

Ease Into Fitness - Phase I Report

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Program Title: **Ease Into Fitness: Beginner Workout for People with Developmental Disabilities**

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Summary

The idea behind Ease Into Fitness was to create materials to show parents and staff how to encourage adults with developmental disabilities to begin and maintain an exercise program and to provide a beginner's workout routine designed especially for this group.

Through a research grant from the National Institute of Mental Health, an IRIS Media research and development team, along with expert consultants, gathered data, developed a video and print materials based on the data, and tested the effectiveness of the program.

The research study included twenty-one adults with developmental disabilities and their parents; none were involved in any regular exercise routine when the study started. Ten families received Ease Into Fitness. Eleven continued their normal activities.

When surveyed six weeks later, 89 percent of those who got the Ease Into Fitness materials had begun an exercise program and were doing it, on average, twice a week. Only nine percent (one person) of the comparison group had begun an exercise program.

Both adults with developmental disabilities and their parents were enthusiastic about the quality and realism of the materials, and said they would whole-heartedly recommend them to other adults with developmental disabilities and to their parents.

Project Aims

The primary aim of this project was to initiate development of a systematic training program for people with MR to use with parents or other support providers. In Phase I, we produced a beginner workout video and a companion trainer video, which we tested with a population of adult children and their parents.

The Phase I proposal called for a prototype 15-minute beginner workout video. In response to a reviewer's suggestion about insufficient cardiovascular benefit, we expanded the video from 15 to 35 minutes and developed a complete workout routine consisting of warm-up, aerobic, strength/balance, and cool down/flexibility sections. The product features a diverse group of people of varying abilities performing the exercises to upbeat music and colorful graphics. The 7-minute trainer video guides parents and their adult children in implementing a workout program and teaches goal setting, self-monitoring, and adoption of new behaviors.

Finally, we proposed to examine the effectiveness of the training program by developing and testing instruments to be used in a randomized controlled study.

Research Results and Significance

All Phase I objectives, described below, were successfully completed.

Develop content for beginner video, with safety guidelines, testing protocol, and four different types of exercises .

We developed a list of potential exercises for the warm-up, aerobics, strength/balance, and flexibility/cool-down sections. The specific exercises were chosen on the basis of suitability for in-home execution and for appropriateness for beginners. We also developed safety guidelines and a testing protocol adapted from physical readiness tests for nonhandicapped individuals (Baechle & Earle, 1995; Nelson & Wernick, 1998). This content was modified to be more understandable to individuals with MR, and additional questions were added to address specific concerns that might be unique to this population. We selected three certified trainers who would model the correct form of the various exercises and who would help lead the workout presentation. Finally, we developed a script outline to evaluate with Consultants and focus groups.

Conduct a focus group consisting of 10 individuals with MR to review the beginner video content and share ideas for initial content, motivation, and potential barriers to implementation .

We conducted a focus group with 12 adults with MR, who broke down into the following categories: 9 females and 3 males; 12 Caucasian/white and non-Hispanic; and 10 who exercised at the time of the focus group (3 at 1 time per week, 4 at more than once per week, and 3 daily) and 2 who did not respond. The group was led by the Principal Investigator and Project Coordinator/Producer. Prior to meeting with the groups, the research team developed a set of questions to facilitate discussion (i.e., what do you do for exercise, why do you exercise, why do you not exercise, can you exercise 3 times per week for 6 weeks, do you keep track of how much you exercise, what little things would work as rewards for exercising 3 times per week, and what words do you say to yourself for a positive message). Participants responded to proposed script content, generated ideas for developing motivators for doing the program, and generated ideas of potential barriers to the program's implementation.

Responses offered the research team a variety of ideas. For reasons to exercise, responses included: to be healthy and in good shape, to feel good afterwards, to live longer, and to reduce stress. For reasons not to exercise, responses included: laziness, lack of caring, would rather watch television, and do not feel good about self. When asked if they could exercise 3 times per week for 6 weeks, 11 said yes and 1 said s/he would forget. The idea of using a chart or calendar to track how much you exercise was well received, with all participants responding that using such a calendar would be helpful.

