basis, and to hopefully expand the content areas in the years to come. Each year an updated document will be produced. We are most concerned with meeting the needs of practitioners who at times are starved for usable information.

Any suggestions practitioners may have, especially relating to making the abstracts more usable are welcomed. They can be directed to:

Michael Mahon
Faculty of Physical Education and Recreation Studies
Frank Kennedy Building
University of Manitoba
Winnipeg, Manitoba, R3T 2N2
Ph. (204) 474-8514
HOW TO USE THE ABSTRACTS

This literature file is stored on a Macintosh SE computer. The software which was utilized to create the data base was REFLEX FOR THE MAC. The abstracts which have been compiled are useful for two major purposes. The first is for individuals who are looking for quick references for such things as presentations. In this instance simply having a copy of this document may suffice in terms of referencing. The second use of this literature file, and probably its greatest use relates to those individuals who would like to obtain copies of the articles described within this document. Practitioners who would like to remain up to date with current literature are faced with two major stumbling blocks: 1. Sifting through the vast amount of literature available (this document solves this first problem). 2. Actually getting their hands on the article, which usually requires a trip to the closest University. This second problem can be solved by this literature file as well.

Individuals interested in a getting particular article(s) can do so by simply following the directions on the order form in appendix A. For a nominal fee Manitoba Special Olympics will send a copy(s) of a particular article(s) via mail to any interested individuals. Each abstract has been given a specific number so as to make ordering the article very easy.

The abstracts within this document are all organized in the same format. The abbreviations utilized are explained below:

- **TI** Title of the article.
- **AU** The author or authors who have written the article.
- **JN** The journal or related document that the article appears in.
- **AB** An abstract which gives a brief description of the relevant information presented in the article.

Practitioners and academics can assist in ensuring this literature file remains up to date and practical by sending in articles/books/reports they have come across and find particularly interesting. This can be done by either sending in the document itself or by sending in an abstract form which can be found in Appendix B. It is hoped that this process will ensure that this document continues to serve those it is intended to, people working in the field.
ABSTRACTS
INDEX OF AAPA ABSTRACTS

The numbers which are referred to in this index refer to the Abstract # and not the page number. Each topic listed below is related specifically to mentally handicapped individuals.

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</table>
1. A close look at the contact between our regular clients and staff in small and large play sessions.

**TI** Hong, Chia S.

**AU** British Journal of Occupational Therapy; 1984 Apr 47(4) 121-122

**AB** Investigated whether 3 severely multiply handicapped resident children, who received their education, physiotherapy, and occupational therapy within their residential unit, would receive the same amount of contact from the staff when they joined a small group or large unstructured play sessions during term times and when they were joined by their fellow residents (who normally attended the community school) during the holidays.

2. A conceptual basis for mainstreaming recreation and leisure services: Focus on humanism.

**TI** A conceptual basis for mainstreaming recreation and leisure services: Focus on humanism.

**AU** Howe-Murphy, Roxanne


**AB** A conceptualization of a five phase humanistic mainstreaming continuum is presented. Each phase is presented in depth. A discussion of the new professionals roles ensues.

3. A leisure time activities curriculum for the developmentally disabled.

**TI** A leisure time activities curriculum for the developmentally disabled.

**AU** Wehman, Paul H.

**JN** Education and Training of the Mentally Retarded; 1976 Dec 11(4) 309-313

**AB** Proposes a curriculum intended to provide retarded persons of all ages and functioning levels with a broad range of leisure time options and to offer educators some sequences in which training may be given. The 5 tiers of play and leisure time activities included in this curriculum are (a) action and play on materials, (b) passive leisure, (c) game activity, (d) hobby activity, and (e) active socialization. It is recommended that an effort be made to provide profoundly mentally retarded adults with play materials that are in line with their chronological age.
4

**TI**  A summer program for autistic children.

**AU**  VanWert, Margie; Reitz, Andrew L.

**JN**  Education and Treatment of Children; 1978 Win 1(2) 47-55

**AB**  Describes a 3-summer program that enrolled 15-30 3-18 yr old autistic children each year. The need for year-round programming for severely handicapped children and the importance of interagency cooperation in the provision of these services are discussed. The prescriptive diagnostic and evaluation procedures and sample data from an individual participant are also presented.

5

**TI**  Accessing generic competitive sport and recreation delivery systems.

**AU**  McClements, J.


**AB**  This paper addresses four key aspects in the process of accessing general services for persons with disabilities. Why should we access generic sport and recreation programs? Where in the generic delivery system should such services be accessed? What types of programs can be accessed? How can such generic sport and recreation programs be accessed?

6

**TI**  Acquisition of leisure skills by a severely handicapped adolescent: A data based instructional program.

**AU**  Schleien, Stuart J.; Certo, Nick J.; Muccino, Annemarie

**JN**  Education and Training of the Mentally Retarded; 1984 Dec 19(4) 297-305

**AB**  Describes the acquisition of leisure and leisure-related skills by a 16-yr-old nonverbal severely handicapped male student in a community recreation facility. Instructional sequences, material and procedural modifications, and a systematic behavioral error correction procedure were implemented to teach bowling, purchasing a drink, and use of a vending machine.

Broadhead, G.D.

Adapted Physical Activity Quarterly; 1986 Apr 3(2) 104-111

It may be that important happenings during the 1960s and 1970s have helped to bring about the increased amount of published research in adapted physical education (APE). Three major research thrusts were identified which advanced the APE knowledge base: the evaluation of performance, physical education in the least restrictive environment, and effective programming. Specific suggestions were made for improving the quality of future research, and for the dissemination of research results.

Adapted physical education: Its role, meaning, and future.

Sherrill, Claudine

Exceptional Education Quarterly; 1982 May 3(1) 1-9

The role of adapted physical education (APE) includes developing the abilities of each handicapped child, and developing the environment for its best utilization by those with psychomotor and other physical deficiencies. The history of APE is described, from its origins in "corrective physical education" and its development since the 1950's through research and legislation. Professional associations, sports organizations, and innovative thinkers are contributing to the field. For the future, more careful and consistent methods of data collection and reporting are needed.

Adolescent characteristics associated with acceptance of handicapped peers.

Cowardin, N.C.

Adolescence, 1986,21,931-940.

Examined the relationship between characteristics of nonhandicapped adolescents and their attitudes towards the handicapped.
Adult leisure education for the independent use of a community recreation center.

Schleien, Stuart J.; Larson, Angela
Journal of the Association for Persons with Severe Handicaps; 1986 Spr 1(1) 39-44
Evaluated a leisure education training program designed to teach the complete and functional use of a community recreation center to 2 male adults with Down’s syndrome (ages 27 and 29 yrs, IQs 23 and 33).

Affective expression: Implications for the educator, clinician and therapist.

Gallagher, R.T.
Physical and Occupational Therapy in Pediatrics; 1986 Spr 6(1) 65-74
Discusses the research on the emergence of positive affective expressions of infants and young children. Research has demonstrated a relationship between affective expression and cognitive development. The emergence of affective responsivity of infants with Down’s syndrome follows the same developmental pathway as that of their normally developing peers. It is concluded that the degree to which cognitive ability and motor disability merge determines the ability of a handicapped child to respond affectively.

An evaluation of the effects of a social interaction training package on mentally handicapped preschool children.

Day, Robert M.; Powell, T. Hennessy; Eng-Bee-Dy-Lin; Stowitschek, Joseph J.
Educator and Training of the Mentally Retarded; 1982 Apr 17(2) 125-130
Presents a training package designed to (a) provide teachers with operationally defined reciprocal play responses that facilitate social interactions, and (b) help teachers use effective prompting and praising strategies to get a peer helper to initiate play responses with a withdrawn peer. The training package was evaluated with 6 preservice teachers and 6 mildly to moderately retarded Ss (CA 61-88 mo).
An evaluative review of Special Olympics: Implications for community integration.

Orelowe, Fred P.; Wehman, Paul; Wood, Judy

Education and Training of the Mentally Retarded; 1982 Dec 17(4) 325-329

Discusses the history and impact, positive aspects, and limitations of the Special Olympics program.

Aquatics for the handicapped - a review of literature.

Christine, Irene

Physical Educator; 1985 42(1) 24-33

Review of literature on aquatic activity for the disabled, discussing the physical, physiological, psychological, and sociological benefits of swimming and water safety activities. Unique properties of water and legal requirements regarding physical education of the handicapped, specifically citing the development of skills in aquatics, are explained.

Assessing mentally handicapped adults.

Felce, David; deKock, Ursula; Mansell, Jim; Jenkins, Judith

British Journal of Mental Subnormality; 1984 Dec 30(2, No 59) 65-74

Contends that with the development of educational play for small children and the growth of developmental psychology and concepts such as mental age, services for mentally handicapped people have indiscriminately adopted not only the developmental approach to learning but the curriculum and resources of the nursery and primary school as well. The present authors propose a critical reevaluation of this strategy, particularly in situations in which mentally handicapped adults are concerned. It is suggested that the child's curriculum is inappropriate and that it should be possible to use the activities of nonhandicapped people as the basis for learning and for occupation.
TI  Body image and physical activity. Special Issue: Recreation for the disabled child.

