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# The Effects of Leisure Education on Factors Contributing to the Successful Transition of Students with Mental Retardation from School to Adult Life

**Leandra A. Bedini, Charles C. Bullock, and Linda Burt Driscoll**

Although legally available through PL 101-476, the Individuals with Disabilities Education Act, leisure education as a part of special education curricula in public schools is minimal. To examine the worth of leisure education for adolescents with mental retardation, this study tested a model program in the public schools in Wake County, North Carolina. The purpose of this investigation was to determine whether leisure education taught within a public school system had a significant effect on factors contributing to the successful transition of students with mental retardation from secondary school to adult life. Quantitative and qualitative methods were used including testing, case studies, and content analysis. Findings indicated that as a result of involvement in the model leisure education program, there were positive changes in behaviors and attitudes, such as leisure awareness, activity initiation, participation, and leisure appreciation in the students who participated in the

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*Bedini, currently an Assistant Professor at the University of North Carolina at Greensboro, was Project Coordinator of this project at UNC at Chapel Hill. Bullock is an Associate Professor at University of North Carolina at Chapel Hill and was Principle Investigator of the project. Driscoll is a Therapeutic Recreation Specialist and was Program Coordinator and Designer of the project. This paper was prepared in part through research funds provided by the Office of Special Education Programs, U. S. Department of Education (G008730226). The views expressed herein are those of the authors' and do not represent the USDE.*

model leisure education program. Discussion explores the application of this type of model to successful transition of adolescents with mental retardation from school to adult life. Limitations, implications, and recommendations are also discussed.

**KEY WORDS:** *Leisure Education, Transition, Mental Retardation, PL101-476, Recreation as a Related Service*

As a result of the federal initiative on transition (Will, 1984), much energy has been spent on the design and implementation of vocational training programs in the public school system to prepare students with disabilities for employment after they graduate from high school. While these programs may be appropriate for occupational training, non-vocational training components for social and independent living skills such as leisure education are usually omitted (Mithaug, Horiuchi, & Fanning, 1985). Providing leisure education within existing special education programs, as well as within community based programs, can help students with disabilities have a smoother transition from school to adult life (Bedini & Bullock, 1988; Bullock, 1989; Halloran, 1987). Although some research has been conducted, more studies of the effects of non-vocational training components are needed.

The purpose of this investigation was to determine the effectiveness of a leisure education program taught within a public school system on factors contributing to the successful transition of students with mental retardation from secondary school to adult life. For the purposes of this study, successful transition was defined as independent functioning within the community, especially in relation to leisure pursuits. Specific areas that were examined included leisure opportunity identification, leisure awareness, leisure activity participation rate, self-esteem, competence, perceived control, assertiveness/initiation of leisure activities, social skills, communication skills, leisure satisfaction, and life satisfaction.

## Literature Review

### Leisure as Criteria for Successful Transition

Although successful transition from schools to adult life for students with mental retardation has been defined primarily in terms of vocational success, many authors agree that integration into social and interpersonal networks is also an important factor for successful transition (Cheseldine & Jeffree, 1981; Kregel, Wehman, Seyfarth, & Marshall, 1986; Mithaug, Horiuchi, & Fanning, 1985). Participation and pursuit of recreation and leisure for individuals with mental retardation, therefore, also would be important. As Carney & Orellove (1988) described, community participation is more than holding a job. "Experiencing life in the mainstream of the community also involves using generic services and facilities, including the community's recreational resources" (p. 152). Similarly, The Center for Education Research and Innovation (1986) noted personal autonomy, independence, adult status, social interaction, community participation, and leisure and recreation as examples of successful transition to adulthood.

Transition from school to adult life suggests independent functioning both vocationally and non-vocationally in one's community. Bandura (1977) suggested that personal efficacy can be determined by several information sources: personal accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. For students in special education, the inclusion of a struc-

tured leisure education curriculum has the potential to provide information sources that could enhance his or her independent functioning for leisure, thus increasing the student's potential for successful transition to adult life.