Have Consultants review and refine the beginner video content .

Consultants included Daniel Baker, Ph.D., Molly Elliott, CTRS, and Kenneth H. Pitetti, Ph.D. The Consultants reviewed all aspects of the beginner and trainer video scripts and content and provided valuable suggestions (e.g., exercise options, proper positioning, the need to encourage breathing, the use of low-cost alternatives to exercise bands, etc., which were incorporated into the design of the program).

Dr. Pitetti traveled to Eugene and conducted a 3 day, on-site review, including a live presentation with the cast of the beginner video. His feedback offered us opportunities to fine tune the script, coach the fitness leaders, and evaluate the ability and physical condition of the workout team. At the conclusion of his visit, we were ready to begin rehearsals.

Develop a treatment for the trainer video .

We developed a treatment (narrative outline of the script) for the trainer video that focused on: developing a commitment to change, developing motivation to begin an exercise program, countering barriers to inactivity, providing reasons to be more active, following the exercise program, setting future goals, making lifestyle changes, using encouragement and self-rewards, self-reinforcing through positive affirmations, and self-monitoring.

Conduct a focus group of 10 parents and support staff to review the content of trainer and beginner videotapes .

We assembled a focus group consisting of six parents who have an adult child with MR living at home, and three group home staff members. The Principal Investigator and Script Developer attended the meeting, which focused on: the barriers and motivators for parent/caregiver to exercise with an adult with MR, what type of exercise video would work best, and what lifestyle fitness changes should be highlighted. The discussion provided the research team with some specific ideas for script development. Participants noted that the statement "exercise is good for your health" is ineffective with adults with MR. They offered that since the term "health" is vague, it would be better to be more specific with statements such as "exercise gives you more energy," or "exercise makes your heart stronger." In terms of what would motivate a caregiver to exercise with an adult child with MR, the idea that a caregiver's emotional support (i.e., being in the room while their adult child exercises or giving the adult child verbal encouragement) is an excellent substitute for physically exercising with the adult child. Barriers that were discussed included the adult child's metabolism, competing priorities, and the exercises being too difficult. In discussing what elements would make up a successful exercise video for adults with MR, participants mentioned that most formal exercise videos are too fast-paced, and that the lights and sound used need to be carefully constructed (i.e., flashing lights or loud bass beats can be irritating to adults with MR). The group agreed that exercising 3 times a week would be a realistic goal.

Have Consultants review the treatment for the trainer video .

The Consultants reviewed the treatment for the trainer video, and their suggestions, which included: to stress the social benefits of exercise, to show a variety of family relationships, to use a story line, and to keep it as simple as possible, were incorporated into the script.

Write scripts for trainer and beginner videos, followed by review and revision by Consultants

The script for the beginner video provided specific instructions for demonstrating a series of beginning exercises of low to moderate intensity. These exercises covered the aforementioned categories: warm-up, aerobics, strength/balance, and cool-down/flexibility. The exercises were demonstrated by fitness leaders (experienced fitness trainers) with a backup workout team (a diverse group with varying abilities). The script provided dialog for the fitness leaders, special instructions for individual exercises, and an overview of the graphics.

The script for the trainer video presented two parallel stories that explain how two individuals with MR overcome their lack of physical activity and, with the support of their parents, begin an exercise program. We envisioned that the trainer video should accompany the beginner exercise video and provide a model of how people with MR can overcome antipathy to physical exercise, how parents can motivate their adult children and join in with them in exercise activities, how to track progress and provide self-reinforcers, and other goals described in **Task 4**.

Produce the beginner and trainer videos .

