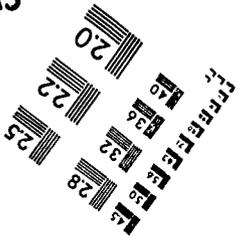


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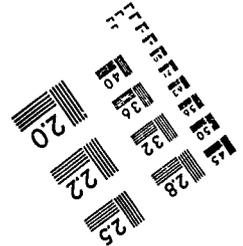
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ABSTRACT

Direct observation procedures were utilized in assessing the social interactions of 37 adults with severe disabilities in 18 employment programs, representing 3 different supported employment contexts (individual, enclave, and work crew). The data gathered focused on: (1) job engagement time; (2) extent of interaction with work supervisor, human service supervisor, nonhandicapped co-worker, handicapped co-worker, or other; (3) type of interaction (receiving, providing, or requesting assistance; receiving or providing instruction; receiving or providing social amenities; receiving or providing compliments; receiving or providing criticism; receiving or providing teasing; or work conservation); and (4) the job task, setting variables, and inappropriate behaviors. Results indicated that workers in individual and enclave employment sites had significantly more contact with nondisabled persons than workers in work crews, but there was no difference in the social contact rate between workers in individual jobs and those in enclaves. There was a wide variation in the amount of interaction with nondisabled persons in the different individual and enclave sites, but little difference in the type of interactions across the three different work options. Includes 48 references. (JDD)

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Comparing Social Interactions in Supported Employment Options\*

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### Abstract

A major debate exists over the type of benefits that workers with severe disabilities receive under different supported employment options. This study focuses on the most elusive of those benefits: social integration. Direct observation procedures were utilized in assessing the social interactions of thirty-seven adults with severe disabilities in 18 employment programs representing three different supported employment contexts (individual, enclave, and work crew). The results indicate that workers in individual and enclave employment sites had significantly more contact with nondisabled persons than workers in work crews but there was no difference in the social contact rate between workers in individual jobs and those in enclaves. There was a wide variation in the amount of interactions with nondisabled persons in the different individual and enclave sites. There was little difference in the type of interactions across the three different work options.

Comparing Social Interactions in  
Supported Employment Options

There is a broad consensus that people with severe disabilities should be employed with support in real work settings (Bellamy, Rhodes, Mank, & Albin, 1988; Rusch, 1990; Wehman & Moon, 1988). This supported employment movement is a dramatic shift from previous vocational services for people with severe disabilities that relied upon segregated services in day training programs, sheltered workshops or institutions and stressed prevocational or readiness skills (Bellamy, Rhodes, Bourbeau, & Mank, 1986).

The key components of supported employment are paid employment, ongoing support, and integration (Bellamy et al., 1988). Rather than excluding workers with severe disabilities, supported employment options have been developed that give access to work and wages and provide needed support and supervision to allow persons with severe disabilities to participate in the economic mainstream of life.

One of the most important reasons for employing persons with severe disabilities is social integration (Brown et al., 1984; Wehman & Moon, 1987). Social integration and social networks are important because they are valued (Haring, in press), help individuals through stress and difficulties (Gallo, 1982), help to link people who are devalued to the community (Biklen, 1977; O'Brien, 1987), and because professionals cannot meet all needs of persons with severe disabilities (Beckett & Fluke, 1988; Ferguson

& Ferguson, 1987). Integration in supported employment settings has been an elusive term. In relation to employment, Mank and Buckley (1989) describe integration as "...adherence to regular and ordinary patterns of minute-to-minute and day-to-day working life" (pg. 320). Social integration has been defined as "regular access to interactions with individuals without identified handicaps and regular use of normal community resources...." (Will, 1984; p. 2). Therefore, in order for social integration to occur, interactions are a necessary condition.

Social interactions have been found to predict children's likability and friendship patterns (Gresham, 1982), often are conceptualized as forms of conversation and communication (Certo & Kohl, 1984), and competent social interactions elevate social perceptions of persons with disabilities (Gaylord-Ross & Peck, 1985). Nisbet and Hagner (1988) report three consistent findings from studies on nonprofessional, nonmanagerial workers: (a) informal interactions flourish at work, (b) patterns of social interactions vary widely across and within work environments, and (c) some support is available naturally within work environments. The focus upon social interactions is important because perceptions of social support are linked to actual face-to-face interactions in the workplace (Kirmeyer & Lin, 1987).

Social integration in employment settings has been assessed using direct observation procedures (Storey & Knutson, 1989; Storey, Rhodes, Sandow, Loewinger, & Petherbridge, 1989), clique analysis (Yan, Rhodes, Sandow, Storey, Petherbridge, & Loewinger,

in press), narrative recording (Chadsey-Rusch & Gonzalez, 1988; Chadsey-Rusch, Gonzalez, Tines, & Johnson, 1989), and questionnaires (Shafer, Rice, Metzler, & Haring, 1989). Social networks generally have been assessed by measuring the size, structure, functions, and adequacy of the network (Barrera, 1986; Heitzmann & Kaplan, 1988). Presently there is little empirical understanding of how social interactions effect the quality of life of persons with severe disabilities (Gaylord-Ross, Salzberg, Storey, & Rule, in press; O'Connor, 1983).