## **Need for Leisure Education in the Public Schools**

Few leisure education programs exist within the public school systems today. While it is important to train individuals with mental retardation to work, the school system also needs to teach them how to enjoy and use their leisure. Literature supports the concept that successful integration of individuals with mental retardation into adult life should include participation in leisure activities (McDonnel, Wilcox, Boles, & Bellamy, 1985; Salzburg & Langford, 1981; Schleien & Ray, 1986; Voeltz, Weurch, & Wilcox, 1982). Studies which followed students after they graduated from special education in secondary schools, however, found that less than half of the subjects were socially active or integrated (Mithaug, Horuchi, & Fanning, 1985) and participated in primarily passive recreational activities with their families only (Kregel, Wehman, Seyfarth, & Marshall, 1986).

Leisure education has the potential to address functional transition needs of individuals with mental retardation. Although many of the same constructs are addressed through vocational programs in the schools, recreation and leisure can often serve as a medium to enhance the regular educational process. For example, Wilcox and Bellamy (1982) identified the potential role of recreation participation in the development and strengthening of specific linkages with support groups. Knowledge of recreation resources has been well documented as a deficiency for people with mental retardation (Cheseldine & Jeffree, 1981; Dattilo, 1990; Kregel, Wehman, Seyfarth, & Marshall, 1986). Specific factors such as self-concept

(Hourcade, 1977; Van Andel & Austin, 1984), social skills (Laurie, Buckwash, Silverman, & Zigmond, 1978; Novak & Heal, 1980) and facilitation of integration into mainstream community life (Collard, 1981) can be enhanced through recreation participation and awareness. Thus, the application of a leisure education program teaching these skills has potential to prepare individuals with mental retardation for transition into their respective communities.

## **Model Leisure Education Program**

This study was conducted in a moderate size county surrounding the capital city of North Carolina. The county has approximately 220,000 residents who live in both urban and rural environments representing various racial, socio-economic, and geographic groups. Since there were no leisure education programs in public schools in North Carolina, the project staff conceptualized, developed, and implemented The Wake Leisure Education Program (1990) which addressed perceived leisure related needs of students with mental retardation in transition. The model was developed based on concepts from Bandura's (1977) self efficacy theory. The ten unit curriculum included: (a) Leisure awareness, (b) Self awareness in leisure, (c) Leisure opportunities, (d) Community resource awareness, (e) Barriers, (f) Personal resources and responsibility, (g) Planning, (h) Planning an outing, (i) The outing, and (j) Outing evaluation: future plans. Opportunities for personal accomplishment, vicarious experiences, and verbal persuasion, as noted by Bandura (1977), were incorporated into the ten units of the model's administration. Additionally, Chadsey-Rusch (1986) noted that for social interpersonal skills development, training should include modeling behavior, practicing behavior, and getting feedback. During the last four units of the model program, students were taken into their respective communities after completing their own

planning to enhance their abilities to interact with people in their community who were critical to facilitating their leisure activities (eg. recreation center director).

Students participated in the program for one academic year (September to June). On the average, students had two sessions per week conducted in small groups or in one on one situations within a classroom until the students were ready to apply the planning process in their communities. Content was individualized and students progressed at their own rate.

## Methodology

### Subjects

The participants were chosen from a population of high school students in special education classes in eight schools in Wake county, North Carolina. Selection criteria included that the student was in his or her last year of school, the recommendation of his or her classroom teacher, completed consent form of parent or guardian, and categorized as either trainable or educably mentally handicapped (TMH, EMH). A total of 45 students were eligible for the study. Thirty eight students completed this study.

Demographically, the participants represented the sampling population. Fifty-three percent of the subjects were female and 47% were male. Fifty-eight percent were Euro-American while 42% were African-American. The participants ages ranged from 17 to 22 years.

### Research Design

Triangulation of both quantitative and qualitative methods was used to determine the effects of leisure education on transition. Howe and Keller (1988) supported the use of triangulation as an evaluation technique suggesting that the use of only one research method, although economical, may "trivialize human behavior" (p. 43). They noted

that the use of multiple methods permits greater depth of examination and understanding of the concepts being explored.