Preproduction for the beginner video began early in the course of the project. Three audition sessions were held to cast the parts of the workout team and fitness leaders, and a fitness studio was chosen for the location. With the scripts, actors, and location in place we were ready for Dr. Pitetti's visit. Though Dr. Pitetti had previously reviewed and approved the program content, his 3 day, on-site visit offered us the opportunity to have him fine tune the scripts, coach the fitness leaders, and evaluate the ability and physical condition of the workout team for rehearsals. Following his visit, the production team (headed by the Producer and Director) began a series of eight workout rehearsals. During rehearsals, the cast learned the workout routine, the production crew developed the lighting and shooting plan, the set designer refurbished the set, the costume designer planned and purchased the workout outfits, and the composer created different rhythms for the varied workout segments. The most noteworthy result of the rehearsal sessions was the actors' improvement in physical conditioning. By shooting time, the workout actors were able to successfully engage in a full day of exercise (with breaks). The program was shot in 1 day, with special attention paid to the hydration, nutrition, and stamina of the participants.

Since the beginner video was a "character" in the trainer video, we had to complete editing the former before the shooting of the latter. The trainer video was shot on location and blends narration and graphics with naturalistic vignettes.

Both programs were shot in the professional DV format and edited on the digital FAST Silver system. The programs have been dubbed to both VHS and DVD, samples of which have been provided.

Develop instruments to be used in evaluation and conduct an evaluation study: A randomized controlled study of 20 parents and their adult children who have MR .

Evaluation .The main activity of the program evaluation was a two-group pre/post outcome study. In the original grant application, we had planned to develop an outcome instrument to test parents' knowledge of: (a) the importance of exercise, (b) how to introduce an exercise program to adults with MR, (c) goal-setting, and (d) how to use a self-monitoring system in an ongoing exercise program. However, after consultation with the grant monitor, we replaced these instrument development activities and outcome instrument with two interviews developed and tested in the Exercise and Nutrition Health Education Curriculum for Adults with MR (Heller, Marks, & Ailey, 2001). These interviews were designed to measure exercise activity, and knowledge, skills, and attitudes towards exercise in parents and their adult children with MR. We modified these interviews by eliminating sections irrelevant to our outcomes and by editing some questions for clarity. In addition, we developed and field-tested the Fitness Progress Report, a telephone interview instrument designed to measure exercise activity.

Evaluation study . Twenty-one families (20 with an adult with MR living at home, and 1 with an adult with MR living in a foster home) were recruited to participate in the evaluation study. Families were randomly assigned to an Intervention group (10) or Control group (11). One family dropped out of the Intervention group before any assessments were conducted, thus the final N = 9 families in Intervention and 11 in Control. Baseline assessments, consisting of face-to-face interviews with the parent/caregiver (P/CG) and with the target adult with MR (TA), were conducted in either the family's home or at the offices of IRIS Media. At the completion of the interview, families in the Intervention group were given the trainer and beginner videos. One week post Baseline, the first of three telephone interviews (the Fitness Progress Report) was administered to both groups. This instrument asked P/CGs to report on what exercises (if any) the TAs had done in the past week; if exercises were reported, P/CGs were asked to report on the types of exercises, the number of times the exercises were performed, and the length of time each exercise performance lasted. Families in the Intervention group were asked some additional questions to determine if they had used the videos and if so how, how often. Two more telephone interviews were conducted with all families, at 3 and 5 weeks post Baseline. Approximately 6 weeks post Baseline, Exit assessments were conducted, consisting of a re-administration of the face-to-face interviews. P/CGs in the Intervention group also completed a consumer satisfaction questionnaire, and the TAs completed a consumer satisfaction interview. In addition, approximately 8 weeks after the Exit assessment, a brief telephone interview was conducted with families in the Intervention group to determine if the TAs were continuing to use the workout video.

Sample Demographics . Table 1 presents the demographic characteristics of the sample. T-tests and chi square tests revealed no significant differences between the two groups.