The three supported employment options most frequently utilized are individual work sites, enclaves, and work crews (Moon & Griffin, 1988). There currently is a debate over the type of work environments and features that are most important for successful integration (Brown et al., in press; Mank & Buckley, 1989). However, the debate has been ideological rather than empirical (Bellamy et al., 1984; Brown et al., 1984; Brown et al., in press). This lack of empirical information has hampered the debate because there is currently little information that social interactions (or the types of social interactions) do occur between workers with and without disabilities (Chadsey-Rusch et al., 1989; Storey & Knutson, 1989). But if supported employment is to be successful, it is important that social integration be documented (Storey, Sandow, & Rhodes, in press). As Meyer and Putnam (1988) have emphasized, if there is an absence of systematic evaluation data to monitor intervention efforts, social integration may continue to be dismissed as personal bias and the current dominant system of

segregated services will remain predominant.

This study examines the social interaction patterns of 37 adults with severe disabilities who were receiving one of three types of employment support (enclaves, work crews, or individual placements). The research examined the comparative social interactions under different supported employment situations during work and break/lunch times as well as worker and employment setting characteristics that are predictive of high rates of social interactions?

#### Method

##### Participants

A total of 37 adults (28 men and 9 women) with severe disabilities participated in this study (data for two persons in individual placements was lost in the mail). Table 1 provides a description of each of the participants in the study. The overall mean IQ of the participants was 35.6 (range 10 to 52) and the overall Adaptive Behavior Scale score (Lambert, 1981) was 36.7% (range 1.8% to 67.3%). The mean age of the participants was 32.7 (range 22 to 64). The participants were randomly selected from those persons in supported employment from each program who met the requirements for the study (IQ score 54 or below and an Adaptive Behavior Scale score [TMR norms] of 67.3% or below). The participants had spent a mean of 23.8 months (range 5 to 74) on the job before participating in the study.

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Insert Table 1 about here

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### Settings

Observations took place at 18 different employment programs in three different states (Washington, Oregon, and California). The job features for each setting were analyzed using a checklist filled out by the human service supervisor or job coach at each site. A summary of information from this checklist is provided in Table 2.

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Insert Table 2 about here

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The enclave employees worked in settings with larger numbers of workers than individual and work crew sites. A wide variety of types of work were represented in this study. The majority of workers were in either food preparation and services, manufacturing and machine operations, or grounds keeping. The enclave workers tended to have higher monthly wages than either individual or work crew workers though the highest monthly wage for any of the workers was only \$630. The enclave workers also tended to work more hours per week than the individual or work crew workers. The work crew workers and approximately half of the enclave workers were paid based upon their productivity while slightly more of the individual workers were paid hourly wages. Each of the individual workers were engaged in stable work while the majority of the enclave and

work crew workers engaged in changing types of work. There was a wide variation in the level of support required by the workers. All of the enclave and work crew workers were hired by the program with a slight majority of the individual workers were hired by the business in which they worked. The majority of the workers engaged in three or more tasks with only two engaged in only one type of task.

Information from the checklists indicated that most of the persons in work crews had only incidental interactions with nonhandicapped persons. The enclave workers had parallel or significant interactions while the individual site workers interactions ranged from exposure/observation to balanced with the majority having parallel or significant interactions. All of the enclave workers had access to workers with and without disabilities in the work area and most had access to their human service supervisor and their work supervisor. These access levels remained similar during break/lunch times. Nine of the ten individual workers had access to workers without disabilities in their work area and all ten had access during break/lunch times. Half of the individual workers had access to their human service supervisor and work supervisor during work and break/lunch times. All of the work crew workers had access to workers with disabilities and their human service supervisor during work and break/lunch times. Slightly more than half had access to workers without disabilities during work or break/lunch times and only one had access to a work supervisor. The enclave workers had more workers without

disabilities in their immediate work and break areas than the individual workers who had more than work crew workers. The enclave and work crew workers had more workers with disabilities in their immediate work area than the individual workers.

#### Measure of Social Interactions

The behavioral observation form used to collect the data included categories of (a) job engaged, (b) with whom the person interacted (work supervisor, human service supervisor, nonhandicapped co-worker, handicapped co-worker, or other), (c) the type of interaction (receiving, providing, or requesting assistance; receiving or providing instruction; receiving or providing social amenities; receiving or providing compliments; receiving or providing criticism; receiving or providing teasing; work conversation; personal conversation; other; or unknown), and (d) whether inappropriate behavior occurred, the job task, and setting variables. Definitions of the interaction categories are provided in Table 3.

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Insert Table 3 about here

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#### Procedures for Observations

Observation sessions lasted thirty-minutes each. An interval recording system of 10-second observe, 5-second record was used. This yielded a total of 120 recorded intervals per session. Observers used a momentary time sampling procedure to rate the "job engaged" category. The job task and setting variable categories

were scored every five minutes (every 20 observation intervals) using a momentary time sampling procedure. The other categories were scored if an interaction occurred during the 10-second observation interval, and more than one category could be scored during an interval. An audiotape recorder with headphones was used to cue the observers for the intervals. All participants were aware that they were being observed. Each participant was observed on twenty different occasions (ten observations during work times and ten during lunch/break times). Because of various logistical problems (loss of data collectors, participants being fired from their jobs, one worker not taking a break), not all participants were observed for twenty sessions. There were a total of 700 observation sessions. The observations occurred during randomly selected work times and the participants within a group (e.g., enclave, work crew, or individual site) were observed in a randomly selected order using a random numbers table (Rand Corporation, 1983). Participants also were observed within a group in a random order during lunch/break times. These times generally were not long enough (breaks seldom lasted more than 30 minutes) to randomly select observation times.