### Quantitative Measurement

The quantitative portion of the study used an experimental pretest and posttest with a control group and randomization design. Subjects were randomly assigned to experimental and comparison or control groups. The experimental group ( $n = 24$ ) received the leisure education intervention while the comparison group ( $n = 14$ ) received no intervention. Two separate sets of students participated in the study. Set one participated in the study in academic year 1988-89 and were tested for follow-up effects through the next year. Set two participated in the program during the academic year of 1989-1990 and received no follow-up testing. Although both groups received only one year of implementation, the first set was tested over a two year period, for long term effects.

The initial quantitative design included a third group (experimental group B) within set one. This group was to receive school year plus summer intervention, while group A received school year only intervention. Due to attrition and difficulties with teacher support, the summer intervention was abandoned after the study began and groups A and B were combined. This accounts for the uneven  $n$  between the experimental and control groups.

Several instruments were used to gather data for the quantitative portions of this study. They included a student survey, teacher questionnaire, parent questionnaire, and the Leisure Inventory Update (LIU). The student survey was a 34 question instrument administered by the project implementer in a one on one interview with each student at the beginning and again at the end of the school year. The survey was designed by the researchers to address assertiveness, independence, self-esteem, com-

munication barriers, social barriers, competence, perceived control, leisure satisfaction, life satisfaction, leisure awareness, and perception of the definition of leisure. The student survey contained 30 objective and four subjective questions. The first 30 questions of the student survey were rated with a three point scale of "yes," "sometimes," and "no." This scale proved to be the most appropriate for the population under investigation. Reliability testing was conducted for the first 30 questions on a pilot sample group representative of the population in this study. Cronbach's alpha reliability coefficient was .81 for the overall scale and individual subscale reliability coefficients ranged from .66 to .78.

The last four questions of the student survey were intended to elicit open ended responses for feelings about life, neighborhood, city/town of residence, and the student's perception of his or her own leisure. Answers to a four point scale were used to initiate open ended discussion.

The parent questionnaire was an instrument sent to parents or guardians at the beginning and end of the school year. This instrument consisted of three sections that addressed: (a) parent's perceptions of their child's leisure interests, (b) their perception of the child's leisure involvement, and (c) their perception of their child's leisure satisfaction. The first section about leisure interests consisted of four open ended questions that addressed their perception of how the student spent his or her free time at home and with family. The second section consisted of four questions using a four point scale of strongly agree to strongly disagree which addressed the nature of the student's leisure involvement in terms of age appropriateness, and with whom he/she participates (disabled or nondisabled peers). The final section consisted of four questions which also used a four point scale. These questions solicited the parent's perception of the student's participation in leisure activities as well as their own perception of the impor-

ance of leisure in their child's life. Two final questions in the third section asked whether the parents would like to see any changes in the student throughout the year. The post-test questionnaires also asked the parents to note any changes in the participant's behaviors and attitudes since the pretest.

The teacher questionnaire was very similar to the parent questionnaire in that it consisted of the same three sections, leisure interests, leisure involvement, and leisure satisfaction of the student. Again, the first four questions (leisure interests) were open ended questions that elicited information about how the student spent his or her free time at school. The last two sections (leisure involvement and satisfaction) used a four point scale of strongly agree to strongly disagree to address questions of age appropriateness, peer interaction, and the teacher's satisfaction with how the student spent his or her free time at school. Similar to the parent survey, questions regarding what improvements the teachers would like to see were on the pretests and what improvements they did see were added on the posttests.

The Leisure Interest Update (LIU) was a leisure interest inventory using both open ended and checklist formats to assess the leisure interests and participation of each student. The LIU was administered by the leisure education implementer to the students directly in an informal, one on one interview format. The instrument consisted of thirteen questions. The first twelve questions were open ended and solicited the student's interests and abilities to pursue leisure interests. Specifics such as knowledge of money, transportation, equipment, and support were addressed. The last question was a checklist of 10 leisure activities with questions that asked about types and location of activities, as well as with whom the student participated in leisure activities. The LIU as well as the teacher and parent questionnaires were tested for face validity prior to administration.

## Qualitative Measurement

In-depth interviews for case studies were conducted to gain a more complete understanding of the concepts under investigation and to complement the experimental design. The purpose of the case studies was to provide a comprehensive description of the lives of the students with particular attention to how leisure and recreation were parts of their education and daily living. Data for the case studies were collected by independent researchers and included observations in school, at home, and in community settings as well as interviews with subjects, parents or caregivers, teachers, and the leisure education implementer.