AU  Silva, John M.; Klatsky, Jennifer
JN  Physical and Occupational Therapy in Pediatrics; Fal 4(3) 85-92
AB  Discusses the development of body image and two factors that influence its malleability. It is suggested that intervention by health professionals might be successfully accomplished by providing a program of physical activity that counteracts the development of the body image distortion. Programs of movement and physical activity can be structured to promote change in self-concept and body image perceptions.

17

TI  Camp HELP: Serving the multihandicapped through play.

AU  Roswal, Glenn M.
JN  Journal of Physical Education, Recreation and Dance; 1983 54(6) 42-44
AB  Camp HELP (Handicapped Experiential Learning Program) at Jacksonville State University (Alabama) offers educational, psychological, and behavioral therapeutic play services, through University students of physical and special education, to multihandicapped children from the community. Activities, facilities, and staffing for the summer day camp are discussed.

18

TI  Cardiovascular responses of three profoundly retarded, multiply handicapped children during selected motor activities.

AU  Mulholland, Richard; McNeill, Alexander W.
JN  Adapted Physical Activity Quarterly; 1985 Apr 2(2) 151-160
AB  Evaluated the effects of physical activities on the cardiovascular performance of 3 institutionalized, profoundly retarded, multiply handicapped male children (aged 5 yrs 8 mo, 7 yrs, and 22 yrs) to determine a relation between mean heart rates and performance times. Data indicate that gross motor activities may have a significant effect on the cardiorespiratory functioning of profoundly retarded, multiply handicapped children, provided the activities are performed for an extended period of time and on a regular basis.
19

**TI** Change in self-concepts of children with learning difficulties during a residential camp experience.

**AU** Zemke, Ruth; Knuth, Sue: Chase, Janet

**JN** Occupational Therapy in Mental Health; 1984 Win 4(4) 1-12

**AB** Investigated the self-concepts of 16, 6 16 yr old learning disabled and educably mentally retarded white children before and after an experience in a residential camp offering therapeutic recreational activities designed to improve their sensorimotor performances.

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**TI** Changes in self-concept and cardiovascular endurance of mentally retarded youths in a Special Olympics swim training program.

**AU** Wright, J.; Cowden, J.E.

**JN** Adapted Physical Activity Quarterly; 1986 Apr 3(2) 177-183

**AB** The purpose of this study was to investigate changes in self-concept and cardiovascular endurance of mentally retarded youths after participation in a Special Olympics swim training program. One group participated in a 10-week Special Olympics swim training program, while the control group adhered to their normal daily living activities. It was concluded from the findings of this study that participation of mentally retarded youth in a Special Olympics swim training program contributed to a significant increase in self-concept and cardiovascular endurance.

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21

**TI** Changing beliefs about play and handicapped children. Special Issue: Children's Play.

**AU** McConkey, Roy

**JN** Early Child Development and Care; 1985, 19(1-2), 79-94

**AB** Discusses two common beliefs about the play of handicapped children that conflict with the available evidence: that handicapped children do not play and that play is a good way for handicapped children to pass the time. A more productive and tenable belief is that play can aid the learning of handicapped children. Methods of encouraging play among handicapped children are outlined, including soft play environments and special toys. Programmatic approaches to play for the handicapped are criticized as being adult-initiated and maintained; such approaches show little evidence of generalization to novel contexts, the best test of real learning.
TI Childhood motor performance traits on the short form Bruininks-Oseretsky test.
AU Broadhead, Geoffrey D.; Bruininks, Robert H.
JN Physical Educator; 1982 Oct 39(3) 149-155
AB This paper describes the short form of the Bruininks-Oseretsky Test of Motor Proficiency, 14 items that measure motor skill development. The results of a standardization study of nonhandicapped students (5-14 yrs old) are presented. Uses of the test for evaluating students in need of special education are discussed.

TI Cognitive-motor interactions: The relationship of infant gross motor attainment to IQ at 3 years.
AU Capute, Arnold J.; et al
JN Clinical Pediatrics; 1985 Dec 24(12) 671-675
AB Assessed the relationship of gross motor development to later cognitive status by comparing the ages of attainment of 4 early milestones to later performance on the Stanford-Binet Intelligence Scale - Form L-M at age 3 yrs. The ages of rolling supine to prone, sitting alone, crawling, and walking were collected in a prospective fashion via parental report for 213 Caucasian children. Milestones were collected by parental report at the time of well-baby visits at 2 wks and 2, 4, 6, 9, 12, 15, 18, and 24 mo. Children with earlier ages of milestone attainment did not have higher IQs on average. It is concluded that the association of gross motor development and cognition is not strong enough to allow the use of one to predict the other.

TI Community recreation for persons with disabilities.
AU Pomeroy, Janet
JN Annual Review of Rehabilitation; 1983 vol 3 268-291
AB Discusses the importance of community-based recreation and leisure-time activities, which are now being acknowledged as a vital service contributing to the normalization, integration, and rehabilitation of persons with disabilities.
Community sports programs for disabled residents.

Hedrick, Brad

Parks and Recreation; 1984 19(3) 38-42

Information is given to help program planners develop strategies for community sports programs for disabled individuals. Suggestions on funding, participant identification, training procedures, transportation, and mainstreaming are discussed.

Comparative gene mapping of human chromosome 21 and mouse chromosome 16.

Cox, David R.; Epstein, Charles J.


Describes regional mapping of genes on human chromosome 21 (where an imbalance of specific loci is responsible for Down's syndrome) and mapping chromosome 21 genes in the mouse. The assignment of soluble superoxide dismutase, phosphoribosylglycinamide synthetase, and PFKL (a subunit of the enzyme phosphofructokinase) to band 21q22, as opposed to some other region of human chromosome 21, increases the likelihood that these genes may play a role in the pathogenesis of Down's syndrome.

Competitive sports for the multi-handicapped: A model for development.

Crawford, Michael

Physical Educator; 1983 40(2) 105-110

Guidelines for competitive physical education and recreational therapy programs for multihandicapped children are discussed. Program developers should consider psychological factors, such as conceptualization of competition, anxiety management, and students' motivation and sense of locus of control. Teachers and parents should be trained to act consistently as socializing agents.
Constructive play in developmentally delayed preschool children

Forman, George; Hill, Fleet

Topics in Learning and Learning Disabilities; 1981 Apr 1(1) 31-41


Criteria for placement in physical education experiences.

Pyfer, Jean

Exceptional Education Quarterly; 1982 May 3(1) 10-16

Points out misconceptions concerning those eligible for special education that have contributed to failure to carry out the provisions of Public Law 94-142. The 3 criteria for determining children qualified for special physical education are described: (a) an identifiable handicapping condition, (b) age, and (c) physical education needs. Three methods of screening are available: (a) informal observation of the child to identify specified problems, (b) formal testing, or (c) evaluation of the child's performance against criterion-referenced performance standards.

Current practices in evaluating motor behavior of disabled children.

Lewko, John H.

American Journal of Occupational Therapy; 1976 Aug 30(7) 413-419

Data from 207 of 400 questionnaires (67.3% response rate) sent to facilities in the US and Canada were used to analyze the delivery of motor evaluation services to disabled children. The respondents, primarily occupational therapists, physical therapists, special educators, and physical educators, indicated they used a total of 91 published and 165 unpublished tests. The 4 most consistently used tests were the Denver Developmental Screening Test, Gesell Developmental Schedules, Lincoln-Oseretsky Motor Development Scale, and the Purdue Perceptual-Motor Survey.
31

**TI** Development of play behavior in handicapped and normal infants.

**AU** Brooks-Gunn, Jeanne; Lewis, Michael

**JN** Topics in Early Childhood Special Education; 1982 Oct 2(3) 14-27

**AB** Investigated (1) how infant play behavior changes as a function of age and handicapping condition, (2) how maternal play behavior is affected by these 2 variables, (3) what the mother's role is in the initiation and maintenance of infant play behavior, and (4) how mothers and infants interact around toys in a free-play setting.

32

**TI** Development of self-concept and self-efficacy: Considerations for mainstreaming.

**AU** Craft, Diane, H. and Hogan, Patricia I.

**JN** Adapted Physical Activity Quarterly; 1985 Oct 2(4) 320-327

**AB** Provides physical educators with a conceptual basis for understanding the constructs of self-concept and self-efficacy and discusses the implications for developing or enhancing these constructs in mainstreamed handicapped children.

33

**TI** Differential influence of various instructional factors on self-concepts of handicapped and non-handicapped children in mainstreamed physical education classes.