#### Interobserver Agreement

Intrascorer reliability on the checklist was established by having the scorer fill out the checklist a second time. This occurred for three of the workers. Interscorer reliability was established by having a second human service staff member fill out the checklist independently of the supervisor or job coach. This

occurred for two of the sites. Reliability was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100. The overall mean intrascorer reliability was 93% with a range of 92-96%. The overall mean interscorer reliability was 80% with a range of 63-96%.

Interobserver agreement was calculated by having a second observer score the interactions in the same manner as the primary observer. Data collected for measuring interobserver agreement were recorded on 96 (14%) of the 700 observation sessions. An interval-by-interval-agreement ratio (Kazdin, 1982) was used to establish interobserver agreement. In this ratio, both scored and unscored intervals were included as well as the job engaged category. The mean was 93.6% with a range of 76-100%. The nonoccurrence agreement (in which it was agreed that no social interactions took place) mean was 97.9% with a range of 77-100%. The occurrence agreement (in which it was agreed that a social interaction occurred) mean was 90.4% with a range of 50-100%. The occurrence plus agreement mean (intervals in which there was agreement that an interaction occurred and agreement on all categories) was 76.3% with a range of 42-100%. In order to control for chance agreement, Kappa was also calculated and found to be .89.

Reliability of data entry onto the computer spread sheet for analysis purposes was conducted on 38 (5%) of the observation sessions. The interval by interval agreement mean was 99.7% with a range of 95 to 100%.

## Results

The data for the interaction categories and the categories with whom the interactions occurred (the "interactors") represent percents of observation intervals (each interval equal to 10 seconds of observation time plus 5 seconds of record time). These percents were obtained by counting frequencies of occurrences of each category, then dividing by the total number of observation intervals and multiplying that number by 100. For example, if a worker is observed engaged in work conversation 10% of the time, it means that out of 1200 observation intervals in the 5 hours of observation during work or break/lunch times, 120 of these were coded as work conversation. Since proportions were not calculated on the same number of observations, and consequently, may not represent a linear comparison, the proportions were transformed using an Arcsin transformation. Planned comparisons were utilized, rather than an omnibus F test, as recommended by Hays (1981) and Stevens (1986) and because the power of multivariate tests generally declines as the number of dependent variables is increased (Stevens, 1986). Separate Anova's were run on those categories occurring in more than 1% of the intervals.

In addition, "Eta" was analyzed to determine the effect size which describes the strength of the relationship between group membership and may be a better indicator of significance than p values (Kazdin, 1986; Kerlinger, 1986).

With Whom Interactions Occurred

The statistical analysis indicates that the workers in individual sites interacted more with the work supervisor than did those in work crews during both work and break/lunch times (see Table 4). However there was wide variation between different enclave and individual sites. Some workers had no interactions with the work supervisor while others interacted up to 10% of the time.

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Insert Table 4 about here

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There were no statistically significant differences in interactions with the human service supervisor between the three options. Again there were wide individual worker variations between all three options on interactions with human service supervisor. Three of the enclave and two of the individual workers had no contact with a human service supervisor. The worker with the most interactions with a human service supervisor was the worker in an individual site who was deaf and blind.

There were highly statistically significant differences ( $p < .001$ ) in interactions with nonhandicapped co-workers during both work and break/lunch times. Workers in individual sites interacted more with nonhandicapped co-workers during work times than enclave workers and enclave workers more than workers in work crews. During break/lunch times both individual and enclave workers interacted with nonhandicapped co-workers more than crew workers

(see Figures 1 for the mean and range of means across the three options).

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Insert Figure 1 about here

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During work times, workers in work crews interacted more with handicapped co-workers than enclave or individual site workers and during break/lunch times enclave and work crew workers more than individual workers. These results are significant at the .001 level.

Workers in individual sites interacted more with "other" during work times than enclave workers. There were no significant differences during break/lunch times (see Figure 2).

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Insert Figure 2 about here.

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#### Type of Interactions

For the type of interactions which occurred, workers in work crews received statistically higher levels of receiving assistance during work times than workers in enclaves or individual sites. There was no statistical difference during break/lunch times on this category.

There were no statistically significant differences in any of the other categories except for the "other" and "unknown" categories.

In the "other" interaction category during work times there was a statistically significant difference with the work crews having more of this type of interaction than workers in enclaves or individual sites. There was not a statistically significant difference during break/lunch times.

Workers in work crews had statistically significantly more "unknown" interactions than workers in enclaves during work times. During break/lunch times both workers in enclaves and work crews had significantly more "unknown" interactions than workers in individual sites.

#### Integrated Settings

In assessing if the workers were in integrated settings there were highly significant differences with enclave and individual workers being in integrated settings more often than work crew workers. There was an especially powerful effect size (.822) during break/lunch times (see Figure 3).

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Insert Figure 3 about here

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#### Features of and Importance of Job Site

A multiple regression analysis (Cohen & Cohen, 1983) was used to analyze the importance of features of the job site in promoting social interactions. These results indicate that access to nonhandicapped co-worker and "other" during break/lunch and work times was not predictive of interactions. All of the independent

variables included in the prediction equation are presented in Table 5.