Outcome

Our original grant proposal had three research hypotheses. The first, that the P/CGs in the Intervention group would have greater increases in knowledge of how to initiate and maintain an exercise program, was not testable due to the change in outcome instruments. In lieu of this hypothesis, repeated measures ANOVAs were conducted on each of the six scales from the interviews with both the P/CGs and TAs: Energy Level, Jette Pain Scale, Positive Perceptions of Exercise, Negative Perceptions of Exercise, Decisional Balance, and Self-Efficacy. Scores were computed as the mean of the items in the scale, except for the Decisional Balance scale, which was scored as the number of items indicating a positive view of exercise minus the number of items indicating a negative view of exercise. No significant results were observed. Table 2 presents the pre and post means and standard deviations for all six scales for the P/CGs and TAs.

Table 1 - Demographics

	Intervention N=9		Control N=11		Whole Sample	
Age	mean	s.d.	mean	s.d.	mean	s.d.

Target Adult	28.77	7.12	27.09	10.61	27.85	9.02
Parent	51.88	9.23	49.09	9.27	50.35	9.12
Gender						
Target Adult						
Male	22%		64%		45%	
Female	64%		36%		55%	
Parent						
Female	100%		100%		100%	
Ethnicity						
Target Adult						
European	78%		100%		90%	
Asian	22%		0		10%	
Parent						
European	100%		91%		95%	
Euro & Native			9%		5%	
Parent Education						
10-11th Grade	11%		0		5%	
H.S. Graduate	11%		27%		20%	
1-3 yrs College	33%		18%		25%	
AA Degree	0		9%		5%	
BA/BS Degree	33%		36%		35%	
MA/Ph.D.	11%		9%		10%	
Annual Family Income						
<\$5,000	0		9%		5%	
\$15,000-24,999	37.5%		0		16%	
\$25,000-34,999	12.5%		0		5%	
\$35,000-44,999	0		18%		10%	
\$45,000-54,999	0		9%		5%	
\$55,000-64,999	25%		18%		10%	
\$65,000 or more	25%		45%		37%	
Target Adult Diagnosis						
Down's Syndrome	86%		75%		80%	
Brain Damage	0		18%		10%	
Cerebral Palsy	14%		9%		10%	

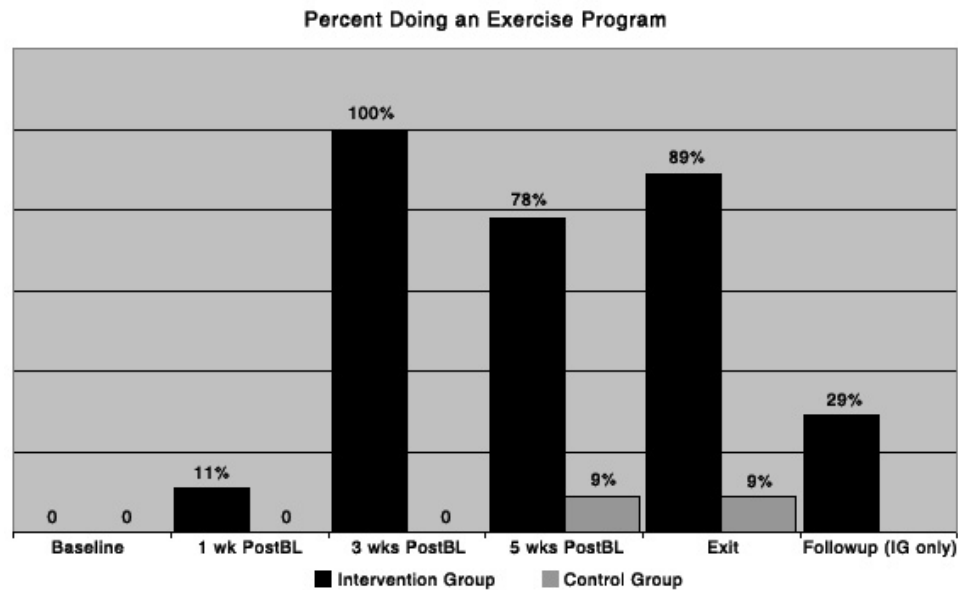
Our second research hypothesis was that the percentage of TAs participating in an exercise program would increase more in the Intervention group than in the Control group when noted at weeks 1, 3, and 5 post Baseline. Chi square analyses were conducted separately for each time point. At Time 1 (T1; 1 week post Baseline), no significant differences were observed. Only 1 of the 9 TAs in the Intervention group was participating in an exercise program, and none of the TAs in the Control condition were participating in an exercise program. At Time 2 (T2; 3 weeks post Baseline), a significant difference (Chi Square (1)=9.33, $p < .002$) was observed. Of the 8 TAs in the Intervention group who completed this assessment, all were performing an exercise program, whereas zero of the TAs in the Control group were doing so. At Time 3 (T3; 5 weeks post Baseline), another significant difference was observed (Chi Square (1)=7.21, $p < .007$). 78% (7) of the 9 TAs in the Intervention group were continuing to do the exercise program, while only 9% (1) of the TAs in the Control group was doing so.