**AU** Karper, William B.; Martinek, Thomas J.

**JN** Perceptual and Motor Skills; 1982 Jun 54:3, Pt 1) 831-835

**AB** Assessed the differential influence of students' expressions of effort, school, teachers' expectations, sex, being handicapped/nonhandicapped, grade, teachers, and race on the self-concept of 28 handicapped and 108 nonhandicapped children (from kindergarten through 3rd grade) in mainstreamed physical education classes.
Educational implications of current research on the syndrome of autism.

Valcante, Greg  
Behavioral Disorders; 1986 Feb 11(2) 131-139  
Reviews empirical studies in the areas of behavior characteristics of and treatment interventions for autistic individuals. Studies likely to have the greatest impact on the education of autistic students are suggested to be those concerned with stimulus overselection, echolalia, and imitation. Findings in these areas indicate that teachers of autistic and other severely handicapped students should be aware that the manifestation of this characteristic may vary with age.

Educational resource guide for adapted physical education.

Ciccaglione, Sue; Magliaro, Susan  
Not Applicable.  
The guide is intended to provide information to adapted physical education instructors. An initial section introduces characteristics of the following handicapping conditions: autism, diabetes, emotional disturbance, learning disabilities, mental retardation, musculoskeletal disorders, neuromuscular disorders, seizure and convulsive disorders, and sensory impairments. Chapter 2 focuses on programming aspects and a final chapter describes adaptive equipment that can be made or purchased.

Effect of participation in sport/physical education on the development of the exceptional child.

Loovis, E. Michael  
American Corrective Therapy Journal; 1978 Nov-Dec 32(6) 167-179  
Reviews the literature on the effects of sports participation in the areas of mental retardation, learning disabilities, emotional disturbance, hearing impairment, special health problems, neurological impairment, and visual handicaps. It is concluded (a) that motor proficiency can be unequivocally improved; (b) improvement in social and emotional adjustment is mixed; (c) sport/physical education is not sufficient in and of itself to improve academic achievement and intelligence, but that when combined with remedial programs some benefit is evident; and (d) there is some evidence that self-concept and body image can be improved. Implications for educators and health professionals are noted.
Effectiveness of perceptual-motor programs: An update.

Mosher, Richard  
Journal of Leisurability; 1974 Oct 1(4) 10-17  
Reviews experimental evidence on the effectiveness of perceptual motor programs, particularly those for learning disabled children. The assumption on which most programs are based - that improvement in motor skills will generalize to cognitive tasks - is not supported by the majority of the studies in this area.

Effects of a physical training program on physical efficiency, work capacity, and classroom-attention of handicapped children.

Dresen, M.H.W.; Netelenbos, J.B.  
International Journal of Rehabilitation Research; 1983 6(3) 289-299  
After a 10-week physical training program for 11 motorically handicapped Dutch children, aged 8 to 14, the experimental group (N=6) demonstrated a significant increase in physical efficiency and classroom attention scores. Follow-up showed that both groups' physical efficiency scores deteriorated and that experimentals' attention scores deteriorated.

Effects of competitive/noncompetitive learning on motor performance of children in mainstream physical education.

Karper, William B.; Martinek, Thomas J.; Wilkerson, Jerry D.  
American Corrective Therapy Journal; 1985 Jan-Feb 39(1) 10-15  
Handicapped and nonhandicapped children from kindergarten through grade 3 who attended a university physical education program participated in both controlled noncompetitive and controlled competitive environments at various times during a 24 week period. The handicapped subjects suffered from learning disabilities, hyperactiveness, seizure disorders, or cardiac problems.

Lydic, Joan S.; Windsor, Mary M.; Short, Margaret A.; Ellis, Terry A.

Physical and Occupational Therapy in Pediatrics; 1985 Sum-Fal 5(2-3) 93-118

Investigated the effects of vestibular stimulation on the motor abilities of developmentally delayed infants. 18 4-10 mo olds with Down's syndrome were divided into control and treatment groups. Over a 12-wk period, Down's syndrome Ss were capable of making significant changes in motor abilities, to which both instruments used were sensitive. Treatment and control groups made equivalent changes.

Effects of different environmental conditions on leisure time activity of the severely and profoundly handicapped.

Wehman, Paul

Journal of Special Education; 1978 Sum 12(2) 183-193

Studied the efficacy of 3 different environmental conditions - Toy Proximity, Modeling, and Instructions plus Modeling - on the independent leisure activity of 3 severely and profoundly handicapped individuals (CAs 16, 18, 34 yrs; IQs 18, 15, 31). The effects of the 3 different conditions were evaluated in a combination simultaneous treatment design and ABA reversal design with each of the experimental conditions presented in a Latin square sequence.

Effects of etiology and cognitive ability on observational learning of retarded children.

Sarimski, Klaus

International Journal of Rehabilitation Research; 1982 5(1) 75-78

Hypothesized that (1) retarded children could solve a problem by observing a competent model, (2) Down's syndrome (DS) children would perform better in an observational learning task (OLT) than retarded children with other diagnoses, and (3) there would be a correlation between areas of cognitive development and the results of OLT.
43
TI Effects of reinforcers on attending behavior of severely handicapped boys in physical education.
AU Bishop, Paul; French, Ron
JN Journal for Special Educators; 1982 18(4) 48-58
AB Results of a study of the differential impact of three types of reinforcers (edibles, social praise, and sensory events) on the attending behavior of three severely handicapped boys (9-12 yrs old) supported the contention that performance is a function of the value attributed to a reinforcer.

44
TI Effects of the "Mentally Retarded Label" on adult judgements about child failure
AU Weisz, John R.
JN Journal of Abnormal Psychology
AB Study looked at how teachers knowledge of a child being labeled mentally retarded effected their interpretation of the childs failure at a task. Findings illustrated that teachers stated that the children who were mentally retarded failed due to a lack of skill.

45
AU Martinek, Thomas J.; Karper, William B.
JN Perceptual and Motor Skills; 1982 55(3) 1002
AB Self-concept and motor performance differences were examined between 28 handicapped children with various disabilities and 108 nonhandicapped children from kindergarten to third gradr. Preliminary results indicate nonhandicapped children performed better on dynamic balance and gross lateral movement for all grades. Also, handicapped children evidenced lower self-concepts.
Exercise programs for mainstreamed handicapped students.

Physical education teachers can establish successful therapeutic exercise programs for mainstreamed handicapped students by involving peer helpers in a carefully designed program.

From infant affect expression to symbolic play: The coherence of development in Down syndrome children.

Studied the coherence of development among 31 3-5 yr old Down's syndrome children by assessing Ss' level and quality of play. With correlations for MA, Ss' play was similar to that of nonhandicapped children. Findings point to the coherence of development of Down's syndrome children. It is concluded that early affective assessments are strong predictors of the later functioning of Down's syndrome.

A rowing program for disabled persons features a safe, untippable boat and has gained support from civic clubs and rehabilitation agencies.
49

TI Gross motor development in infants blind from birth.

AU Adelson, Edna; Fralberg, Selma

JN Child Development; 1974 Mar 45(1) 114-126

AB Conducted a longitudinal study of patterns of gross motor development in a group of 10 infants, blind from birth and otherwise intact, from the time they were between 1 and 11 mo old to past 2 yrs of age. Results show (a) neuromuscular maturation and postural achievements which appeared within the Bayley age ranges for sighted infants, and (b) self-initiated mobility and locomotion which were delayed.

50

TI History of adapted physical education: Priorities in professional preparation.

AU Winnick, J.P.

JN Adapted Physical Activity Quarterly; 1986 Apr 3(2) 112-1-

AB This presentation traces and reviews past and contemporary concerns, issues, or priorities relating to professional preparation with special emphasis on the identification of people who have had a significant impact upon professional preparation, and the graduates of our programs, who will provide leadership in the future.

51

TI Improving mobility in the severely mentally retarded, physically handicapped child.

AU Shasby, Gregory; Moon, Sherrill

JN American Corrective Therapy Journal; 1984 Jul-Aug 38(4) 81-88

AB Describes the development and use of 2 unique pieces of equipment designed for 2 severely retarded, visually impaired children (ages 10 and 12 yrs) with cerebral palsy who had been previously unable to ambulate independently. The adapted equipment utilized the limited movement potential of each S and resulted in a limited form of independent locomotion. The devices can serve as a model for use with other children with similar disabilities.
Increasing simple toy play in profoundly mentally handicapped children: Training to play.

Murphy, Glynis; Callais, M.; Carr, J.


10 profoundly handicapped children (mean chronological age 14 yrs, mean mental age less than 1 yr) who showed low levels of constructive toy play were trained to play by operant methods and compared to a matched group of 10 children trained to play by a control procedure. Results show that the operant training led to some increases in total toy contact but did not appear to be significantly more effective than the control procedure in promoting independent constructive play. Possible explanations for the lack of success of the behavioral training include an insufficient amount of training, cognitively inappropriate tasks, and the problem of selecting effective reinforcers for use in operant training.

Integrating normal and handicapped preschoolers: Effects on child development and social interaction.

Jenkins, Joseph R.; Speitz, Matthew L.; Odom, Samuel L.

