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Empirical Research

The Functional Idiographic Assessment Template-Questionnaire (FIAT-Q): Initial psychometric properties

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ABSTRACT

The evidence based assessment (EBA) movement stresses the importance of psychological measures with strong psychometric properties and clinical utility. The Functional Idiographic Assessment Template system (FIAT; Callaghan, 2006) is a functional analytic behavioral approach to the assessment of interpersonal functioning for use with therapies like Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991). While research has begun to demonstrate the clinical utility of the FIAT, its psychometric properties have not been explored. The present study examines the Functional Idiographic Assessment Template-Questionnaire (FIAT-Q), a self-report measure contained in the FIAT. Two different approaches are used to explore the psychometric properties and structure of the FIAT-Q, and test–retest reliability is examined. These methods are discussed along with the use of the FIAT-Q as an alternative to nosological assessment of client behaviors.

1. Introduction

The evidence based assessment (EBA) movement is a similar movement to the empirically supported treatment (EST) and evidence based practice (EBP) movements in clinical psychology. EBA refers to the use of assessment methods and measures that have strong psychometric properties (i.e., reliability, validity) as well as clinical utility (Hunsley & Mash, 2005; 2007). Clinical utility includes a number of factors such as cost effectiveness of an assessment and the contribution it makes to accurate diagnosis and clinical decision-making (Hunsley & Mash, 2005, 2007). A very important component of the clinical utility of an assessment is its treatment utility: the contribution an assessment makes to beneficial treatment outcomes (Hayes, Nelson-Gray, & Jarrett, 1987, 1989; Nelson-Gray, 2003).

Hayes and Follette (1992) suggest that a functional analytic assessment approach, as originally outlined by Kanfer and Saslow (1969), can provide a useful framework for the development of evidence based assessments. Broadly, a functional approach to assessment is defined by the "identification of important, controllable, causal functional relationships applicable to a specified set of target behaviors for an individual client" (Haynes & O'Brien, 1990, p. 654). A functional behavioral approach to clinical assessment fulfills the call for empirically based assessments because it has its foundations in the extensive experimental analysis of behavior (EAB) and applied behavior analysis (ABA) literatures. The treatment utility of this type of approach has been previously demonstrated in different populations (e.g., self-injurious behavior in developmental disability population, Iwata, Dorsey, Slifer, Bauman, & Richman, 1982, reprinted Iwata, Dorsey, Slifer, Bauman & Richman, 1994; Iwata, Pace, Cowdery, & Miltenberger, 1994).

1.1. Functional assessment and psychotherapy

Functional behavioral assessment has also been used in traditional adult psychotherapy settings. As noted by Hayes and Follette (1992), functional behavioral approaches to assessment have not gained widespread usage or popularity. This is primarily because of difficulties in manualizing them for the purposes of empirical research. In a behavioral analysis, each client is viewed as an individual who has unique factors controlling his or her behavior. As a result, in adult outpatient populations, functional analysis typically requires creative application of numerous basic principles as part of an iterative process (Hayes & Follette, 1992). This causes two major difficulties for manualization. The first difficulty is that therapists are required to attend to and analyze the function of

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behavior rather than its topography. This is often counterintuitive to therapists who have been trained to assess for signs and symptoms within the DSM approach. It is also more difficult to operationalize; it is much easier to describe how to track the number of times a client cried during a session than it is to demonstrate how to analyze the function of each instance of crying (e.g., avoidance, creating intimacy) and how that behavior relates to other behaviors of different topographies with the same function.

The behavioral approach to assessment is also difficult to manualize because it is intimately connected to treatment. It uses assessment as a method for generating hypotheses that inform treatment strategies; the validity of assessment-generated hypotheses is then tested by the outcome of the treatment they suggest. Therapy is approached as a continuous process of generating and testing hypotheses about how to effect client improvements. Thus, successful treatments are reflective of a principle of equifinality: while similar final results may be achieved, therapists may follow different paths to obtain them (Darrow, Dalto, & Follette, 2012). For example, consider a depressed client who has assertion skills deficits and is socially inactive. Based on differing initial impressions, one therapist might begin therapy with assertion skills training while another might start with working to increase the client's frequency of interacting with friends. It is highly likely that both therapists would eventually target the client's assertion skills and level of social activity, ultimately leading to dissipation of the client's depressive behaviors. This is obviously a beneficial result for the client and demonstrates the utility of the assessment (and treatment) strategy. Unfortunately, this functional approach does not aid in the identification of rules that would allow for ready replication of the method (e.g., "always assess assertion skills first").