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Insert Table 5 about here

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#### Person Features and Importance

This multiple regression analysis allows prediction of successful integration based upon individual worker characteristics. The characteristics analyzed were the verbal ability of the worker (questions 35, 36, 39, and 40 from the Adaptive Behavior Scale), the Adaptive Behavior Scale score of the worker, and the IQ of the worker. No attempt was made to "control" any steps of the analysis because there is little previous research on this topic and it is not clear what characteristics are most important in predicting interaction patterns. The results of this analysis indicate that a workers Adaptive Behavior Scale score was the best predictor of interactions with nonhandicapped co-workers (see Table 5). None of the three variables were good predictors of interactions with "others."

#### Job Engaged and Unacceptable Behavior

There were no statistical differences in the percent of intervals in which the workers were job engaged or in which unacceptable behavior occurred.

## Discussion

With Whom Interactions Occurred

The results of this study indicate that workers in individual sites had more contact with their work supervisor and that these interactions occurred at a statistically significant level over that of workers in work crews. Workers in individual sites tended to have fewer interactions with their human service supervisor during work times though this difference was not at statistically significant levels.

One of the most important considerations in supported employment is whether there are interactions between the workers with and without disabilities (the categories of nonhandicapped co-workers and "others"). The results of this study indicate that enclave and individual sites are more conducive to promoting interactions with nondisabled persons than are work crew sites. Interactions with nondisabled (nonhandicapped co-worker and other) occurred more frequently with individual sites during work times and enclave and individual sites during break/lunch times. However, there were very extreme variations in the amount of interactions with nonhandicapped persons in the enclave and individual sites. There were some workers in both options who rarely, if ever, interacted with nonhandicapped persons. There were also those in both options who had very high levels of interactions with nonhandicapped persons. This would lend support to the theory that it is features

of the job sites, rather than the job model, that promote integration in the work site.

Because work crews generally do not have co-workers without handicaps, the "other" category is the opportunity for workers in work crews to interact with nonhandicapped persons. However, this did not occur during either work or break/lunch times. Work crews tended to be in segregated settings during both work (mean of 10.3%) and break/lunch times (mean of 22.3%) and had few interactions with "others" (less than 1% of the time). Workers in work crews also had more interactions with handicapped co-workers than workers in enclaves and individual sites during work times and workers in individual sites during break/lunch times.

#### Types of Interactions

There tended to be few statistically significant differences in the content of the interactions. There were statistically significant differences in: (1) receiving assistance during work times, (2) "other" interactions during work times, and (3) "unknown" interactions during work and break/lunch times. However, all of these interactions occurred at very low levels. The other interaction categories occurred at similar levels across the different work options and were not different at statistically significant levels.

It is interesting to note that workers across all three options were job engaged at least 75% of the work time. This does not provide information on the productivity of the workers, but does indicate that they were job engaged at high rates.

Limitations of this Research

Several limitations of this research should be noted. First, there was a small number of participants (37) and it is not clear how well they represent "typical" supported employment workers.

This research considered only one type of integration: social interactions. Other measures of integration such as social networks, reciprocity, social support, clique analysis, and social validation measures are also important and need to be utilized as an assessment "package." Because of the lack of empirical research in this area, it is not clear what assessment components are most important in understanding integration in supported employment settings.

Third, there were no normative comparison concerning the social interaction patterns of the workers without disabilities in the same work sites. These normative comparisons may be a critical factor in judging what level of social interaction patterns are appropriate (Storey & Horner, in press). Without this comparison it is difficult to judge the adequacy of the interaction levels found in this research.

Fourth, there was no attempt to evaluate the quality or importance of the interactions which occurred. It may be that the quality or importance of the interactions, rather than the level, are most significant. Social validation procedures may be the most appropriate research methodology in evaluating the quality or importance of the interactions (Kazdin, 1977). Social validation

procedures allow the subjective judgments concerning quality or importance to be made in a more quantitative manner (Wolf, 1978).

### Implications for Supported Employment

This research provides empirical data to the current debate concerning the appropriateness of different supported employment options which has primarily been ideological. The results of this research contradict some authors who have advocated that only individual sites are capable of being integrated and that both enclave and work crew settings incapable of providing interactions with co-workers without disabilities (Brown et al., i. press). The results of this research indicate that it is the features of specific job sites (for individual and enclave settings), rather than the employment model, which lead to the setting being integrated or segregated.

This focus upon features of job sites needs further examination. The job features may be more important than worker characteristics (verbal ability, IQ) in promoting social interactions. Instead of focusing on specific options or models, it is more germane to analyze the features of job settings that promote the desired outcomes of supported employment. In the case of integration, what specific job features and characteristics of workers tend to promote integration? Is it having nonhandicapped co-workers in the same work area, sharing a job task, eating lunch together, or doing activities together outside of the work environment? With individual worker characteristics is it the worker's verbal or

communication ability that enhances or inhibits interactions with others?

Because of the lack of integration in work crews, it may be necessary to consider alternatives to this model, or to try and restructure crews so that social interactions do occur with persons without disabilities. If an employment program does have work crews, then special consideration should be given to insuring that integration occurs outside of work times. It may be possible to "buy" integration after work with wages earned (Bellamy et al., 1984). However, this is unlikely to occur without planned and systematic intervention strategies (Schleien & Ray, 1988).