Exceptional Children; 1985 Sep 52(1) 7-17

36 mildly handicapped preschool children (aged 3-6 yrs) were randomly assigned to either an experimental special education preschool program in which they were integrated with 7 age-matched, nonhandicapped children or to a nonintegrated control program. Findings indicate that Ss in both types of programs made significant gains across the year. Ss in the integrated special education classes scored significantly higher only on a social play measure taken in an analog setting.

Integration of handicapped students: Philosophical roots in pragmatism, idealism, and realism.

Sherrill, Claudine

Adapted Physical Activity Quarterly; 1985 Oct 2(4) 264-272

Presents an alternative rationale, other than compliance with Public Law 94-142, for implementing the integration of handicapped and nonhandicapped students in physical education. Support for integration, although for different reasons, can be found in each philosophy.
55

TI Learning through outdoor adventure education.

AU Frant, Roger D.; et al

JN Teaching Exceptional Children; Feb 1982 14(4) 146-151

AB Camp Riverwood (Massachusetts), sponsored by the National Football League Players Association, provides moderately and severely disabled persons with opportunities for adventure activities and new games stressing personal initiative and group cooperation. Participants discuss the activities and their feelings. Benefits have included affective development, increased verbalization, and success at risk-taking.

56

TI Learning, using and generalizing manipulative skills in a preschool classroom by nonhandicapped and Down's syndrome children.

AU Hogg, J.

JN Educational Psychology; 1981 1(4) 319-340

AB Taught 5 preschool children fine motor tasks, using behavioral techniques.

57

TI Leisure skill programming for severely and profoundly handicapped persons: State of the art.

AU Wehman, Paul

JN British Journal of Social and Clinical Psychology; 1978 Nov 17(4) 343-353

AB Reviews the current research on leisure skill programming for severely and profoundly handicapped persons. Gaps in knowledge are summarized and new programming directions in recreation skill development are noted. Leisure skill competencies that teacher trainees must develop are outlined.
Mainstreaming - In Recreation too!?

Bullock, M.S.

Article discusses the recent trend towards Mainstreaming in the field of Recreation. In reference to programs for people who are mentally handicapped, the author questions whether mainstreaming is a humanistic ideology centred on providing quality programs for individuals who are handicapped, or whether it is merely a move in reaction to recent legislation and impending litigation.

Mainstreaming theory and practice.

Dunn, John M. and Craft, Diane H.
Adapted Physical Activity Quarterly; 1985 Oct 2(4) 273-276

Introduces and summarizes a collection of papers written on how and when to mainstream handicapped students so that they may benefit from regular physical education classes with the assistance of support personnel.

Management of exercise in the elderly.

Shephard, R. J.
Canadian Journal of Applied Sport Sciences; 1984 Sep 9(3) 109-120

Reviews the principles of exercise management in the elderly from the standpoint of the practicing physician. The fitness needs of the elderly are defined, and practical methods of assessment are suggested for both the healthy and the partially disabled senior citizen. Fitness standards for the elderly are discussed, and arguments are advanced for improving their personal fitness. It is suggested that greater physical activity should prolong independence, improve lifestyle, upgrade mood state, and help in the prevention of many medical disorders.
61

TI Manual asymmetries in the performance of sequential movement by adolescents and adults with Down syndrome.

AU Elliott, Digby

JN American Journal of Mental Deficiency; 1985 Jul 90(1) 90-97

AB Examined movement-sequencing deficits and possible manual-performance asymmetries in 12 adults with Down’s syndrome (mean age 33.3 yrs), 12 undifferentiated retarded adults (mean age 34.5 yrs), and 12 nonretarded adults (mean age 31.4 yrs) in Exp I, and in 26 adolescents and young adults with Down’s syndrome and 26 nonretarded adolescents and young adults in Exp II. Although Ss with Down’s syndrome showed no hand differences in tapping performance, they evidenced the same transfer of training asymmetries as did Ss without Down’s syndrome, suggesting that both the Ss with Down’s syndrome and the control Ss had a left-hemisphere dominance for movement sequencing.

62

TI Maximal oxygen intake of mentally retarded boys.

AU Kusano, Katsuhiko

JN Journal of Human Ergology; 1973 Sep 2(1) 13-19

AB Found poor maximal oxygen intake, lowered heart rate at maximal work, and lowered work capacity in 44 mentally retarded boys (IQ range 30-70). Findings are attributed to insufficient physical training for children of low intelligence and to psychological limitations preventing stress under conditions of maximal and submaximal exertion.

63

TI Mental ability, symbolic play and receptive and expressive language of young children with Down’s syndrome.

AU Cunningham, C.C.; Glenn, Sheila M.; Wilkinson, P.; Sloper, P.

JN Journal of Child Psychology and Psychiatry and Allied Disciplines; 1985 Mar 26(2) 255-265

AB Investigated the relationship between measures of mental ability, symbolic play and expressive and receptive language in 73 children with Down’s syndrome (CAs 19-90 mo, MAs 13-73 mo).
Mentally handicapped adolescents: Their use of leisure.

Cheseldine, Sally E.; Jeffree, Dorothy M.
Journal of Mental Defficiency Research; 1981 Mar 25(1) 49-59
AB Surveyed 214 families with regard to the national provision for leisure activities for severely handicapped adolescents. Although national provision appeared to be reasonably comprehensive, this was not reflected in the restricted use of leisure locally.

What research and experience tell us about physical activity, perceptual motor, and physical education.

Stein, Julian U.
American Corrective Therapy Journal; Mar-Apr 28(2) 35-41
AB Examines paradoxes and contradictions in research and applications in childhood education. The need is stressed for truly individualized programs that provide successes for both normal and learning disabled children and emphasize achievement and ability rather than disability and deficiencies.

Mothers play with toys: A longitudinal study with Down's syndrome infants.

McConkey, Roy; Martin, Heather
Child Care, Health and Development; 1983 Jul-Aug 9(4) 215-226
AB Play with parents is recognized as an important learning medium for all children, yet there have been remarkably few studies of mothers' spontaneous actions with toys while playing with their children and none at all with Down's syndrome (DS) infants. In this article, a home-based study was conducted that commenced when 10 DS infants were 12 mo old, and observations were made at approximately 6-wk intervals until Ss were 24 mo old.
Motor control in infants with Down syndrome.

Rast, Mechthild M.; Harris, Susan R.

Developmental Medicine and Child Neurology; 1985 Oct 27(5) 682-685

Investigated 4 postural reactions that contribute to the achievement of motor milestones in 15 infants with Down's syndrome (DS) and 15 normal infants (aged 3 mo 15 days to 4 mc 15 days). Three postural reactions dealt with the ability to align the head vertically in space against the pull of gravity, and 1 dealt with pelvis, hip, and leg movements against gravity. Results show that compared to normal Ss, DS Ss had difficulties in adjusting their heads in space against gravity, and they showed less antigravity control of the lower extremities.

Motor development and performance of severely mentally handicapped people.

Hogg, James

Developmental Medicine and Child Neurology; 1982 Apr 24(2) 188-193

Illustrates factors that have been shown to influence motor development and performance in severely mentally handicapped individuals without other specific physical handicaps, focusing on motor performance in Down's syndrome children.

Motor performance and self-concept of handicapped and non-handicapped children in integrated physical education classes.

Karper, William B.; Martinek, Thomas J.

American Corrective Therapy Journal; 1983 May-Jun 37(3) 91-95

108 nonhandicapped and 28 handicapped (e.g. hyperactive, learning disabled) children in integrated physical education classes in kindergarten through the 3rd grade completed a motor performance measure and the Martinek-Zaichkowsky Self-Concept Scale at the beginning and end of the school year. Handicapped subjects performed significantly lower than nonhandicapped subjects on motor performance measures at pretest but not at posttest.
Motor rehabilitation: Application of instructional theory.

McLennaghan, Bruce A.
Physical Educator; 1983 40(1) 2-7

The sensory motor bases of motor rehabilitation and current instructional theory about how handicapped children learn motor skills are explained. Strategies for organizing learning sessions, techniques of skill instruction, and the use of reinforcing feedback to maximize educational opportunities for handicapped children are discussed.

Motor skill acquisition by individuals with Down syndrome.

Kerr, Robert; Blais, Christine
American Journal of Mental Deficiency; 1985 Nov 90(3) 313-318

Compared the motor skill acquisition on a pursuit tracking task of 12 males with Down's syndrome (DS), who had a mean chronological age (CA) of 18.42 yrs and a mean functional age (FA) of 7.5 yrs, with that of 10 mentally retarded CA and FA matched males and a control group of 8 nonretarded CA matched male high school students and 7 nonretarded FA matched male elementary school students. Findings reveal that DS Ss did not respond to directional probability in the same manner shown by the retarded or the nonretarded Ss. Findings support the idea that DS individuals are not able to use predictability information spontaneously within a motor task.

Movement therapy in the treatment of autistic children.