1.2. The FIAT system and functional analytic psychotherapy

Despite these difficulties, it is important to examine ways of streamlining and standardizing this process in order for functional analysis to be more widely adopted. One such effort is embodied by the Functional Idiographic Assessment Template system (FIAT; Callaghan, 2006). The FIAT system was designed for use in research and clinical applications of Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991; Tsai et al., 2008), a behavior analytic psychotherapy targeting client interpersonal repertoires. It was initially developed in response to a growing need for consistent language about the variety of different interpersonal repertoires addressed in FAP. FAP is a contemporary behavioral intervention that uses both Skinnerian operant principles of shaping behavior with social reinforcement and contemporary contextual science analyses of language to understand how to effectively create clinical change in the context of the therapeutic relationship (see for example, Callaghan, Naugle, & Follette, 1996; Follette, Naugle, & Callaghan, 1996). Contingent responding to client interpersonal behaviors is the hypothesized mechanism of change in FAP, so the idiographic functional behavioral assessment of each client's interpersonal repertoires is essential for therapeutic success (Follette et al., 1996). The FIAT provides a tool for guiding such an assessment.

The FIAT system has two specific features consistent with the EBA requirement of clinical utility. First, it is a functional analytic assessment tool that aids in the identification of variables influencing client behavior using the traditional three-term contingency (antecedent, behavior, consequence). While it does not employ the systematic manipulation of potential controlling variables found in traditional behavioral functional analytic methods, it utilizes a descriptive method that can have an equivalent utility (e.g., Lerman & Iwata, 1993). As a result, the FIAT allows therapists to understand client behavior from a functional behavioral perspective and design appropriate interventions based on empirically-derived learning principles. Second, the FIAT is an idiographic assessment system (see for example, Haynes & O'Brien, 2000) that promotes the analysis of the behavior of each client as an individual. The product of the FIAT is a dynamic, client-specific case formulation that captures the current functioning of an individual client while allowing for revision as the client's behavior changes. Its utility as an assessment has been supported in FAP process and outcome research (e.g., Callaghan, Summers, & Weidman, 2003; Kanter et al., 2006) and other clinical settings. However, as a system developed within a functional analytic behavioral framework, the FIAT is subject to similar barriers of its empirical validation as an EBA, and its psychometric properties have yet to be validated.

1.3. The FIAT-Questionnaire

The Functional Idiographic Assessment Template-Questionnaire (FIAT-Q) was derived to help make the assessment process more efficient by trying to gather a standardized set of information directly from clients. The FIAT-Q is a client self-report measure that reflects the same structure as the FIAT. It allows for standardized tracking of problems and improvements in interpersonal functioning across these areas of functioning. There are five important classes of behavior detailed in the FIAT system and FIAT-Q: assertion of needs and values (Class A); bidirectional communication or giving and receiving feedback from others (Class B); responding to conflict in social interactions (Class C); disclosure or interpersonal intimacy (Class D); and the experience and expression of emotions (Class E). If client responses on the FIAT-Q help identify important therapeutic targets (i.e., functional classes of behavior related to client's presenting problems), its use could greatly enhance the ease of implementing a functional analysis in order to build an idiographic case conceptualization. Ultimately, the validity of this measure will depend on how useful it is in guiding treatment. However, it is important to examine the psychometric properties of this measure. Results from two studies that examined preliminary data regarding the psychometric properties of the Functional Idiographic Assessment Template-Questionnaire are presented.

2. Method

Study 1 presents two statistical methods of exploring the latent structure of the FIAT-Q along with evaluating other psychometric properties for the same data set gathered using the same methods. Part A presents the confirmatory factor analyses testing the model used to develop the FIAT-Q. Part B provides analyses of the underlying structure of the FIAT-Q and yields a short form of the FIAT-Q (FIAT-Q-SF) with 6 factors and 32 items. Study 2 presents the test–retest reliability data for the original, longer form and the new short form.

2.1. Participants

Participants were recruited through a western university's undergraduate research pool. Participants were required to be at least 18 years, and there were no other exclusionary criteria. Four hundred fifty-nine students were enrolled in the study. Of the total participants, 36% ($n=167$) were male. The mean age of the participants was 20.9 (SD=5.6), and they represented an ethnically diverse sample (see Table 1).

2.2. Materials

Following is a list of measures the participants completed. Table 2 summarizes the expected direction of the correlations between the FIAT-Q and the measures used to examine convergent and divergent validity.

Brief Demographic Questionnaire. Demographic questions inquired about participant age, gender, and ethnicity.