Content analysis of the implementer's progress notes was also conducted for the experimental group subjects. These notes, collected for purposes of formative evaluation of the model program, were reviewed to determine patterns of behaviors and attitudes of the students.

## Procedures

The model program was implemented by the leisure education implementer who was also the principal designer of the program. Additionally, the leisure education implementer was a CTRS with prior work experience with people with mental retardation. The implementation was conducted both in groups and on a one on one basis with the students in the experimental group two times per week for 26 weeks. Each student received direct personal instruction as well as written materials to aid in the instruction. These materials were designed to aid in the transfer of classroom learning to the home and community environment. Additionally, near the end of the program if the leisure education implementer assessed that the subjects demonstrated ability to apply critical concepts such as independent planning and initiation skills, the sessions were moved from the classroom to the actual community in which the student lived

to provide modeling, practical experience, and opportunity for evaluation of their skills in the actual setting.

The first units typically were conducted in groups and as participants progressed, sessions became more individualized. Outings were designed for only one or two participants at a time. If a participant was not successful during an outing, he or she would return to the planning phase for evaluation and further practice.

## Data Collection and Analysis

Data were collected from several sources and using three different methods. The first method of testing consisted of the administration of survey instruments to the students, their parents, and teachers. Testing was administered as a pretest in September of the school year and as a posttest again at the end of the school year in June. The first group of students (1988-89) was also tested in December and in June of their last year for longitudinal effects of the intervention. Because of attrition of the original sample, low *n*'s warranted the use of nonparametric statistics for the quantitative analysis. Wilcoxon signed rank tests were applied.

Case studies were also initiated at the same time the first pretest was administered and maintained for the entire three year period (pilot study included). Two subjects were chosen randomly from the experimental group and one the comparison group each year ( $n = 9$ ). These nine subjects were followed throughout the three year period. The case studies consisted of both objective and subjective data. Subjective data were collected through open-ended interviews of students, parents, and teachers. Objective data regarding behavioral concepts were obtained from student records and student assessments. Emphasis of the case studies was on an understanding from the perspective of the subject, his or her parents or guardians, teachers, trainers, community personnel, and employers (where applicable) regarding leisure.

In addition to content analysis of progress notes that were recorded after each session by the implementer separately for each subject were collected and analyzed. These notes were ordered chronologically by date and session. Three independent readers reviewed the notes to determine areas of change in the implementer's perception of the subjects' behavior or attitudes over time.

### Findings

Data were analyzed using frequencies, Wilcoxon sign rank tests, content analysis, and constant comparison techniques. The experimental group had more females (63%) than males (37%) while the control group had more males (64%) than females (34%). Educationally, the experimental and control groups were very similar; trainably mentally handicapped (TMH) were 42% and 43% respectively, while the educably mentally handicapped (EMH) were 58% and 57% respectively. Racially, the experimental group was composed of 58% Euro-

American and 42% African American students; the control group included 57% EuroAmerican and 43% African American students.

### Testing Results

Because of the small *n* of the two groups, non-parametric Wilcoxon signed rank tests for the quantitative data analysis were used. The student survey testing showed no statistical significance within subjects from pretest to posttest nor between experimental and control groups. The experimental group did demonstrate positive change between pretest and posttest administrations in areas of competence, self-esteem, communication, perceived control, social skills, feelings about leisure, life satisfaction, and feelings about their life. The comparison group showed improvement in competence, perceived control, and life satisfaction (see Table 1, Comparison of mean scores of student survey).