Best, J.F.; Jones J.G.
Australian Occupational Therapy Journal; 1974 Apr-Jun 21(2) 72-86

Conducted a study of 4 autistic children to determine the value of a physical activity program in the treatment of autism. 3 Ss were given 30 swimming sessions and 10 movement education sessions; the other S participated only in the movement education sessions. Results indicate that Ss were capable of learning motor skills to a discernable level, and it is suggested that such a program may contribute to the development of the autistic child's total growth.
Mutual gaze in pre-school Down's and normal children.

Sinson, Janice C.; Wetherick, N.E.
Journal of Mental Deficiency Research; 1982 Jun 26(2) 123-129
Tested the hypothesis that the social isolation of Down's syndrome children among normal children is due to the failure of Down's children to observe the conventions of mutual gaze. Seven Down's children, aged 2-5 yrs, were observed at home and in schools, nurseries, play groups, and experimental sequences; 8 normal 3-yr-olds from the same play group were also used in the experimental sequence as were 4 other 3-yr-olds previously unknown to them.

Mutual play of mothers with their Down's syndrome and normal infants.

Cook, Alicia S.; Culp, Rex E.
International Journal of Rehabilitation Research; 1981 Dec 4(4) 542-544
Eight Down's syndrome infants (mean age 20 mo) were matched with normal infants (mean age 12 mo) on the basis of sex, language ability, and the Uzgiris-Hunt Ordinal Scales of Psychological Development. Ss were videotaped in a 15-min play session with their mothers using toys requiring different levels of manipulation and sound production.

New vistas in competitive sports for athletes with handicapping conditions.

Stein, Julian U.
Exceptional Education Quarterly; 1982 May 3(1) 28-34
Discusses the need for more opportunities for handicapped children to engage in sports at school.
Normal gross motor development: The influences of race, sex and socio-economic status.

Capute, Arnold J.; et al
Developmental Medicine and Child Neurology; 1985 Oct 27(5) 635-643
Conducted a prospective study to obtain the ages at attainment of 12 gross motor milestones during well-baby visits in the 1st 2 yrs of life for 107 white male, 111 white female, 31 black male, and 35 black female children. The milestones elicited were roll prone to supine, roll supine to prone, sit supported and alone, creep, get to sit, crawl, pull to stand, cruise, walk, walk backward, and run. All Ss had been born at term and were judged to be normal at 2 yrs. The Ss attained milestones at earlier ages than traditionally reported. There were only minor sex differences in age at attainment, but black children attained milestones earlier than white children.

Normalizing the Special Olympics.

Brickey, Michael
Journal of Physical Education, Recreation and Dance; 1984 55(8) 28-29, 75-76
Special Olympics programs have done much to help in the normalization of retarded and disabled individuals. This article suggests problems in the program that tend to label all retarded people as "kids". Ideas for placing a greater emphasis on normalization are discussed.

Objective-based instructional programs: Systems approach applied to instruction in physical education for the handicapped.

Wessel, Janet A
Exceptional Education Quarterly; 1982 May 3(i) 17-27
To meet the requirements of students, parents, teachers, administrators, school boards, and legislators, instructional programs for the handicapped must have flexibility, communicability, accountability, efficiency, effectiveness, and compliance. The characteristics, implementation, program goals and plans, evaluation of student progress and the program, and contributions to professional development of objective-based instruction are described.
On the nature of motor development in special populations.

Ersing, Walter F.; Loovis, E. Michael; Ryan, Terrence M.

Exceptional Education Quarterly; 1982 May 3(1) 64-72

Examination of research data and generalization from the literature suggest that (a) anatomical and physiological abnormalities produced by certain diseases and conditions can impair the development of movement skills and patterns; (b) many diseases and conditions involving structural or functional deficiency do not of themselves impair motor development but may do so indirectly; and (c) children with mental retardation show a delay in the development of certain motor skills that is approximately 6-9 yrs behind that of normal children.

Operant conditioning: A tool for special physical educators in the 1980s.

Dunn, John M.; French, Ron

Exceptional Education Quarterly; May 1982 3(1) 42-53

The usefulness of operant conditioning for the special physical educator in managing behavior problems is pointed out, and steps to follow in applying operant conditioning techniques are outlined.

Peer play and toys: Key factors in mainstreaming infants.

Levine, Mark H.; McColoum, Jeanette A.

Young Children; 1983 Jul 38(5) 22-26

Examines ways in which handicapped (H) infants and toddlers can be mainstreamed with nonhandicapped (NH) children. These include the following: (1) repeatedly placing H near NH children to sensitize them to their peers as social beings, (2) matching younger NH with older H children (and vice versa) according to their developmental levels and behavioral maturity, and (3) using toys to enhance interactions between H and NH infants.
Perceptual-motor training and the autistic child.

Mosher, Richard

Journal of Leisurability; 1975 Jul 2(3) 29-35

Describes a perceptual-motor program consisting of 8 groups of activities, ranging from running to swimming to arts and crafts. The program gives autistic children a summer experience of 5 hrs/day, 5 days/wk, which is designed to involve them in many of the cognitive, motor, and recreational activities pursued by average children.

Physical education for previously unserved severely handicapped children.

Broadhead, Geoffrey D.

Rehabilitation Literature; 1981 Mar-Apr 42(3-4) 86-89

A physical education program was provided for 14 previously unserved severely handicapped children. The program emphasized spatial awareness and body image, perceptual-motor ability, physical fitness, and rhythms in a daily 30-min lesson.

Physical education for the severely and profoundly handicapped.

Jansma, Paul

Exceptional Education Quarterly; 1982 May 3(1) 35-41

For severely and profoundly handicapped individuals the educational priorities should begin with physical-social, then vocational, then academic (the reverse of the priorities for the nonhandicapped). Such individuals require help from occupational therapists, physical therapists, and other experts in the psychomotor domain. Unfortunately, there are too few such specialists.
Physical education, recreation and sports for special populations.

Stein, Julian U.

Education and Training of the Mentally Retarded; 1977 Feb 12(1) 4-13

Maintains that, although great strides and progress has been made in physical education, recreation, and sports programs for special populations in the last 10 to 15 yrs, much remains to be done. Detailed discussion and analyses are presented about ways past activities have influenced present status and their implications for future directions in these program areas.

Physical education programs for special populations: Planning the program evaluation.

Bird, Patrick J.

Exceptional Education Quarterly; 1982 May 3(1) 73-78

Evaluation of physical education programs for exceptional children provides information to enhance management; guide instructional and curricular decisions; and assist policy makers in funding decisions. Planning for program evaluation is discussed in terms of goals, guidelines, and approaches.

Physical fitness and adapted physical education.

Auxter, David

Exceptional Education Quarterly; 1982 May 3(1) 54-63

Physical fitness is the foundation on which is constructed the ability of the handicapped person to engage in sports and to have an independent, self-sufficient life in the community. The components of physical fitness include muscular strength and endurance, cardiovascular endurance, and flexibility of the joints. For children of low physical fitness, the first requirement is to develop flexibility and then to increase muscular strength and endurance. Procedures for evaluating physical fitness needs are suggested.
Placement of mildly handicapped children in mainstream physical education.

Broadhead, Geoffrey, D.
Adapted Physical Activity Quarterly; 1985 Oct 2(4) 307-313
Describes issues that should be considered when placing mildly handicapped children with their nonhandicapped peers for physical education and contrasts 2 approaches that seek to produce effective mainstreaming.

Play behaviors of handicapped preschool children in the presence and absence of nonhandicapped peers.

Field, Tiffany; Roseman, Scott; deStefano, Louis; Koewler, John H.
Journal of Applied Developmental Psychology; 1981 Spr 2(1) 49-58
16 minimally handicapped and 18 nonhandicapped children (CA 2.5-4 yrs, handicapped Ss were on the average 10 mo younger developmentally) were observed playing as separate classes and as a combined group in their preschool playground. Play behaviors directed toward self, toys, teachers, and peers were recorded using a time sampling procedure.

Play materials for mentally retarded handicapped children.

Richardson, A.M.; Reid, G.; Phemister, M.R.; Thomas, G.V.
Child Care, Health and Development; 1981 Nov-Dec 7(6) 317-329
Describes a range of experimental play materials designed to aid the development of manipulative skills, such as posting, threading, fitting, and matching, in mentally handicapped children functioning at the 1-2 yr old stage of normal development.
 Pretend play and patterns of cognition in Down's syndrome children.

Hill, Patricia M.; McCune-Nicolich, Lorraine

Child Development; 1981 Jun 52(2) 611-617

Examined the relationship between cognitive functioning of 30 Down's syndrome Ss as measured by the Bayley Scales of Infant Development and their symbolic play level. Ss' CAs ranged from 20 to 53 mo and MAs were 12-26 mo. Symbolic play level was more highly correlated with MA than with CA.

Prewalking locomotor movements and their use in predicting standing and walking.

Robson, Peter

Child Care, Health, and Development; 1984 Sep-Oct 10(5) 317-330

Provides developmental norms for the prediction of what will happen next in the infant phases of sitting, creeping, standing, and walking, and when each development might happen.