The Functional Idiographic Assessment Template-Questionnaire (*FIAT-Q*). The FIAT-Q is a 117-item self-report scale developed to aid therapists in assessing client interpersonal functioning in a time effective manner. The FIAT-Q was developed as part of the FIAT system (Callaghan, 2006) and was derived from the five FIAT Classes A–E (Assertion of Needs, Bidirectional Communication, Conflict, Disclosure and Interpersonal Closeness, and Emotional Experience and Expression, respectively). Items were developed following each instance listed within each class of the FIAT system, be they problems with discrimination of contextual features of when to respond or problems with the responses themselves. Readers are referred to the FIAT for more detail. Respondents read individual items consisting of statements related to interpersonal interactions and respond by indicating their agreement on how indicative the statement is of them and their behavior using a numeric scale (−3=Strongly Disagree, −2=Moderately Disagree, −1=Mildly Disagree, 1=Mildly Agree, 2 Moderately Agree, 3=Strongly Agree). The FIAT-Q is used to generate an overall total score and five subscale scores (one for each of the FIAT Classes). A higher score indicates a greater level of problems in interpersonal functioning. A total of 31 items are reverse scored, and 4 items are scored using the absolute value of a response (e.g., both −2=Moderately Disagree and 2=Moderately Agree would be scored 2). The FIAT-Q items (including notes on which items are reverse scored) are included in Appendix A.

Outcomes Questionnaire-45 (*OQ-45*). The Outcomes Questionnaire-45 (OQ-45; Lambert et al., 1996) is a 45-item assessment of adult mental disorders and can be used by physicians as an indication for psychological referral. The OQ-45 has sound psychometric properties and contains three subscales, two of which will be used in the current study: Interpersonal Relations and Social Role Performance (Lambert et al., 1996). The OQ-45 requires respondents to rate statements using a scale from *never* to *almost always*. Higher scores indicate greater problems. The Interpersonal Relations (IR) subscale is composed of 11 items that assess satisfaction and quality of interpersonal relationships (e.g., friendships, family, life, and marriage). An example item is "I get along well with others." The Social Role (SR) subscale is composed of nine items that assess the level of conflict, dissatisfaction, distress, and inadequacy in various areas of one's life (e.g., employment, family roles and leisure time). An example item is "I find my work/school satisfying." The SR subscale was used in a convergent validity check on the FIAT-Q Class C (Conflict), and the IR on Class D (Disclosure and Interpersonal Closeness).

Quality of Life Inventory (*QOLI*). The Quality of Life Inventory is a brief inventory measuring life satisfaction and subjective well-being in 16 key areas including love, relatives, community, and friends (Frisch, 1994). Each domain has 2 questions that focus on how important the life area is to the respondent and how satisfied the person is with that area. Higher scores suggest greater life satisfaction and happiness, while lower scores indicate life dissatisfaction and poorer life quality. The QOLI has been used as a screening device for identifying people who are at greater risk for problems with their health as well as for treatment planning (Frisch, Cornell, Villanueva, & Retzlaff, 1992). It has excellent psychometric properties, is sensitive to change, and correlates with clinical measures of psychopathology (Frisch, 1994; Frisch et al., 1992). The QOLI was chosen as a general measure for convergent validity with the total FIAT-Q score.

Assertion Inventory (*AI*). The Assertion Inventory (AI; Gambrill & Richey, 1975) is a 40-item two-part questionnaire; only part 1 was used in this study. Part 1 (Degree of Discomfort) includes items assessing the degree of discomfort with certain situations. This measure has sound psychometric properties across studies (Gambrill & Richey, 1975; Hollandsworth, & Wall, 1977). Part 1 was

Table 1
Self-reported ethnicity of the participants.

Ethnicity	Study 1 (N=459)		Study 2 (N=32)	
	n	%	*n*	%
African American	26	5.7	3	9.4
American Indian/Alaskan	2	.4	0	0
Asian	132	28.8	5	15.6
Caucasian	133	29.0	10	31.3
Filipino	55	12.0	2	6.3
Mexican American	58	12.6	7	21.9
Other Hispanic	17	3.7	2	6.3
Pacific Islander	8	1.7	0	0
Other/unreported	27	5.9	3	9.4

Table 2
Correlation matrix for validity analyses of FIAT-Q: Expected direction of hypothesis (exp) and obtained *r*.

	FIAT-Q Total		FIAT-Q A		FIAT-Q B		FIAT-Q C		FIAT-Q D		FIAT-Q E	
	exp	*r*	exp	*r*	exp	*r*	exp	*r*	exp	*r*	exp	*r*
OQ-45	+	.58*										
QOLI	−	−.41*										
AI			+	.28*								
SSI EE					−	−.32*					−	−.35*
SSI ES					−	−.33*						
SSI SS					−	.21*						
SSI SC					−	−.46*						
FNE					+	.33*						
CTS							+	.18*				
OQ-45 SR							+	.41*				
SSI SE									−	−.39*		
SAD									+	.50*		
OQ-45 IR									+	.48*		
SSI EC											−	.06
AAQ-I											+	.48*

Note: OQ-45=Outcomes Questionnaire-45 total score; QOLI=Quality of Life Inventory; AI=Assertion Inventory; SSI EE=Social Skills Inventory Emotional Expressivity subscale; SSI ES=Emotional Sensitivity subscale; SSI SS=Social Sensitivity subscale; SSI SC=Social Control subscale; FNE=Fear of Negative Evaluation; CTS=Conflict Tactics Scales; OQ-45 SR=Social Role subscale; SSI SE=Social Expressivity subscale; SAD=Social Avoidance and Distress; OQ-45 IR=Interpersonal Relations subscale; SSI EC=Emotional Control subscale; AAQ-I=Acceptance Action Questionnaire-I.