#### Future Research

Further research is needed concerning the role which support persons and co-workers without disabilities can play in enhancing integration in the work site (Shafer, 1986). Because of the scarcity of resources, natural supports in the work site such as co-workers, may be an important factor in the job success and integration of workers with disabilities (Nisbet & Hagner, 1988).

As indicated above, normative comparisons of workers without disabilities are extremely important in judging integration in the work site. Future research should examine integration levels and social interaction patterns of the workers without disabilities as a guide for enhancing integration of the workers with disabilities. This is not to say that the current level of integration for the workers without disabilities is necessarily desirable or the optimal standard. But it is necessary to understand the normative

standard in determining optimal levels of performance (Storey & Horner, in press).

Judging the quality or importance of the interactions will be an important, but difficult task. Subjective social validation procedures may be the most appropriate assessment method. This is an component of integration that has not received any empirical research in supported employment settings and needs to be examined further.

Another area for future research is that of personal satisfaction (McAfee, 1986). Different workers will prefer different levels of social interactions. It is important to assess these preferences and to find appropriate job matches. Assessing these preferences may be complex for workers with severe disabilities who have limited communication skills (Nisbet & York, 1989). There is little current empirical research on this topic involving workers in supported employment settings (Moseley, 1988).

As indicated in the introduction, many different types of measurement systems can be utilized in measuring integration. It may be most effective to use combined measures of integration (social networks, mental health, interaction patterns, normative comparisons, social validation) in order to more fully understand integration.

Finally, there is the need to investigate methods of enhancing integration. As this research indicates, a worker may be physically integrated but socially segregated in a work setting. Strategies for modifying the work environment, teaching co-workers

intervention skills, teaching social interaction skills to workers with and without disabilities, and increasing communication skills are all needed.

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Table 1

Description of Participants

<u>Worker</u>	<u>Age</u>	<u>Gender</u>	<u>IQ</u>	<u>ABS*</u>	<u>Number of Months on Job</u>	<u>ABS Verbal Ability Score**</u>	<u>Other Disability</u>
<b>WORK CREWS</b>							
1	40	M	10	1.8%	24	4	
2	29	M	40	67.3%	24	13	Cerebral Palsy
3	24	M	<45	16.4%	30	14	
4	39	M	52	58.2%	33	11	
5	36	F	45	50.9%	33	11	
6	37	M	32	3.6%	33	5	
7	23	M	27	3.6%	25	5	Visual Impairment
8	45	M	<20	16.4%	22	0	
9	23	M	12	16.4%	12	0	Visual Impairment
10	33	M	50	34.5%	25	11	
11	50	M	40	67.3%	74	12	
12	44	M	30	23.6%	54	10	
13	38	M	40	16.4%	2	3	
<b>Means</b>	<b>35.5</b>		<b>34.1</b>	<b>29%</b>	<b>30.1</b>	<b>7.6</b>	
<b>ENCLAVES</b>							
1	22	M	34	67.3%	16	3	
2	26	F	36	58%	12	7	
3	22	F	30	34%	17	2	
4	25	F	34	14.5%	8	3	
5	64	M	45	67.3%	8	11	
6	23	F	28	1.8%	5	0	Deaf
7	26	F	19	1.8%	23	0	

Social Interactions

8	26	M	37	67.3%	25	14
9	34	M	43	1.8%	25	2
10	37	M	22	67.3%	25	11
11	35	M	26	16.4%	66	7
12	24	F	27	61.8%	45	9
13	25	M	37	61.8%	46	12
<b>Mean</b>	<b>29.9</b>		<b>32</b>	<b>40.1%</b>	<b>24.7</b>	<b>6.2</b>

INDIVIDUAL SITES

1	29	M	19	1.8%	37	1	
2	25	M	45	23.6%	11	6	
3	25	M	40	67.3%	6	13	
4	26	M	49	34.5%	1	10	
5	22	M	30	67.3%	7	13	
6	29	M	17	16.4%	11	5	
7	34	M	51	34.5%	18	6	
8	48	M	49	67.3%	49	14	Dual Diagnosis
9	46	F	42	67.3%	6	14	
10	22	M	39	23.6%	13	6	
11	22	F	<39	4.4%	8	0	Deaf & Blind
<b>Means</b>	<b>29.8</b>		<b>38.2</b>	<b>37.1%</b>	<b>15.2</b>	<b>8.0</b>	

\*TMR Norms

\*\*Questions 35, 36, 39, & 40 from ABS (range 0-16)

Table 2

Information on Features of Job Sites

Options	Number of Workers in Company	Average, Monthly Take Home Pay Over Last Quarter	Average Wage Per Hour	Mean Hours Worked Per Week	Number of Workers with Disabilities in Immediate Work Area	Number of Workers without Disabilities in Immediate Work Area	Number of Workers with Disabilities in Immediate Break Area	Number of Workers without Disabilities in Immediate Break Area
Individual	38.6 (6-100)	\$180 (\$15-350)	\$2.05	21.9 (7-40)	0.7 (0-3)	3.4 (0-6)	0.3 (0-1)	16.6 (0-70)
Enclave	378.8 (15-900)	\$262 (\$44-630)	\$2.40	29.4 (20-40.1)	5.2 (0-8)	4.9 (0-10)	5.2 (3-8)	58.8 (2-200)
Work Crew	10.8 (6-20)	\$115 (\$36-405)	\$1.28	22.4 (4.6-33.3)	3.6 (1-5)	0.9 (0-3)	4.3 (2-5)	1.1 (0-3)