Problems in mainstreaming research: Some personal observations.

Karper, William B. and Martinek, Thomas J.

Adapted Physical Activity Quarterly; 1985 Oct 2(4) 347-350

Discusses some of the problems that make mainstreaming difficult, especially concerning the believability, replicability, and generalizability of the research results of mainstreaming in physical education.
Promoting recreation skills in severely retarded children.

Rosen, Howard S.
Revista Mexicana de Analisis de la Conducta; 1976 Jan 2(1) 85-99

Four studies using behavior modification procedures were carried out in a summer camp attended by 60 5-15 yr old mentally and physically retarded children. Ss ranged from single Ss to entire classrooms, and camp personnel served as experimenters. Taken together, results of the 4 studies show the following: (a) Day camps can be significant teaching settings for young handicapped children. (b) Children's participation in healthy, physical activities can be increased by employing behavior modification procedures. (c) Indigenous camp personnel with proper training and supervision can carry out behavior modification techniques. (d) Behavior modification practices executed by existing personnel can be carried out with a small monetary cost.

Psychodynamics of the young handicapped person.

Blumberg, Marvin L.
American Journal of Psychotherapy; 1975 Oct 29(4) 46-6476

Argues that the psychodynamics of personality and ego development are related to motor development. The body image concept, important for normal psychological performance, is often impaired by somatic or cerebral deficits. Adolescents are particularly depressed by loss of self-esteem and thwarting of future career goals.

Recreation and adult education.

Nigro, Giovanno
Rehabilitation Literature; 1974 Sep 35(9) 268-271

Recreation and adult education programs can correct many of the deficiencies observed in multiply-handicapped adults resulting from childhood deprivations and mishandling - e.g., inadequate personality development, infantilization, and emotional disturbance.
Rhythm and motor ability in developmentally disabled boys.

Liemohn, Wendell
American Corrective Therapy Journal; 1976 Jan-Feb 30(1) 12-14

Investigated the relationship between a developmentally disabled child's performance of (a) a simple rhythmic task, and (b) a series of gross and fine motor tasks. 77 male Ss aged 65-174 mo from a university development training center participated in the 7 motor tests. Results show the highest correlation coefficients were between the rhythmic tests and the Developmental Test of Visual-Motor Integration.

Rights of exceptional children to participate in interscholastic athletics.

D'Alonzo, Bruno J.
Exceptional Children; 1976 Oct 43(2) 86-92

Discusses state high school associations' position that participation of exceptional children in interscholastic competition is a privilege granted to those meeting minimum standards of eligibility set by schools (individually and cooperatively), and reviews results of 3 national surveys of actual interscholastic competition.

Risks and benefits of adenotonsillectomy for children with Down syndrome.

Kavanagh, Kevin T.; Kahane, Joel C.; Kordan, Bernard
American Journal of Mental Deficiency; 1986 Jul 91(1) 22-29

Surveyed 74 parents of children with Down syndrome to determine parental impressions of the incidence of otolaryngologic symptoms and benefits that adenoidectomy and/or tonsillectomy had on their children. Results indicate that adenotonsillectomy benefitted their children by eliminating or reducing the symptoms of snoring, sleep apnea, nasal drainage, and mouth breathing. On the basis of parental responses, it appears that in the absence of nasal obstruction, adenotonsillectomy fails to improve drooling or tongue protrusion. Adenoid tissue is physiologically important to the child with Down syndrome and its removal can result in hypernasality.

Stevenson, Elizabeth
Physical and Occupational Therapy in Pediatrics; 1984 Fall 4(3) 45-64
Reviews selected literature on the physiological effects of running as it affects the child's (1) locomotor network including the muscular and skeletal systems; (2) support network with its circulatory, respiratory, digestive, and elimination systems; and (3) regulatory network with the nervous and hormonal systems. Essentials of conditioning for running are presented. Effects of running in selected disabled populations (i.e., those who are diabetic, have heart problems, are overweight, or have pulmonary disabilities) are presented.

Selecting materials for mainstreamed preschools.
Ross, Dorene D.
Topics in Early Childhood Special Education; 1982 April 2(1) 33-42
Discusses the selection of materials for (1) fantasy play (contributes to language and social and intellectual development); (2) manipulation (develops visual discrimination skills, eye-hand coordination, and manual dexterity); (3) reading, writing, and language (facilitates concept attainment, verbal interaction, and language competence); (4) motor development (develops locomotor skills, balance, visual-motor control, spatial and body awareness, and strength); and (5) skills that facilitate aesthetic awareness. Adapting materials for handicapped children, managing materials in the classroom, and assuring balance and coherence in material selection are examined.

Selecting, adapting, and applying toys as learning tools for handicapped children.
Langley, M. Beth
Topics in Early Childhood Special Education; 1985 Fall 5(3) 101-118
Notes that handicapped children's responses to toys vary as a function of sensory and response limitations, cognitive delays, and the quality of experiences provided. Each developmental difficulty (motoric, visual, auditory, emotional, and cognitive) generates special developmental needs that must be recognized and considered when planning play activities and selecting toys.
105

**TI**  Sexuality and handicapped persons: A concern of recreation.

**AU**  Gunn, Scout L.

**JN**  Journal of Leisurability; 1977 Apr 4(2) 3-6

**AB**  Points out that the handicapped are often ill informed concerning sexual expression, and therefore vulnerable to sexual exploitation. Because they are denied the opportunity to experience healthy social-sexual relationships necessary to obtain meaningful leisure, the recreation counselor has an important function in helping handicapped persons understand and deal with their sexuality.

106

**TI**  Skill Upgrading Programs

**AU**  Reid, Greg


**AB**  Skill upgrading programs are those designed to enhance the physical, social, and self-management prerequisites necessary in physical activity programs. It is argued that these programs should be skill oriented, include a great deal of practice, be systematic in the approach to assessment and instruction and include knowledge from attribution theory and the intrinsic motivation literature.

107

**TI**  Social and cognitive aspects of play in young handicapped children.

**AU**  Mindes, Gayle

**JN**  Topics in Early Childhood Special Education; 1982 Oct 2(3), 39-52

**AB**  Examined observable differences in social and cognitive play patterns among 26 female and 48 male educable mentally retarded, learning disabled, and behaviorally disordered children (CAs 30-73 mo; IQs 50-139). Results show that there were no significant differences for the covariables of age for both parallel and group behavior in the social play category. It is suggested that young handicapped children are less socially mature than might be expected from a developmental viewpoint.
Examined the social and cognitive values of different play materials for 21 nonhandicapped children and
21 handicapped children identified as needing early educational intervention in 1 of 5 developmental
domains (social, cognitive, language, motor, and self-help). Analyses showed that handicapped Ss
exhibited comparable amounts of symbolic play but a lower quality of symbolic play than that shown
by the nonhandicapped Ss. Handicapped Ss' symbolic play depended more on the use of dramatic play
objects.

Observed 21 retardates, 12 mongoloid (Down's syndrome) and 12 nonmongoloid (mean ages, 10 yrs 3
mo and 9 yrs 11 mo, respectively), in dyadic interaction with peers in a free-play situation. A number
of specific peer-social and nonsocial behaviors were recorded as they occurred. Differences between
mongoloid and nonmongoloid Ss were most apparent on several social behavior categories which
support the stereotypic conception of mongoloids as more sociable and gregarious. Differences were
most apparent for the mongoloid males. The possible influence of tranquilizer drugs and cottage
placements on the observed differences is discussed.

Observed the social interactions and playmate preferences among 4 mild and moderately retarded
Down's syndrome subjects (CAs 5 yrs to 5 yrs 11 mo) and 4 normal subjects (CAs 5 yrs 6 mo to 5 yrs
2 mo) during classroom and playground free-play periods.
111

**TI** Social validation of leisure activities training with severely handicapped youth.

**AU** Voeltz, Luanna M.; et al

**JN** Journal of the Association for the Severely Handicapped Youth; 1982 7(4) 3-13

**AB** Social validation procedures were used to evaluate the extent to which 72 professional staff, 47 nonhandicapped peers, and 47 parents perceived and valued changes in leisure time behavior that occurred with 7 severely mentally retarded and multiply handicapped adolescents.

112

**TI** Some conditions affecting manipulative play with objects in severely mentally handicapped children.

**AU** Thomas, G.V.; Phemister, M.R.; Richardson, A.M.

**JN** Child Care, Health and Development; 1981 Jan-Feb 7(1) 1-20

**AB** Four experiments investigated contact and manipulative activity with play materials in a total of 27 normal (NL) children (CA 12-23 mo) and 74 mentally retarded (MR) children (CA 3-16 yrs) functioning at the 1-2 yr old stage of normal development. MRs differed from NLs only in that they interacted less with an attendant adult and displayed less frequent representational use of toys in pretend play. The play of both groups was relatively unaffected by whether only a few (4) or many (15) toys were provided.