* $p < .01$.

used to assess the convergent validity of Class A (Assertion of Needs). For Part 1, items are scored on a 5-point scale with respect to the extent that listed situations would cause the respondent to feel discomfort ranging from 1 (*none*) to 5 (*very much*). Higher scores suggest greater discomfort with situations where the respondent could assert him or herself. Examples of situations the respondents would rate their discomfort include, "Ask a favor of someone," and "Request the return of borrowed items."

Social Skills Inventory (*SSI*). The SSI by Riggio (1986, 1989) is a 90-item, self-report questionnaire focusing on a broad range of basic social and interpersonal communication skills in verbal and nonverbal domains. Participants use a 5 point scale (from 1 = *not at all like me* to 5 = *exactly like me*) to indicate how much the items describe their characteristics. The SSI has good psychometric properties for both test–retest reliability and internal consistency (Riggio, 1989). There are six subscales of the SSI: Emotional Expressivity (EE) to assess skill of communicating feelings; Emotional Sensitivity (ES) assessing ability to receive emotional communications; Emotional Control (EC) to assess emotional regulation and displays of feelings; Social Expressivity (SE) examining skill in verbal expression and social discourse; Social Sensitivity (SS) to assess ability to interpret others' communications; and Social Control (SC) to assess skill in self-presentation. Examples from the SSI include "I am easily able to make myself look happy one minute and sad the next." and "Sometimes I think that I take other things people say to me too personally." Participants' scores are calculated by totaling their responses on individual items, with higher scores indicating better interpersonal and social skills in each domain. Each subscale was used as a convergent validity assessment of different Classes of the FIAT-Q. Specific hypotheses for the relationship between the SSI subscales and the FIAT-Q Classes can be seen in Table 2.

Fear of Negative Evaluation (*FNE*) *scale and Social Avoidance and Distress* (*SAD*) *scales*. The FNE and SAD have both been documented to be reliable and valid measures of social discomfort and distress (Watson & Friend, 1969). The scales were both developed to assess the construct of social anxiety. The SAD purportedly evidences avoidance of social interactions, and the FNE is able to demonstrate the degree to which there is concern about social evaluation and efforts to avoid disapproval. Both scales are rated using a True or False response set as items apply to the respondent. An example item from the FNE includes, "I am usually nervous with people unless I know them well." An example from the SAD is, "I worry that others will think I am not worthwhile." The FNE was chosen to assess the construct in the FIAT-Q Class B (Bidirectional Communication) and the SAD for Class D (Disclosure and Interpersonal Closeness).

Conflict Tactics Scales (*CTS*). The Conflict Tactics Scales (CTS) were developed by Strauss (1979) to assess for conflict, hostility, and violence in interpersonal relationships. Although the scale has been used for research on domestic violence, the scale was included here to assess the general convergent validity of the expression of conflict (Class C) in the FIAT-Q. The CTS has been shown to have excellent psychometric properties in numerous studies (Archer, 1999; Caulfield & Riggs, 1992). The scale asks respondents about the frequency with which events have occurred in the past year when disagreeing with their current partner from 0 (*never*) to 6 (*20 or more times*). Examples of items from the CTS includes, "Discussed the issue calmly," and "Did or said something to spite the other one."

Acceptance and Action Questionnaire (*AAQ-I*). The Acceptance and Action Questionnaire (AAQ-I) used was the 9-item version (Hayes et al., 2004) that assesses a single factor of psychological or experiential avoidance and control and had sufficient psychometric properties to use for this study when it was conducted (Hayes et al., 2004; Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Note that this study was conducted before the AAQ-2 was published (Bond et al., 2011).The AAQ-I uses a 7-point response scale that ranges from 1 (*never true*) to 7 (*always true*) and asks respondents to rate the degree to which each statement applies to them. An example statement from this version of the AAQ-I is "I'm not afraid of my feelings." In the present study, higher scores on the AAQ-I indicate greater psychological inflexibility and problems with emotional experience. The AAQ-I was used to examine the convergent validity for the FIAT-Q Class E (Experience and Expression of Emotions).

2.3. Procedures

The study was conducted in classrooms at a large metropolitan university. Groups of participants entered the classroom and were greeted by an experimenter. Participants sat at desks while they anonymously filled out the packet of questionnaires listed above. Data were entered into computer statistical software.