Table 3

Definitions of Social Interaction Categories

<u>Receiving Assistance:</u>	Receiving/getting help on a task from another person. Not correction or instruction.
<u>Providing Assistance:</u>	Providing help on a task to another person. Not correction or instruction.
<u>Requesting Assistance:</u>	Asking for help on a task from another person.
<u>Providing Instruction:</u>	Giving directions, prompts, or correction to another person.
<u>Receiving Instruction:</u>	Being given directions, prompts, or correction regarding a task.
<u>Providing Criticism:</u>	Telling someone that they are doing a task wrong, making a mistake, or doing something inappropriate.
<u>Receiving Criticism:</u>	Being told that they are doing a task wrong, making a mistake, or doing something inappropriate (in a polite way).
<u>Providing Social Amenities:</u>	Saying "Hello," "How's it going," or other polite greeting verbalizations of a short duration to another person.
<u>Receiving Social Amenities:</u>	Being told "Hello," "How's it going," or other polite greeting verbalizations from another person.
<u>Personal Conversation:</u>	Engaged in a verbal interchange beyond social amenities that is nonwork-related.
<u>Work Conversation:</u>	Engaged in a verbal interchange beyond social amenities that is work-related.
<u>Receiving Compliments:</u>	Getting a positive or reinforcing statement from another person.
<u>Providing Compliments:</u>	Giving a positive or reinforcing statement to another person.

Receiving

Teasing/Provocation:

Receiving negative comments (not criticism) or being the target of physical provocation.

Providing

Teasing/Provocation:

Giving negative comments (not criticism) or engaging in physical provocation.

Unacceptable Behavior:

Behavior that is inappropriate for the work situation, whether interacting with others or a self-directed behavior.

Table 4

Results and Statistical Analysis for the Three Work Options

Category	ENCLAVE		WORK CREWS		INDIVIDUAL		F	Effect Size	Group (a)
	M	SD	M	SD	M	SD			
<u>Differences</u>									
Sup (W)	1.19	1.97	0.04	0.10	2.10	2.88	4.483*	.456	I > W
(B)	0.42	0.56	0.04	0.10	2.23	3.92	4.751*	.473	I > W
HS Sup (W)	13.4	14.7	11.9	6.41	5.84	13.7	2.915		
(B)	4.04	4.53	7.22	4.31	6.74	15.0	1.561		
NH Co (W)	0.85	1.03	0.02	0.06	3.49	3.98	13.883**	.670	I > E >
(B)	7.2	7.62	0.22	0.80	3.14	2.90	12.334**	.654	E, I >
H Co (W)	1.64	3.08	7.16	4.49	0.55	1.40	19.758**	.733	W > E, I
(B)	4.37	7.13	6.01	5.46	0.22	0.54	10.524**	.624	E, W > I
Other (W)	0.03	0.09	0.23	0.48	1.78	3.69	3.380*	.408	I > E
(B)	0.37	0.41	0.81	0.74	1.61	3.54	0.999		
Rec As (W)	0.71	1.80	3.39	3.39	0.80	2.52	8.087**	.568	W > E, I
(B)	0.21	0.44	0.15	0.19	1.74	5.01	1.169		
Req As (W)	0.16	0.13	0.12	0.22	0.08	0.11			
(B)	0.03	0.06	0.02	0.08	0.09	0.12			
Pro As (W)	0.07	0.13	1.45	2.30	0.20	0.40			
(B)	0.07	0.17	0.18	0.24	0.03	0.10			
Rec In (W)	8.33	9.24	7.67	4.13	4.66	9.64	1.958		
(B)	1.00	1.50	0.79	0.60	3.06	8.44	0.050		
Pro In (W)	0.05	0.08	0.20	0.35	0.06	0.09			
(B)	0.07	0.17	0.03	0.05	0.01	0.03			
Rec Cr (W)	0.03	0.05	0.18	0.25	0.04	0.09			
(B)	0.03	0.08	0.02	0.04	0	0			
Pro Cr (W)	0.01	0.02	0	0	0	0			
(B)	0.01	0.03	0	0	0	0			
Rec SA (W)	0.45	0.35	0.70	1.13	1.25	1.73	0.934		
(B)	1.67	1.55	2.72	4.08	1.05	1.03	0.544		
Pro SA (W)	0.15	0.21	0.26	0.38	0.88	1.33	2.014		
(B)	1.18	1.54	1.35	2.05	0.85	1.24	0.160		

