

# IBI Changes in Child Abilities Have a Positive Impact on Family Activities: Initial Data from the Family Well Being Checklist, a Behaviorally Anchored Rating Scale of Family Functioning

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## Purpose

Typically, IBI service providers track child progress, but do not monitor the effects of improved child skills on overall family functioning. The reductions in problem behavior and increases in child functioning due to IBI services can positively impact family functioning across in-home and community activities. Many available instruments such as the Parent Stress Index are used to compare family functioning to normative samples, but it is unknown how well these scales would work to describe changes in family behavior that might increase as a result in increased child skills and reduced problem behaviors. The Family Well Being Checklist was generated to create a measure of change in family behavior across contexts. The current analysis addresses both the measurement properties of the Family Well Being Checklist and provides preliminary evidence of a relationship between IBI services and family functioning.

## Participants

N=102 responses from families with a child with autism or ASD, receiving or about to begin services from in-home provider of Early Intensive Behavioral Intervention.

N=18 families completed the survey at intake and again after at least one year of service.

## Measure description

Parents rate on a five-point scale the changes they have experienced in the past year in their ability to perform behaviors important to family functioning.

Twenty-nine questions divided into five categories: community events, family activities at home, social events, parent well being activities, and parent relationships (Fig. 1).

## Analysis

Alpha reliabilities of subscale items (R statistical software).

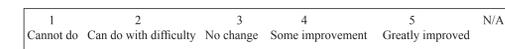
Principal components factor analysis (FactoMinR running in R statistical software).

Paired samples T tests of mean differences for n=18 families providing both pre-intervention and ratings after >= 1 year of intervention.

### Family activities survey:

For each item below, please place a mark along the line that best fits your experience in the past year. You may mark anywhere along the line. If you did not do this activity in the past year or do not know, circle N/A for the question.

"My/My family's participation in the following activities has changed in the last 12 months due to parenting a child with autism:"



### Community events outside the home

1. Attending sporting events.
2. Grocery shopping
3. Clothes shopping
4. Hardware/electronics/home stores shopping
5. Religious activities- services and other religious functions outside the home
6. Travel/vacation activities
7. Cultural activities/celebrations
8. Other out of home activities—Museums, water parks, etc.

### At home family events

1. Mealtimes at table together
2. Child/family bedtime routines
3. Movie/TV viewing together
4. Games
5. Outdoor activities—BBQ, outdoor play activities
6. Siblings' relationships with each other

### Social Events

1. Social occasions with relatives **outside** your home
2. Social occasions with relatives **inside** your home
3. Social occasions with friends **outside** your home
4. Social occasions with friends **inside** your home

### Parent well-being activities

1. Exercise
2. Personal appointments (doctor, other professional appointments)
3. Dates/going out
4. Recreational activities/hobbies (book clubs, woodworking etc.)
5. Alone time, time to yourself
6. Your sleep
7. School activities: volunteering in the school, attending extra curricular activities, PTA/PTO activities

### Parent (your) relationships with others

1. With your parents
2. With your siblings
3. With your spouse/significant other

Figure 1. Family well being scale questions.

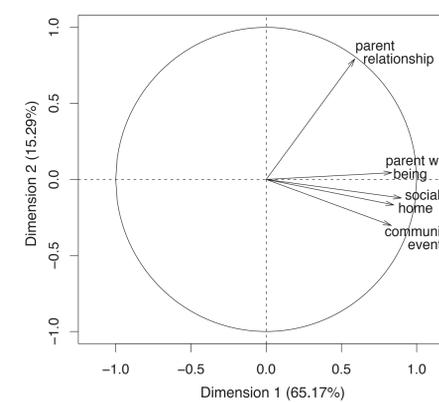


Figure 2. Principal component analysis (PCA) of subscales. Items from each subscale are summed. X axis shows eigenvalues of Dimension 1, Y axis shows eigenvalues for Dimension 2. Amount of variance accounted for (VAF) shown in parenthesis after each dimension. Length of arrows shows eigenvalue (weights), direction of arrow represents dimension. One arrow represents each subscale abbreviated as follows: parent relationship=mean of parent relationship items, social=mean of social items, home=mean of home items, community events=mean of community events items, parent well being=mean of parent well-being items.

## Results

- **Consistency of rating scale:** Alpha reliabilities showed all categories to be internally consistent average standardized alpha=0.88 (item range 0.77-0.95; Table 1).

Table 1. Alpha reliabilities of subscales.

Subscale	Standardized Alpha
Community events	0.94
Home	0.82
Social	0.90
Parent well being	0.90
Parent relationships	0.92

- Exploratory factor analysis of means for each subscale showed a two factor solution accounting for 80.5% of the variance in measures (Fig. 2).
- **Behavior change:** Repeated measures analysis showed significant change in participation in community events ( $p < 0.06$ ,  $t = 2.00$ ,  $df = 17$ ). Increase corresponded to a 95% confidence interval of -0.02 to 1.04 point change on a five-point scale (Fig. 3).

## Discussion

- Results show that survey is internally consistent and that subscales cluster as expected. Effect of IBI interventions shows generally positive changes on family functioning but variability between individuals. Negative changes in parent relationships should be further investigated. Results may aid in communicating the importance and benefits of IBI services to funding agencies and governmental bodies.
- **Next steps:** Increase sample size through partnerships with other service providers. Remove overlapping questions. Test correlation with other scales (e.g. Parent Stress Index). Compare change during IBI programming to families receiving other interventions or to center-based intervention. Improve descriptive information on sample (demographics, income, child success in intervention program).
- **Limitations:** Unknown how population is similar to or different from caseloads of other providers. Descriptive data lacks experimental control.

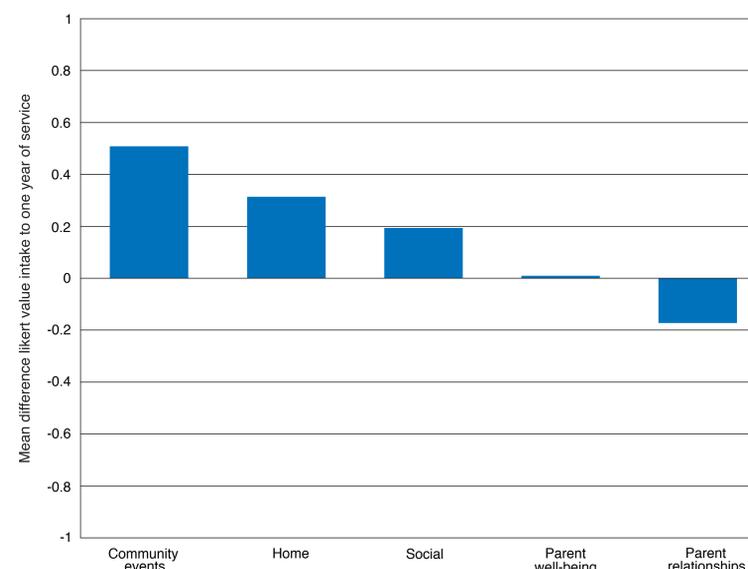


Figure 3. Repeated measures analysis from n=18 participants showing change in average response for each subscale from intake to at least 1 year of service. Positive values indicate increased family functioning. Change was marginally significant at  $p < 0.06$  for community events.