113

**TI** Sports for the handicapped: Reaching the mountain top.

**AU** Kuersten, Joan

**JN** PTA Today; 1983 8(6) 12-14

**AB** Physical fitness, sports, and recreation are as necessary for the handicapped as for the nonhandicapped. Recreational opportunities for handicapped children involving horseback riding, square dancing, and skiing are described, and changing attitudes on the subject are explained.
Stimulation of infants with Down syndrome: Long-term effects.

Sharav, Teresa; Shlomo, Leah
Mental Retardation; 1986 Apr 24(2) 81-86
Evaluated longitudinal data from 51 children (aged 6 mo to 13 yrs) with Down's syndrome reared at home who had or were participating in an infant stimulation program. Ss were assessed with either the Bayley Scales of Infant Development for developmental quotient or the Stanford-Binet Intelligence Scale for IQ. Results suggest that infant stimulation programs along with home rearing and training have improved the functions of children with Down's syndrome.

Sustained attention in young Down syndrome children.

Krakow, Joanne B.; Kopp, Claire B.
Topics in Early Childhood Special Education; 1982 Jul 2(2) 32-42
In Study 1, 40 normal Ss (CAs 12 and 18 mo) and 16 Down syndrome (DS) Ss (CAs 19-38 mo; developmental quotients 45-73), and in Study 2, 17 normal Ss (CAs 24-30 mo) and 15 DS toddlers (CAs 3-4 yrs) were tested for sustained attention in a play situation.

Symbolic play in autistic, Down's, and normal children of equivalent mental age.

Riguet, Candace B.; Taylor, Nancy D.; Benaroya, Sigmund; Klein, Leslie S.
Assessed free play and response to modeled symbolic play with animate toys and realistic and substitute accessories in 10 autistic (mean age 10 yrs), 10 Down's syndrome (mean age 9.5 yrs), and 10 normal (mean age 2.9 yrs) children. Findings suggest impaired imitative capacity and symbolic functioning in autism.
Teaching leisure skills to severely handicapped adults: An age-appropriate darts game.

Schleien, Stuart J.; Wehman, Paul; Kiernan, John
Journal of Applied Behavior Analysis; 1981 Win 14(4) 513-519

Demonstrated the acquisition and generalization of dart skills by 3 severely multihandicapped adults.

Teaching severely handicapped persons to provide leisure activities to peers.

Realton, Rodney E.; et al
Analysis and Intervention in Developmental Disabilities; 1986 6(3) 203-219

Using prompting and reinforcement procedures, 5 severely retarded individuals were trained and employed as client care workers to provide verbal and physical interaction and leisure materials to nonambulatory, multiply-handicapped residents of a mental retardation facility. Levels of interaction equalled or exceeded those displayed by exemplary staff performing similar functions.

Team sports. Special Issue: Recreation for the disabled child.

LeVeau, Barney F.
Physical and Occupational Therapy in Pediatrics; 1984 Fal 4(3) 65-76

Discusses some of the needs (affiliation, success, aggression, exhibition, and physical fitness) and motivational drives of the school-age child, including the disabled child, and discusses some of the anxieties that might be encountered. The role of the leaders in encouraging sports participation and general objectives for integrating the disabled child into regular team activities are outlined.
Wrestling: A positive experience for the LD student.

Davidson, Don
Academic Therapy, 1983 Mar 18(4) 449-451
The author discusses his use of wrestling as a part of a physical education program for learning disabled (LD) students. Participation led to improvements in coordination and agility, self-discipline and self concept for most students.

The behavior of children with Down's syndrome in normal playgroups.

Sinson, Janice C.; Wetherick, N.E.
Journal of Mental Deficiency Research; 1981 Jun 25(2) 113-120
Observed 7 Down's syndrome (DS) children (CA 3-41/2 yrs) on their 1st day in a normal playgroup or after regular attendance at a playgroup. It appeared that the normal children made unsuccessful attempts to establish contact with DS Ss and eventually gave up, with the result that DS Ss became isolates in the group, interacting with no one except adult helpers. It is suggested that their failure may be interpreted by the other children as gaze aversion - evidence of a desire to avoid interaction.

The blind and visually handicapped mentally retarded: Suggestions for intervention in infancy.

Mori, Allen A.; Olive, Jane E.
Journal of Visual Impairment and Blindness; 1978 Sep 72(7) 273-279
Presents a rationale for implementing early transdisciplinary intervention in behalf of blind and visually handicapped, mentally retarded infants. A program is described that stresses normal developmental goals, a holistic approach to the child and family, and techniques for enhancing the development of the child's reflexes and gross motor skills, sensory, cognitive and fine motor skills, language, and affective personality and independence.
The Children's Developmental Play Program: Physical activity designed to facilitate the growth and development of mildly handicapped children.

Roswal, Glenn; Frith, Greg H.

Education and Training of the Mentally Retarded; 1980 Dec 15(4) 322-324

Describes a program that utilizes a fun approach to individualizing physical activities for developmentally disabled children. The fundamental concept is predicated on encouraging such children to master fine and gross motor skills while simultaneously improving their self-concept and optimizing risk-taking behaviors.

The competitive spirit. Special Issue: Recreation for the disabled child.

Bernhardt, Donna B.

Physical and Occupational Therapy in Pediatrics; 1984 Fal 4(3) 77-83

Reviews a broad spectrum of regional, national, and international competitive events that have been originated for the disabled. It is suggested that the constant development of more competitive events for an enlarging pool of disabled individuals is a very positive symbol for the world of disabled athletics.

The development and evaluation of integrated programs.

Watkinson, J.


The purpose of this paper is to critically review some of the research in integration in an attempt to describe the state of the art in integrated physical activity programs.
The differential influence of instructional factors on motor performance among handicapped and non-handicapped children in mainstreamed physical education classes.

Karper, William B.; Martinek, Thomas J.

Educational Research Quarterly; 1983 8(3) 40-46

The purpose of this study was to determine differential relationships among teacher perceptions of student expression of effort, teacher expectation, grade, school, teacher, sex, and being handicapped/nonhandicapped on gross motor performance among handicapped and nonhandicapped children integrated together in physical education classes.

The early development of autistic children.

Ornitz, Edward M.; Guthrie, Donald; Farley, Arthur H.

Journal of Autism and Developmental Disorders; 1977 Sep 7(3) 207-229

74 young autistic children (mean age 45.2 mo) were selected and defined by direct observation of specific behaviors and clinical assessment of the presence or absence of associated pathological conditions. Retrospective developmental data on these children and 38 age-matched normal children were gathered by means of a written inventory completed by the parents when the children were relatively young (mean age less than 4 yrs). The autistic children were reported to have had significant delays in the development of motor abilities, speech, communication, comprehension, and, to a lesser extent, perception during their 1st and 2nd yrs.

The effect of a developmental play program on the motor efficiency of mildly handicapped children.

Roswal, Glenn, M.; Frith, Greg H.

American Corrective Therapy Journal; 1983 Jul-Aug 37(4) 105-108

Studied 27 mildly handicapped 9-12 year olds, 13 of whom participated in a 9-wk developmental play program. The other 14 participated only in their regular physical education program. Motor proficiency (the Bruininks-Oseretsky Test of Motor Proficiency) was examined. ANCOVA indicated a significant difference between experimentals and controls. Results support the premise that a developmental play program is a valuable asset in the motor development of mildly handicapped children.
The effect of a developmental play program on the self concept, risk-taking behaviors, and motoric proficiency of mildly handicapped children.

Roswal, Glenn; et al

Physical Educator; 1984 41(1) 43-50

The results of an investigation to determine the effect of the Children's Developmental Play Program on behavioral and neuromotor functioning of developmentally disabled children indicates that it serves as a valuable resource to the child, community, and inservice teachers. This study observed risk-taking behaviors, self-concept, and motor skills of children enrolled in the program.

The effect of intensity of training on sensori-motor development in infants with Down's syndrome.

Sloper, Patricia; Glenn, S.M.; Cunningham, C.C.

Journal of Mental Deficiency Research; 1986 Jun 30(2) 149-162

Divided 24 children with Down's syndrome, who were involved in an early intervention program, into matched intensive training (ITG) and control groups, at a mean age of 42 wks. Parents of children in the ITG were given exercises to carry out daily to train object permanence, imitation, and attention span, while control group parents were presented with general advice. All children were assessed on checklists in the 3 areas and on standard developmental tests. Results demonstrate that small short-term effects in favor of the ITG during the training were observed but no long-term effects on development were evident following training.

The effects of a systematic physical fitness program on clients in a comprehensive rehabilitation centre.

Bolton, Brian; Milligan, Tim

American Corrective Therapy Journal; 1976 Mar-Apr 30(2) 41-46

Developed and validated a Physical Fitness (PF) Training Package for use with rehabilitation clients. 20 males, aged 16-35 yrs, from a rehabilitation centre participated in the validation. Seven of these had behavioral problems; 4 were mentally retarded; 1 had epilepsy; 1 had a cardiovascular condition; 1 had visual impairments; and 6 clients had other disabling conditions. Substantial improvement and measurable "carry over" effects were noted in all areas of fitness.
The effects of social and isolate toys on the interactions and play of integrated and nonintegrated groups of preschoolers.