3. Study 1 Part A

3.1. Analyses

The initial step of data analysis was an exploration of the patterns of missing data. Only .28% (143) of the data points were missing (i.e., no response to an item) within the FIAT-Q dataset. At the item level, the percent of missing data ranged from .2% (1 missing data point) to 1.1% (5 missing data points). The modal number of missing data points for individual items was 1 data point. Given this small proportion of missing data, differences between possible methods for addressing missing data are generally negligible (see e.g., Tabachnick & Fidell, 2013). In order to preserve sample size, missing value estimation was employed. Specifically, missing data points were replaced with the mean score for the item within the sample. The presented analyses were conducted using the dataset resulting from this method of missing data replacement. Note that the analyses were replicated using pairwise deletion as an alternative method of addressing missing data. The overall results of the examination of that alternative dataset were generally similar to the presented results, and thus the results of the analyses relying on the alternative dataset resulting from pairwise deletion are not discussed further.

The first step was to analyze item level data. Since the ultimate goal of this line of research is clinical utility, a conservative approach was taken to item elimination, though the issue of ease of use is equally important. Although the use of absolute values for scoring some items made intuitive sense in developing the measure, these items complicate the scoring process, and the four items scored using the absolute values were dropped. Additionally, the item-total correlations and response patterns were examined. Two items were identified for elimination during this process due to nonsignificant correlations with the total score (Items B12 and E8). This resulted in a 111-item FIAT-Q. All data analyses were conducted on this shortened scale. Analyses were also performed for the original 117-item scale, and because they generally match the results of the shortened scale analysis, they are not discussed further.

Initial validity of the FIAT-Q was examined in three different ways using SPSS statistical software. Due to the hypothesized nonorthogonal nature of the factors, Pearson's correlations between the factors were examined. Second, Cronbach's alpha was calculated to examine the internal consistency of the five FIAT-Q classes. Additionally, the correlations between the FIAT-Q and other measures of distress and well-being were used to

examine the convergent and divergent validity. All correlations were analyzed using a basic Pearson's *r* for the specific hypothesized relationships among the constructs as specified. These were predicted to be moderate correlations as the FIAT-Q is hypothesized to measure different aspects of the constructs than previously published measures.

Finally, the construct validity of the FIAT-Q was examined using a confirmatory factor analysis (CFA) approach with MPlus statistical software (version 6.2; Muthén & Muthén, 1998–2010). The primary strength of the CFA approach to assessment validation is that it allows for the testing of a priori hypotheses about a measure (Floyd & Widaman, 1995). These hypotheses are related to the number of factors, the items participating in specific factors, and correlations between factors (Byrne, 2001). The direct testing of theoretically-derived factor models allows for an exploration of the construct validity of a measure (Floyd & Widaman, 1995). Three models were explored in this study: an independence model, a Single Factor model, and a model testing the five rationally derived Classes (Rational Model). The independence model represents the null hypothesis that the items are not related to each other and may represent a good fit for the data since there are some small correlations among the 111 items. The Single Factor Model proposes that all of the items of the FIAT-Q load onto a single factor representing interpersonal effectiveness. The Rational Model represents the hypothesized structure of the FIAT-Q where items load on the factors representing the FIAT classes to which they belong (see Appendix A). Thus, this method of analysis examines whether the data fit the clinically useful five-factor model better than the Single Factor model.

While there are many different methods to estimate a CFA model, the current study employed the robust maximum likelihood method (robust ML or MLM). Robust ML is useful for continuous nonnormal data (Brown, 2006). Although data transformations could have been employed to improve the normality of the data, we chose to use this robust estimation method in order for the results to be more easily interpretable given our focus on clinical utility.

CFA tests the goodness of fit for each tested model using a number of statistics. There is much controversy in the literature regarding the measurement of model fit (see, e.g., Hu & Bentler, 1999; Kline, 2011 for discussions of this topic), thus a clear description of the procedures used to examine the fit of the models under investigation is provided. The simplest statistic for examining model fit is the traditional chi-square test. This statistic tests the null hypothesis that the proposed model is a good fit for the data. In other words, a statistically significant result for the chi-square test is indicative of a model that is a poor fit for the data. However, the chi-square statistic is sensitive to sample size, and it is widely accepted that it should not be used alone as a definitive indication of fit (Floyd & Widaman, 1995).

As a result, five other fit indices were selected for examination: the chi-square/*df* ratio (the normed chi-square), the comparative fit index (CFI; Bentler, 1990), the non-normed fit index (NNFI; also referred to as the Tucker–Lewis Index; TLI; Bentler & Bonnett, 1980), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993). Lower normed chi-square ratios are indicative of better fit. Ratios between 5:1 and 2:1 represent an "acceptable" fit (Bollen, 1989), and a ratio less than or equal to 3:1 suggests a "good" fit in large sample sizes (Kline, 1998). Models with CFI values greater than or equal to .95 have "good" fits (Hu & Bentler, 1999). The NNFI is similar to the CFI, and an NNFI value greater than or equal to .95 is also considered reflective of "good" fit (Hu & Bentler, 1999). A SRMR value less than or equal to .08 (Hu & Bentler, 1999) and an RMSEA value less than or equal to .06 are indicative of a "good" fit (Browne & Cudeck, 1993).