Frequencies from the listing portion of

Table 1.  
Comparison of Mean Scores of Experimental and Control Groups  
on Selected Student Survey Variables

	Experimental (n = 24)			Control (n = 14)		
	Pre	Post	Diff	Pre	Post	Diff
Subscales of questions 1-30						
Competence	7.78	8.48	.70	7.43	8.00	.57
Perceived Control	10.50	11.68	1.18	10.07	10.50	.43
Communication	4.91	5.45	.50	5.14	4.79	-.36
Social Skills	7.78	8.04	.26	8.07	7.71	-.36
Self Esteem	27.17	27.86	.68	27.23	27.08	.15
Satisfaction	8.22	8.65	.43	8.29	10.29	2.00
Questions 31-34						
How do you feel about your life?	3.00	3.35	.35	3.43	3.21	-.21
How do you feel about your neighborhood?	2.78	2.83	.04	3.00	3.00	.00
How do you feel about your town/city?	3.09	3.00	-.09	2.86	2.93	.07
How do you feel about your leisure?	3.13	3.61	.48	3.00	2.93	-.07

the LIU showed that both identification of and participation in leisure activities increased steadily in the students in experimental group from the pretest to the posttest. This improvement was not noted, however, in the comparison group (see Figure 1).

The teacher questionnaire demonstrated that teachers' observations of behavior and attitude changes of the students in the experimental group suggested improvements in areas of social skills, choice-making, and self esteem. Teacher observations did not support positive change in the comparison group.

Although the closed ended questions on the parent's questionnaire showed little to no differences in perceptions between the parents of the experimental group and those of the control group, the open ended questions reflecting observations of behavioral changes by the parents of the experimental group showed increases in the parents' satisfaction with how the student spends his or her free time, parents' perception of stu-

dent's independent planning of leisure activities, parents' perception of student responsibility, and initiation that were not evident in the comparison group. It should be noted that frequencies indicated that both parents and teachers perceived negative change as well in areas such as social skills, self-esteem, and assertiveness. This will be addressed later in the discussion.

### Content Analysis

Through a content analysis of the implementer's progress notes, several patterns of attitude and behavior changes were identified among the students. Within the experimental group, areas of improvement over time included increased understanding of the value of leisure (in their own perceptions), increased ability to identify a wide range of activities, increased initiation of leisure activities with friends and family, development of independent planning skills, increased assertiveness with family and friends, and increased confidence in decision making.

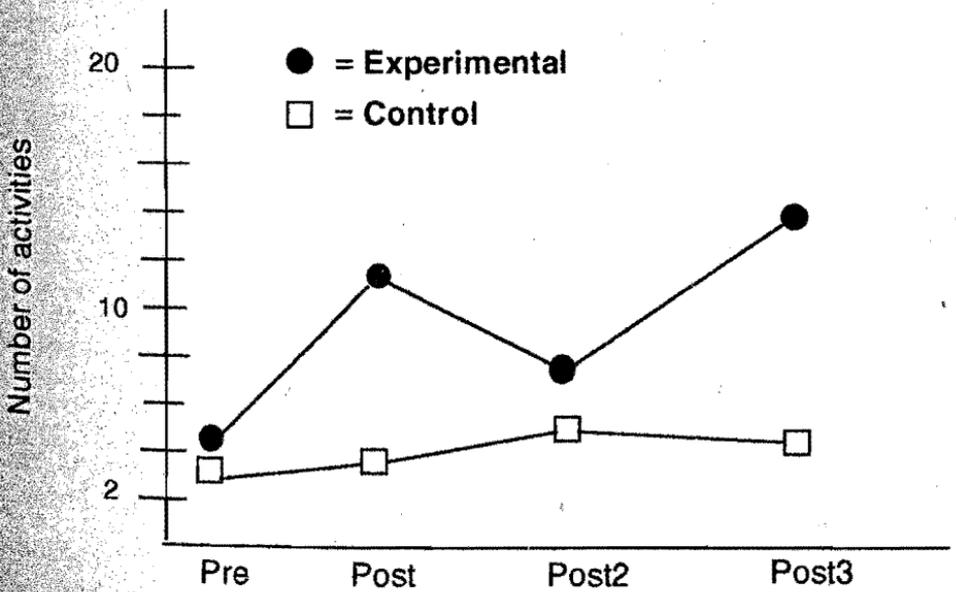


FIGURE 1. FREQUENCY OF LEISURE ACTIVITY PARTICIPATION FROM PRE TO POST 3 TESTING.

## Case Studies

Results of the case study data corroborated some of the experimental findings and gave additional insight into barriers and limitations of the study. Students who participated in the case study seemed to have an increased understanding of the value of leisure and an increased ability to identify and initiate leisure activities.