Social Interactions

Rec Co(W)	5.05	6.31	1.95	2.05	0.87	1.37	2.702		
(B)	0.24	0.33	0.18	0.16	0.23	0.31	0.004		
Pro Co(W)	0.01	0.05	0.03	0.09	0.01	0.03			
(B)	0.01	0.03	0.01	0.03	0.03	0.07			
Rec TE(W)	0.04	0.12	0.05	0.08	0.04	0.09			
(B)	0	0	0.23	0.46	0.06	0.19			
Pro TE(W)	0	0	0.02	0.06	0.07	0.18			
(B)	0	0	0.18	0.35	0.02	0.06			
Work C(W)	4.02	3.49	4.02	3.69	3.69	5.02	0.365		
(B)	0.90	1.35	1.12	1.02	1.49	1.70	0.660		
Pers C(W)	0.55	0.70	0.88	0.71	1.76	2.99	0.758		
(B)	9.49	8.34	7.56	7.04	5.19	7.19	1.470		
Other (W)	0.15	0.19	1.03	1.64	0.25	0.40	4.778*	.469	W > E, I
(B)	1.1	0.00	0.95	0.85	0.94	1.73	0.747		
Unknow(W)	0.38	0.51	1.39	1.12	0.73	0.92	5.123*	.482	W > E
(B)	1.02	1.74	0.70	0.71	0.12	0.20	3.645*	.425	E, W > I
Settin(W)	49.2	41.1	10.3	12.7	75.9	31.5	14.594**	.680	E, I > W
(B)	90.8	10.1	22.3	24.9	86.8	27.6	34.417**	.822	E, I > W
Beh (W)	0.01	0.02	0.07	0.20	0.10	0.36			
(B)	0	0	0.32	1.08	0.13	0.28			
Job Engaged	78.5	19.4	77.4	15	87.3	16.9	1.96		

(a) Group differences are based on post hoc Tukey test (p=.01).  
E=Enclave, W=Work Crew, I=Individual.

\*=p<.05

\*\*=p<.001

Table 5

Summary of multiple regression analysis

Variable	Coefficient	Standard Error	Beta	t-value	Probability
<b>With Nonhandicapped Co-worker</b>					
Access-B	4.804	4.235	.346	1.134	.2649
Access-W	2.804	4.235	.202	.662	.5125
<b>With "Other"</b>					
Access-B	.307	2.344	.047	.131	.8967
Access-W	.537	2.344	.082	.229	.8203
<b>With Nonhandicapped Co-worker</b>					
IQ	.066	.11	.11	.594	.5565
ABS	.151	.062	.589	2.452	.0198
ABS-Ver	-.483	.355	-.35	1.36	.1832
<b>With "Other"</b>					
IQ	.066	.055	.234	1.214	.2338
ABS	-.012	.03	-.103	.408	.6857
ABS-Ver	.136	.175	.209	.776	.4434