Table 3
Correlations between subscales & total scores.

	FIAT-Q A	FIAT-Q B	FIAT-Q C	FIAT-Q D	FIAT-Q E	FIAT-Q Total
FIAT-Q A						
FIAT-Q B	.62*					
FIAT-Q C	.55*	.68*				
FIAT-Q D	.69*	.67*	.61*			
FIAT-Q E	.65*	.62*	.59*	.74*		
FIAT-Q Total	.83*	.84*	.80*	.89*	.87*	

* $p < .01$.

Table 4
Internal consistency for FIAT-Q subscales.

	Cronbach's alpha
FIAT-Q A	.80
FIAT-Q B	.77
FIAT-Q C	.74
FIAT-Q D	.80
FIAT-Q E	.84

Table 5
Fit indices for CFA for FIAT-Q.

Model	χ^2	*df*	χ^2/df	CFI	NNFI (TLI)	RMSEA	SRMR
Independence	18,529.14*	6105	3.14	NA	NA	NA	NA
Single factor	12,489.78*	5994	2.08**	.477	.467	.049**	.069**
Rational	11,993.39*	5984	2.00**	.516	.507	.047**	.070**

* Statistically significant result ($p < .01$) suggesting that the model has poor fit to the data.
** The value suggests that model has a good fit to the data.

In addition to examination of goodness of fit of various models in isolation, CFA allows for a test of the relative goodness of fit of competing models. Traditionally, simple difference tests have been used to statistically compare chi-square values of competing models. However, the use of robust ML prevents the comparison of competing models using a simple difference test. Rather, a difference test was calculated by hand (Muthén & Muthén, 1998–2010; Satorra & Bentler, 2001).

3.2. Results

All correlations between scores on the subscales were significant, supporting the hypothesized non-orthogonal nature of these factors (Table 3). Cronbach's alpha was calculated for each of the five FIAT-Q subscales. The internal consistency for the total scale was sufficient ($\alpha = .94$). The results in Table 4 indicate sufficient internal consistency for all of the subscales.

The correlations with other measures are presented in Table 2. Overall, these correlations support the hypothesized relationships of the FIAT-Q with the various measures of mental health and distress with two exceptions. The correlation between the FIAT-Q subscale B and the SSI SS subscale was not in the predicted direction and the correlation between the FIAT-Q subscale E and the SSI EC subscale was not significant. The significant correlations between the FIAT-Q and other measures can be classified as modest.

Results of the CFA (Table 5) indicated that the fit of the Single Factor and the Rational Model are similar and that the data fit these models better than the independence model. Values for the normed chi-square ratios, SRMR, and RMSEA indicate that the Single Factor and Rational Model are a good fit. Values for the CFI,

NNFI, and chi-square test indicate that neither of these models is a good fit. Results also demonstrated that the chi-square value for the Rational Model was significantly smaller than the chi-square value for the Single Factor model (χ^2 difference = 471.06, $df = 10$, $p < .01$).

3.3. Discussion

Overall, these results support the initial validity of the FIAT-Q. The correlations among the subscales are significant. This provides support for the nonorthogonal nature of the subscales, which are meant to measure different aspects of interpersonal functioning. Although the correlations are significant, it does not appear that the subscales are completely overlapping. The internal consistency is also supportive of the Rational model.

The correlations with the other measures for both the FIAT-Q total score and the subscale scores (Classes A–E) indicate that the FIAT-Q is measuring the constructs it was purported to measure. The overall score of the FIAT-Q indicates more general psychological distress and lower levels of life satisfaction. As the FIAT-Q is specifically focused on problems with interpersonal relationships, it relates to these measures of distress with a different emphasis. Class A (Assertion of Needs) appears to be assessing assertion skills from a more behavioral framework in contrast to the Assertion Inventory, in that the FIAT-Q questions approach specific skills related to assertion (e.g., "I express my needs subtly, for example, by hinting at what I need") rather than problems only in specific situations as measured by the AI (e.g., "ask for a raise"). Class B (Bidirectional Communication) correlated with the expression of emotion as well as receiving emotional messages from others and skills in self-presentation and concern with social evaluation (Emotional Expressivity, Emotional Sensitivity, and Social Control SSI subscales). Class B did not correlate as predicted with the ability to interpret others' communications (Social Sensitivity SSI subscale); in fact it was correlated in the opposite direction. There is not a clear interpretation of this specific result; it may be the case that the FIAT-Q Class B and the SSI SS subscale are measuring very different aspects of social skills.