Teachers and parents alike stressed the importance of friendships and social interactions for the students. It was suggested that the social worlds of the special education students were distinct and discrete, however. That is, school acquaintances or "friends" were maintained at school and seldom interacted with outside of school. When asked the major need of their student/child respectively, both teachers and parents quickly responded, "to make friends and interact with other people." Comments like "my daughter is 17 years old and she still has no real friends except for the ones at school" (parent interview) were common among parents. Teachers often commented similarly. "It's too bad. They really seem to be good friends. You know, they're tight here at school. But I'm pretty sure that they don't see each other much outside of school. And I don't know what'll happen after they graduate" (teacher interview).

Additionally, parents and caregivers often spoke highly of the need for leisure education in the schools.

Sure I think it is an important part of her education. What's school for kids like mine if they can't teach 'um something that'll help 'um make it through life. Nobody ever taught me nothing like that but that's different cause I ain't like her. She needs all the help she can get and I don't know where else she'll get it. (Parent interview)

Teachers shared this support of leisure education within the school.

It seemed, however, that leisure education was seldom reinforced in practice by parents, caregivers, or adult service providers. For example, the results noted that at sheltered workshops leisure education "gains" were sometimes undercut by such comments as, "You don't have time for that stuff [leisure education] because you've got to learn good work skills." Similarly, one student identified her main barrier to playing basketball as the fear of asking her parents for money (her own) to buy the basketball.

## Discussion

The discussion will address results from both quantitative and qualitative methods. Prior to discussing the results, however, it is important to address several limitations that existed for this study.

First, although positive changes were suggested in the experimental group, the quantitative data showed no statistically significant results. Thus, the quantitative results do little more than suggest possible improvement in the areas noted. Without statistical significance it is possible the changes were a result of chance.

Second, based on interviews with teachers prior to implementation, more than 45 subjects were expected for the initial sample. Attrition during the study reduced the number from 45 students to 38 participants. Students were lost due to illness, moving from the state, and non-compliance by teachers or parents. Also, some follow-up information was lost since several parents did not own telephones, were illiterate, or worked double shifts. Motivation might also have been a factor. The reduction in the overall *N* limited not only the types of statistics that could be used, but also the generalizability of the results.

A third limitation might be found in the possibility of a halo effect. The parents and teachers in the experimental group might have responded in ways they thought the re-

searcher expected since the implementer was introducing a new program for their children/students.

Finally, it is possible that the posttest being administered just before graduation could have had some effect on some of the factors. Improvements in responsibility and self-esteem may have been a result of the anticipation of graduation rather than the effects of the leisure education model.

Although the above limitations temper the results of the study, several positive elements are evident. Bandura (1977) proposed that major sources of information such as personal accomplishment, vicarious experiences, verbal persuasion, and emotional arousal provide a basis for expectations of personal efficacy. From the analysis of both the quantitative and qualitative data, although not statistically significant, it appears that some positive behavioral and attitudinal changes were related to involvement in the model leisure education program. First, the experimental group showed improvement in areas specific to leisure awareness, initiation, participation, and appreciation that the comparison group did not. The fact that these positive changes were noted by all groups, (the students themselves, the parents, and the teachers) fairly consistently, suggests the potential effectiveness of leisure education for this population.

Second, the results suggested the importance of the support by the families and teachers of students with mental retardation regarding leisure and in the actualization of "healthy leisure lifestyle." The results identified, however, that although both parents and teachers thought leisure education was a good idea, greater emphasis was placed on work and not leisure by the teachers and caregivers. As such, even though much of the data suggested that the leisure education intervention had positive effects, the importance as perceived by teachers, parents, and caregivers often was supported only verbally and often not behaviorally. This suggests a

need for greater collaboration between not only the schools but also community recreation programs with the families of these participants. Perhaps educating the parents and caregivers about the importance and potential of leisure in their children's lives as well as their own could facilitate behavioral support.