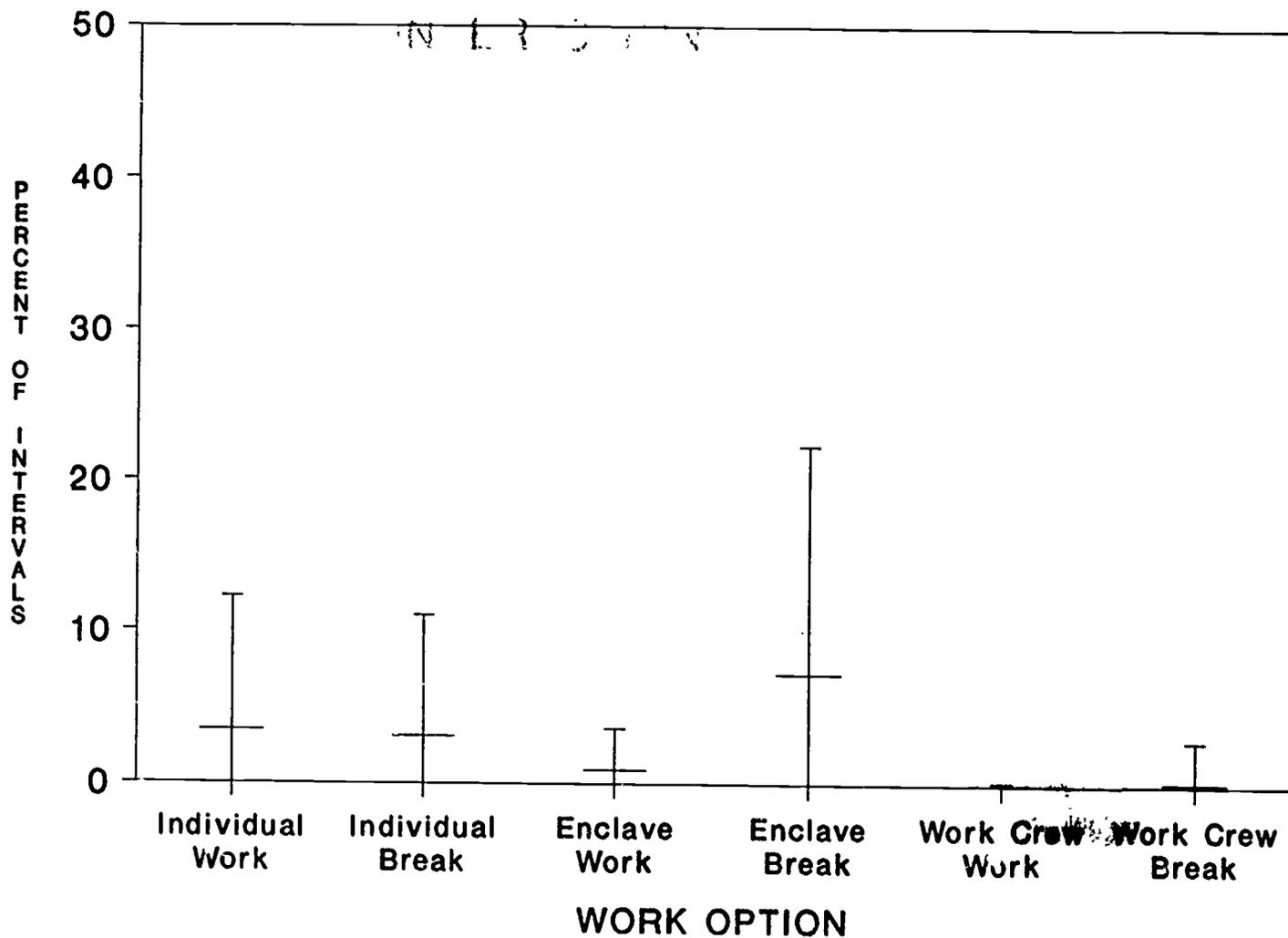
## Figure Captions

Figure 1. Mean and range of means for percent of intervals of interactions with nonhandicapped co-workers across the three employment options during work and break times.

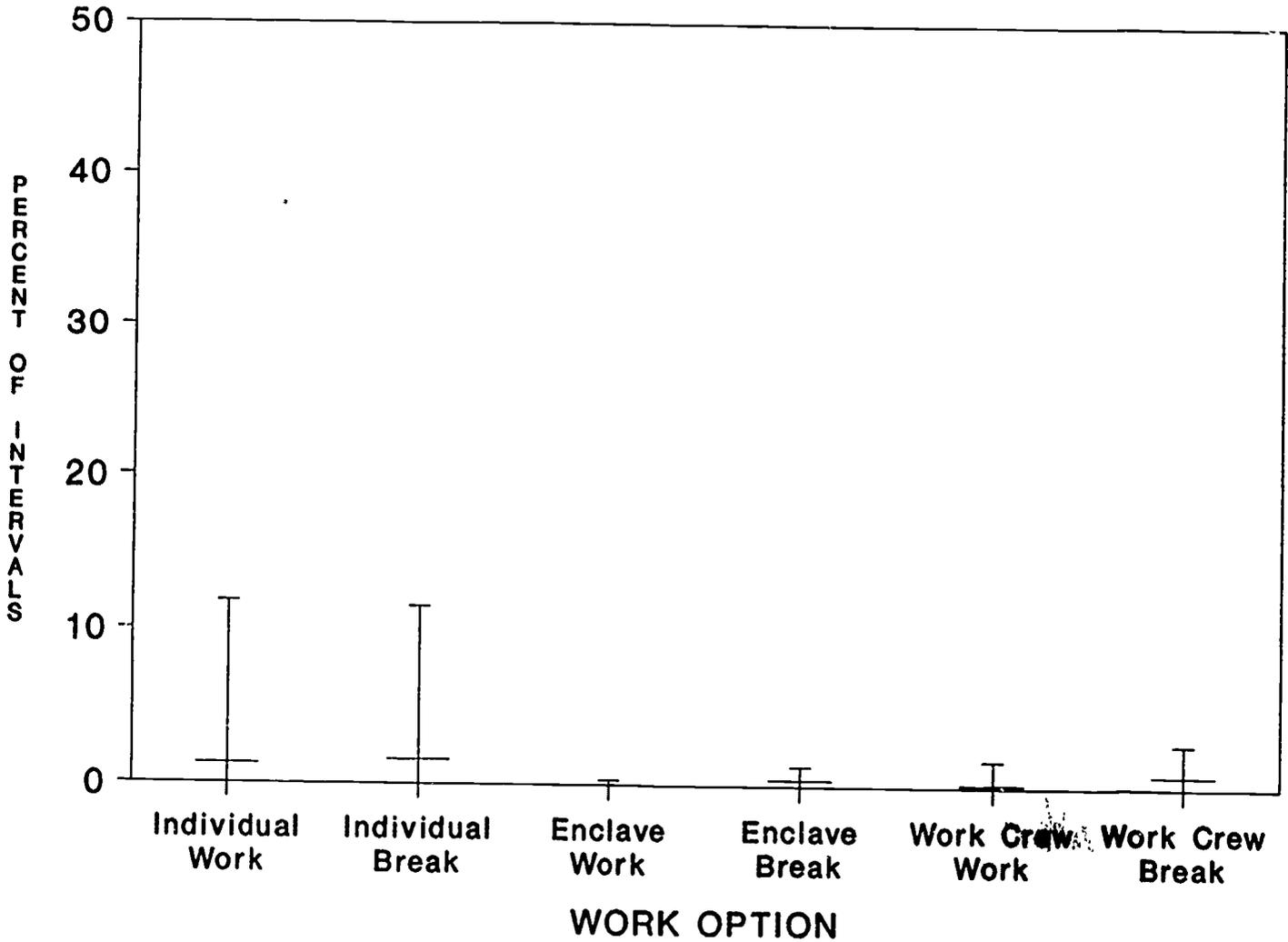
Figure 2. Mean and range of means for percent of intervals of interactions with "other" across the three employment options during work and break times.

Figure 3. Mean and range of means for percent of intervals in integrated setting across the three employment options during work and break times.

# NONHANDICAPPED CO-WORKER



# INTERACTION WITH "OTHER"



# INTEGRATED SETTING