Class C (Conflict) correlated with two other measures of social conflict (Conflict Tactics Scale and Social Role subscale of the OQ-45). The weak correlation observed with the CTS is likely due to the fact that the CTS is a more specific measure of interpersonal violence rather than a broad assessment of different types of skills used in conflict as assessed by the FIAT-Q Class C. The OQ-45 is not purely a measure of social conflict, and it will be imperative to be sure that future research on the FIAT-Q determine the validity of this subscale using more specific measures of interpersonal conflict. Class D (Disclosure and Interpersonal Closeness) correlated with a measure of behavioral avoidance of social interactions (Social Avoidance and Distress Scale) as well as with skills in social discourse (Social Expressivity subscale of SSI) suggesting it may be tapping into the type of disclosure that creates interpersonal connectedness and intimacy. Class E (Emotional Experience and Expression) correlated with established measures of experience and expression of emotions (Acceptance and Action Questionnaire and Emotional Expressivity subscale of SSI), but it did not correlate with a measure of emotional control (Emotional Control subscale of SSI). Again, it could be that the SSI EC subscale is measuring a different type of behavior in a construct broadly defined by the FIAT.

The results of the CFA provide some support for the validity of the five class structure of the FIAT-Q as represented by the Rational Model examined in Study 1. The normed chi-square ratio, SRMR, and RMSEA for the five class Rational Model suggests that the model is a "good" fit to the data. In contrast, the chi-square test, CFI, and NNFI suggest that the model has a "poor" fit.

There are a number of possible explanations for the poor performance of the five class model with respect to CFI and NNFI indices. One of these possible explanations is that values of CFI and NNFI tend to worsen as number of variables (in this case, the number of FIAT-Q items) in a model increase (Kenny & McCoach, 2003).

A more likely explanation for poor performance of the five class model with respect to the CFI and NNFI is that the average size of the correlations between variables is not high, which can reduce both CFI and NNFI values (Kenny, 2012). Kenny (2012) suggests that, when RMSEA for the independence (null) model is less than .158, incremental fit indices such as the CFI and NNFI may not be informative in examination of model fit. RMSEA for the independence model under examination is .067, and as a result the values of CFI and NNFI for the five class model must be examined with caution.

Importantly, the results demonstrate that the FIAT-Q items can be grouped together. Although there were some nonsignificant correlations between items, grouping the items into factors improved the fit compared to the independence model, where each item is not related to the others. Furthermore, the five class Rational Model fits the data better than the Single Factor model.

However, since these results did not clearly support the Rational Model, the underlying structure of the data was examined using an exploratory factor analysis. We examined the residuals and modification indices of the five factor solution but they did not offer simple fixes (Brown, 2006). Furthermore, modifying the model is a departure from the confirmatory nature of CFA (Floyd & Widaman, 1995). Rather than go this route, we decided to try a truly exploratory approach to better understand the underlying structure of the FIAT-Q data.

4. Study 1 Part B

An exploratory factor analysis (EFA) is used to identify the underlying dimensions of a domain of functioning (Floyd & Widaman, 1995). EFA was employed to better identify the underlying structure of the FIAT-Q data since the theoretically derived model did not result in a great fit. By examining factor loadings, it should also be possible to identify a smaller subset of items that bets represent the underlying structure, thus increasing the ease of using the FIAT-Q to track therapy progress on a weekly basis.

4.1. Method

An exploratory principle factor analysis was conducted in MPlus on the 111 FIAT-Q items using the same data with mean replacement as the previous analyses. We employed maximum likelihood estimation with robust standard errors (MLR), which is robust to multivariate nonnormality (Muthén & Muthén, 1998–2010). Given the non-orthogonal nature of the items, an oblique geomin rotation method was chosen.

Three different strategies were employed to determine the number of factors to retain (O'Connor, 2000): the scree test (Floyd & Widaman, 1995), MAP analysis (Velicer, Eaton, & Fava, 2000), and parallel analysis (Montanelli & Humphreys, 1976). Solutions were then compared by examining factor loading patterns and item content. An item was discarded if all of its factor loadings were $\leq .45$ or it had a high cross loadings ($\geq .30$ on a second factor). The .45 value is slightly higher than the recommended cut-off of .4 (Floyd & Widaman, 1995) and was chosen in order to retain a smaller subset of items given our goal of creating a measure that is easy to use on a weekly basis. Finally, the internal consistency of the factors was examined by calculating Cronbach's alpha in SPSS.