Similarly, in several cases responses regarding assertive and initiative activities were reported as negative behaviors by parents and teachers. Students, parents, and teachers who expressed a dissatisfaction with leisure after the intervention might be responding to increased awareness of what they do not have. As a result, they were dissatisfied. Iso-Ahola and Mannell (1983) suggested that leisure information can be a constraint if it arouses a need that cannot be satisfied. Caldwell, Adolph, and Gilbert (1989) conducted a study of the effects of leisure counseling on individuals with head injuries and noted increased leisure dissatisfaction as well. They suggested that these results could be from several sources, one of which is the raised expectations of what the subjects, teachers, and parents hoped they could do after the intervention. Similarly, the negative responses of teachers and parents might also be due to increased expectations as a result of being part of the study. Another explanation could be the reluctance of the parents in particular to "let go" of their children. Implications for longitudinal research are raised by this result.

Finally, even though the students of this study experienced increases in understanding and initiating leisure pursuits, they seemed to have separate relationships with friends within and outside of school. Green and Schleien (1991) identified friendships as essential elements of complete integration into the community. Without the development of "real" friendships, leisure remains an impoverished aspect of the lives of these students.

The results of this study suggest that a leisure education curriculum applied in the

public school system for students with mental retardation has potential for increasing leisure wellness and thus contributing to successful transition from school to adult life. Leisure education programs, however, are seldom implemented within school settings. Major barriers exist in the attitudes and behaviors of the teachers and caregivers. Their words and their actions are not in synchrony. Additionally, specific implications exist for facilitation techniques (ie. for friendship development, parent involvement, community linkage) and for methodological considerations. The following recommendations will address the issues identified.

Several approaches to address attitudes of teachers and parents should be undertaken. The first should be directed to the teachers' and caregivers' education about the importance of leisure in transition consistent with PL 101-476, Individuals with Disabilities Education Act which requires all students to have a comprehensive transition plan. By their own admissions, teachers and parents value leisure and believe leisure education should be included in special education curricula. For a variety of reasons (time, lack of materials, etc.), however, they do little to support it. It is incumbent, therefore, on therapeutic recreation specialists who are or can become involved with the school system, to develop and make available materials that will help parents and teachers to understand the importance of education for leisure for their children and students. These materials should be user friendly, recognize the existing time limitations of both parents and teachers, and be available for both preservice and inservice applications. Additionally, the therapeutic recreation specialist should initiate workshops and develop demonstration materials for teachers in the classroom as well as parents in the home.

A second approach should address leisure education needs of students who are mentally retarded earlier than in high

school when patterns may already be set. Child development literature has suggested the needs for early intervention (eg. Brickman & Weatherford, 1986; Peterson, 1987). The results of this study suggest improvement in initiation skills, decision-making and independent planning. Started at an earlier age, these skills might be better integrated. Additional demonstration, education, and research projects which focus on elementary and middle schools should be undertaken.

A third approach is to address policy in schools. If additional research continues to support the usefulness of leisure education, the studies should be presented to parent groups, local and state directors of special education, and U.S. Department of Education, Office of Special Education Programs. Without this kind of advocacy, very little change will occur. Therapeutic recreation practitioners should make it their responsibility to become knowledgeable about current appropriate programs and projects and take a leadership role in this advocacy. This can be done through consulting activities with the schools or through outreach programs developed by the community recreation programs in cooperation with the schools.

Methodology is a particular concern for studying people with mental retardation. More research from a variety of paradigmatic and methodological perspectives is warranted. For example, single subject research designs with multiple baselines can address current methodological limitations (eg. Dattilo, 1990). Similarly, Malik, Ashton-Shaeffer, and Kleiber (1991) suggested the use of interviewing the students directly as a viable method of data collection. Additionally, longitudinal studies and replications are needed to determine long term effects of leisure education taught within the schools on factors that aid in transition of students with mental retardation.

Finally, curriculum content validation studies could add strength to particular in-

ervention strategies. Specific facilitations addressing particular concepts such as friendship development, or assertiveness training should be developed and tested. Additionally, it might be helpful to test selected units of the model to determine their impact on these particular constructs. For example, questions identifying specific techniques conducive to facilitating friendship formation can be explored. Although some research testing the effectiveness of leisure education programs exists, additional research must continue so that the effects of leisure education as a critical component of transition from secondary school to adult life can be understood.

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