Table 2 - Scales from Parent and Target Adult Interviews

	Intervention Group		Control Group	
	Baseline	Exit	Baseline	Exit

Scale	M	SD	M	SD	M	SD	M	SD
Parent/Caregiver								
Energy Level	2.75	.76	2.97	1.03	2.65	.95	3.18	1.13
Jette Pain Scale	.13	.23	.17	.29	.38	.50	.57	1.03
Positive Perceptions	4.43	.74	4.31	.78	4.30	.74	4.04	.76
Negative Perceptions	1.96	.74	1.61	.56	1.78	.45	1.91	.73
Decisional Balance	2.46	.75	2.70	1.14	2.52	.81	2.13	.96
Self-Efficacy	9.24	1.51	9.11	1.34	8.73	1.99	8.67	1.69
Target Adult								
Energy Level	1.11	2.26	2.33	3.93	.27	1.9	.91	2.07
Jette Pain Scale	.22	.61	.06	.17	.32	.51	.17	.24
Positive Perceptions	.82	.10	.81	.14	.77	.29	.79	.12
Negative Perceptions	.31	.16	.28	.15	.34	.23	.36	.22
Decisional Balance	.51	.13	.54	.21	.44	.53	.45	.27
Self-Efficacy	1.65	.35	1.76	.36	1.3	.58	2.65	.95

Approximately 3 months post Baseline, we conducted a brief telephone interview with families in the Intervention group to determine if the changes observed earlier had been maintained. Seven of the nine families were interviewed (one had moved and one we were unable to contact). Of those seven, only 29% (2) had continued with the exercise program. The figure, **Percent Doing an Exercise Program**, illustrates these participation rates.



We also examined how often during a week the TAs in the Intervention group used the workout video. At T1, one participant had used the video three times in that week (group mean=.38, s.d 1.06). At T2, four of the eight TAs had used the video once in the last week, two had used it twice, one had used it three times, and one had used it four times (group mean=1.88, s.d 1.13). At T3, four of the nine TAs had used the video twice in the last week, one had used it four times, two had used it once, and two had not used it at all (group mean=1.56, s.d. 1.24). At the Exit interview, six of the nine TAs had used the video twice in the last week, one had used it three times, one had used it one time, and one had not used it at all (group mean=1.78, s.d. .83). At the follow up telephone call, approximately 12 weeks post Baseline, of the two TAs who had used the video, one had used it once and one had used it twice (group mean=.43, s.d. .79).

Our third hypothesis was that the percentage of TAs participating in an exercise program would increase more in the Intervention group than in the Control group from the Baseline to Exit assessments. To test this we used reports from the P/CG interviews at Baseline and Exit. At Baseline, zero of the TAs in either group was involved in an exercise program. At Exit, approximately 6 weeks post Baseline, 89% (8) of the Intervention group was participating in an exercise program while only 9% (1) of the Control group was participating in an exercise program (Chi Square

(1)=12.73, $p < .001$).