Beckman, Paula J.; Kohl, Frances L.
Education and Training of the Mentally Retarded; 1984 Oct 19(3) 169-174

16 3-5 yr olds, including 12 handicapped Ss, were observed as they played with social and isolate toys to determine the effect of social and isolate toys on the interactions and play of integrated and nonintegrated groups of preschoolers. Observations were made using a time-sampling technique obtaining information on the frequency of interaction, amount of time Ss engaged in toy play, and toy preferences.

The implementation of a trampoline program for children with handicapping conditions.

Horvat, Michael A.
American Corrective Therapy Journal; 1982 Jul-Aug 36(4) 105-108

Suggests that for the trampoline to be a valuable component of physical education (PE) for handicapped children, the PE program should include pre- and post- trampoline activities and an ongoing safety program. A multidisciplinary team should also determine the most efficient method of learning and develop instructional objectives that meet each handicapped child's needs and contribute to overall motor development.

The influence of task incompletion upon motor skill performance of mildly retarded adolescents.

Surburg, P.R.
American Corrective Therapy Journal; 1986 Mar/Apr 40(2) 39-42

The purpose of this study was to determine the effects of task incompletion upon reaction, movement, and response times of mildly retarded adolescents. Task incompletion was manipulated through the use of catch-trials. A secondary purpose was to investigate the effects of preparatory intervals upon the three dependent variables. 32 subjects were randomly assigned to a catch-trial (CT) group or a no CT group and tested on 4 different days. In conclusion, CTs adversely affect reaction, movement, and response times of mildly retarded adolescents. Preparation decrements seem to be an appropriate explanation when reaction time and response time tasks were not successfully completed. Preparatory intervals or uncertainty of time affected movement time in a different manner than reaction or response times.
The integration of handicapped and nonhandicapped children in elementary physical education.

Karper, William B. and Martinek, Thomas J.

Adapted Physical Activity Quarterly; 1985 Oct 2(4) 314-319

Studied the complexities associated with integrating handicapped with nonhandicapped children in elementary physical education classes over a 2 year period. Children were in kindergarten through 3rd grades.

The interdisciplinary modified motor evaluation.

Kaplan, Rocky M.

Academic Therapy; 1978 Sep 14(1) 67-72

Describes the usual diagnostic batteries as modified for perceptually handicapped children. Four perceptual development levels are specified: kinesthetic-auditory-visual, auditory, visual, and visual-reversal.

The nursing role in the Special Olympic program.

Maxwell, Betty M.

Journal of School Health; 1984 Mar 54(3) 131-133

Discusses the Special Olympics -- an international program of physical fitness, recreation, and sports for the handicapped-- and the role of the school nurse in seeing that physical examinations are completed prior to scheduled events and in identifying immediate health needs.
The organization of exploratory behavior in Down's syndrome and nondelayed infants.

MacTurk, Robert H.; et al
Child Development; 1985 Jun 56(3) 573-581

Evaluated the exploratory behaviors of 11 Down's syndrome infants (mean age 9.2 mo) and 11 nondelayed infants (mean age 6 mo) who were matched by sex (5 males in each group) and by scores on the Bayley Scales of Infant Development. Behavioral assessments involved exploration of commercially available toys. Findings indicate that the psychological meaning of looking may be different for Down's and normal infants.

The play of handicapped preschool children with handicapped and nonhandicapped peers in integrated and nonintegrated situations.

Field, Tiffany M.; Roseman, Scott; deStefano, Louis J.; Koewler, unit
Topics in Early Childhood Special Education; 1982 Oct 2, 28-38

Investigated whether children with sensorimotor handicaps also follow the same developmental sequence as interaction with adults, toys, and peers as nonhandicapped children. The play of handicapped children in the presence and absence of nonnormal children was also investigated.

The recreational pursuits of mentally handicapped adults.

McConkey, Roy; Walsh, Jodie; Mulcahy, Michael
International Journal of Rehabilitation Research; 1981 Dec 4(4) 43-499

The parents or caregivers of 207 mentally handicapped adults (mean age 23 years) living at home were interviewed as to how the subjects spent their leisure time. Most of the subjects activities were passive and solitary in nature. It is argued that services should teach leisure skills in the same systematic and structured way as for other areas of the curriculum.
The role of the adapted physical education teacher in the school and community.

Aharoni Hezkiah
Physical Educator; 1984 41(1) 30-34

The adapted physical educator exhibits expertise in motor skill instruction, physical fitness, and play for handicapped students. Elements of special program development, community responsibility, and teacher role are explored.

The use of single-subject time series designs in adapted physical activities.

Watkinson, E.J. and Wasson, D.L.
Adapted Physical Activity Quarterly; 1984,1(1), 19-29

Describes 3 specific single-subject time series designs that are appropriate for use in the field of adapted physical activity to investigate the acquisition, maintenance, and generalization of motor skills when the research involves small numbers of subjects. Program used young mentally handicapped children.

The utilization of behavior management in mainstreaming in physical education.

Dunn, John M. and Fredericks, H. Bud
Adapted Physical Activity Quarterly; 1985 Oct 2(4) 338-346

Indicates that mainstreaming of handicapped students into physical education classes depends on teachers who can provide successful learning experiences. The application of behavior management concepts appears to be an instructional technique that physical educators should consider in designing quality mainstreaming experiences.
Tracking the motor behavior development of multihandicapped infants.

Mira, Mary

Mental Retardation; 1977 Jun 15(3) 32-37

Reviews current strategies for measuring the effects of intervention with multihandicapped infants and their origins. Direct tracking of developing behaviors, primarily those related to postural control and precursors of ambulation, offers a useful measurement technique for describing the course of development, for curriculum building and for assessing intervention impact.

Understanding and changing physical activity delivery systems.

Smith, M.


A generic physical activity model is presented which outlines a variety of opportunity options and developmental processes. Opportunity options include unstructured and structured participation, recreational competition, high intensity competition and high performance.

Use of behavior modification procedures with visually handicapped students.

Roades, Sue-Ann; Pisch, Lillian; Axelrod, Saul

Education of the Visually Handicapped; 1974 Mar 6(1) 19-26

Reports on 2 experiments using behavior modification techniques with the visually handicapped, one using Ss of normal intelligence and the other using mentally retarded Ss. Results of both experiments indicate that behavior modification techniques increase the tactile and motor development of the visually handicapped.
Visual calibration of posture in normal and motor retarded Down’s syndrome infants.

Butterworth, George; Cicchetti, Dante
Perception; 1978 7(5) 513-525

Two experiments were conducted comparing the effects of discrepant visual feedback on control of standing, (Exp 1) and sitting (Exp 2) in 67 Down’s syndrome (DS) and 86 normal infants. Mean ages of the groups of normal Ss in Exp 1 were 14.0-34.1 mo. and of the DS Ss, 26.6-41.8 mo; in Exp 2, normal Ss were 6.9-12.6 mo, and DS Ss were 11.5-21.3 mo. Results show that DS Ss were delayed in achieving motor milestones. It is concluded that monitoring posture in relation to a stable visual surround appears to be fundamental to the normal development of motor control.

Walking patterns in Down’s syndrome.

Parker, A.W.; Bronks, R.; Snyder, C.W.
Journal of Mental Deficiency Research; 1986 Dec 30(4) 317-330

Used cinematographic analysis techniques to evaluate the walking patterns of 10 5-yr-old Down’s syndrome (DS) children (trisomy 21). Comparison with similar analyses of 9 age-matched nonhandicapped children revealed a wide developmental variability in the walking of DS Ss and retardation in some temporal components. The DS Ss adopted a more flexed posture of the hip and knee joints and increased fluctuation of ankle movement. Findings suggest a wide continuum of locomotor development, which may be a function of the degree of impairment of associated neuromuscular mechanisms.

Weigh these complex issues about handicapped kids in athletics.

Pepe, Thomas J.; Mooney, Thomas B.
American School Board Journal; Feb 1982 169(2) 31-32

School systems that allow handicapped students to participate in athletics may be open to liability suits if injury occurs; yet systems with a policy of excluding all physically impaired students from sports may be sued under Section 504 of the 1973 Rehabilitation Act for denial of equal opportunity.
What is adapted physical education?

Morris, Alfred F.

American Corrective Therapy Journal; 1977 May-Jun 31(3) 75-79

Explores the ramifications of adaptive physical education in the light of Public Law 94-142 which requires handicapped children to be educated in the public school system in the "least restrictive environment." The terms "adaptive physical education" and "therapeutic exercise" are defined. Two special therapeutic programs at the University of Maryland are described, one for children and one for older adults. The importance is stressed of understanding the specific differences among disabilities before appropriate physical activities are prescribed.
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