Consumer Satisfaction

The Consumer Satisfaction Questionnaire for the P/CGs consisted of 13 items. Five items asked them to rate various aspects of the trainer video, six asked for ratings of the beginner workout video and two were open-ended questions to solicit comments. P/CGs rated the trainer video highly on being realistic (mean=8.56) and on overall quality (8.67). They also rated the workout video highly on helping their child understand how to do the exercises (8.89) and on overall quality (8.89). The means of items rated on a 10-point scale (10 indicating the highest rating) and the percentages of binary (Yes/No) items, are presented in Tables 3 and 4.

The Consumer Satisfaction Interview for the TAs consisted of 15 items. Four asked for TAs' ratings of the trainers video, and 11 asked for ratings of various aspects of the workout video. Ratings were tended to be high (range 7.5 on how much they liked the trainer video to 9.0 on how well the trainer video helped them understand how to get started). Means and percentages of ten of these items are presented in Tables 3 and 4.

Discussion

These results represent dramatic and positive initial findings for the evaluated fitness program. Almost all of the TAs in the Intervention group used the beginner workout video at least once, and their frequency of use increased over 6 weeks, while almost none of the TAs in the Control group changed their exercise behavior. Clearly, the combination of teaching parents how to motivate their adult children with MR to exercise and of a workout tape developed specifically for people with MR is effective when it comes to motivating people to begin an exercise program. However, these results did not maintain over time. Three months after starting the program, only 29% of those participating were still exercising.

Although the program effected an initial change in exercise behavior, there was no significant change in any of the scales measuring mediating variables (Positive Perceptions of Exercise, Negative Perceptions of Exercise, Decisional Balance, and Self-Efficacy) from the face-to-face interviews with the TAs and the P/CGs. Although the Phase I product was not developed to necessarily effect a change in these mediating factors, we believe the lack of such a change helps to explain why participants did not maintain the exercise program. Our Phase II product is designed to impact these mediating variables.

Table 3 - Consumer Satisfaction: Means and Standard Deviations

Item	M	SD
Parent		
How much did the Trainer video help you understand how important exercise is?	6.44	2.96
How much did the Trainer video help you understand how to get your son/daughter started on an exercise program?	7.89	1.90
How much did the Trainer video help motivate your child to start an exercise program?	7.11	2.20
How realistic was the Trainer video?	8.56	1.67
Please rate the overall quality of the Trainer video.	8.67	1.22
How well did the Workout video help your child understand how to do the exercise?	8.89	1.69
How much did your child seem to like using the Workout video?	7.56	2.04
How likely is it your child will continue to use the Workout video?	8.00	1.66
Please rate the overall quality of the Workout Video.	8.89	1.05
Adult with Developmental Disabilities		
How much did the trainer video help you understand how important exercise is?	8.57	2.51
How much did the Trainer video help you understand how to get started on a personal exercise program?	9.00	1.20
How realistic was the Trainer video?	8.57	2.51
How much did you like the Trainer video?	7.50	3.42
How well did the Workout video help you understand how to do the exercises?	8.33	2.35

How realistic was the workout video?	8.13	3.18
How much did you like the workout video?	8.11	3.06

Table 4 - Consumer Satisfaction: Yes/No Items

Item	Yes	No	Maybe	Don't Know
Parent				
Would you like to have more Workout videos like this?	100%	0%	0%	0%
Would you recommend this sort of video exercise program to other families with children with developmental disabilities?	100%	0%	0%	0%
Adult with Developmental Disabilities				
Would you like to have more Workout videos like this?	100%	0%	0%	0%
Would you recommend the Workout video to your friends?	100%	0%	0%	0%
Do you think you'll keep using the workout video?	56%	0%	22%	22%

Both the P/CGs and the TAs gave the trainer and beginner workout videos high ratings on consumer satisfaction factors. They liked the videos, found them to be realistic, and would recommend the program to other people.

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