4.2. Results

The result of the parallel test to determine the number of factors to retain was inconclusive (the randomly generated eigenvalues did not cross the eigenvalues from the data; see Fig. 1). Similarly, there was not a clear elbow in the scree plot. The MAP analysis suggested examination of solutions with up to 10 factors. In reviewing the solutions with 1–10 factors, many of the solutions did not have significant loadings on one or all of the solutions (7–10 factor solutions). The cleanest solution (the one with significant factor loadings and the least amount of cross loadings) and the one for which item content of the factors seemed interpretable was the 6 factor solution. Based on item-deletion criteria, 32 items were retained; none of these items had significant cross loadings. The factor loadings and item content can be found in Table 6 and the internal consistency can be found in Table 7 for these 6 factors. Based on the item content, the factors were given the following names: Avoidance of Interpersonal Intimacy, Argumentativeness or Disagreement, Connection and

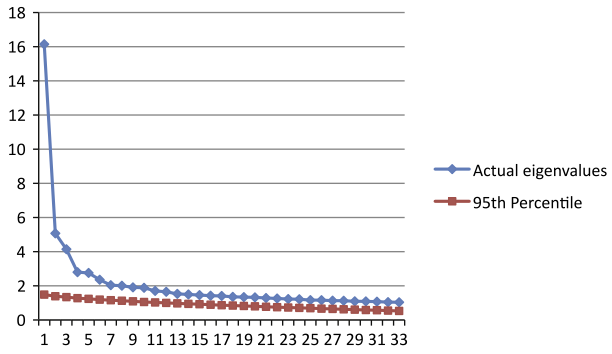

Fig. 1. Scree plot with parallel analysis.

Table 7
Internal consistency for FIAT-Q-SF subscales.

Factor	Cronbach's alpha
1	.82
2	.74
3	.64
4	.72
5	.75
6	.77

Table 6
Factor loadings of 6 factor short form FIAT-Q (FIAT-Q-SF).

	Original class – item #	Item	Factor loadings
Factor 1: Avoidance of Interpersonal Intimacy			
1	D-14	I do not want to share things about myself with others.	.63*
2	E-9	I intentionally hide my feelings.	.62*
3	D-11	I start to talk about what I am going through, and then decide it is better to keep my feelings to myself.	.57*
4	D-7	When friends ask me about how I am doing, I choose not to tell them.	.56*
5	D-8	I feel the need to keep secrets from people who are close to me.	.55*
6	D-1	I have problems being close with others.	.54*
7	D-16	I have difficulty making conversation with people.	.46*
8	A-12	I avoid asking people for help in meeting my needs.	.45*
Factor 2: Argumentativeness or Disagreement			
1	C-23	I deliberately upset the other person during an argument.	.58*
2	C-20	When I am arguing with someone, the argument goes on for a long time.	.57*
3	C-19	People say I am not willing to compromise when there is a conflict.	.55*
4	C-22	When I am arguing with someone, the argument becomes more intense as time goes on.	.48*
5	C-15	When I have a disagreement with another person, I explain repeatedly why I think I am right.	.46*
6	B-18	If someone gives me feedback that I don't like, I do the opposite of what the person wants.	.45*
7	B-19	When people give me unfavorable feedback, I argue with them.	.45*
Factor 3 (all items reverse scored): Connection and Reciprocity			
1	D-13	Close relationships are important to me.	.55*
2	C-5	I feel that there are times when it is beneficial to express disagreement in a relationship.	.48*
3	D-23	I listen to others and offer them support.	.48*
4	D-15	I ask other people to tell me about their feelings and their experiences.	.47*
Factor 4: Conflict Aversion			
1	C-11	I withdraw in the face of conflict, regardless of the circumstances.	.70*
2	C-9	I avoid conflict at all costs.	.70*
3	C-10	In order to avoid conflict, I try to anticipate what the other person wants me to do.	.54*
Factor 5: Emotional Experience and Expression			
1	E-6	My emotional responses make sense to me when I consider the circumstances. (reverse scored)	.54*
2	E-1	I have problems with my emotions.	.51*
3	E-5	I can tell the difference between one emotion and another. (reverse scored)	.49*
4	E-2	I have problems identifying what I am feeling.	.49*
5	E-7	I express my emotions at appropriate times and places. (reverse scored)	.45*
Factor 6: Excessive Expressivity			
1	D-22	People tell me that when I talk about my own experience, I share information that is too personal.	.60*
2	E-21	People say that I talk about my feelings too much.	.59*
3	D-21	I am told that I talk too much about myself.	.56*
4	E-24	People are annoyed by the way that I express my emotions.	.53*
5	E-22	I express my emotions in an overly intense manner.	.51*

Note: The abbreviations in the "original class – item #" column refer to the original subscale and the number of each item in the Rational Model of the FIAT-Q (A: Assertion of Needs; B: Bidirectional Communication; C: Conflict; D: Disclosure and Interpersonal Closeness; E: Emotional Experience and Expression).

* Significant at .05.

Reciprocity, Conflict Aversion, Emotional Experience and Expression, and Excessive Expressivity.

4.3. Discussion

Using an exploratory factor analysis approach was successful in identifying a smaller subset of items that appear to measure important interpersonal problems. However, the internal consistency of these subscales is moderate and this shorter version does not have the scope of assessment areas found in the original FIAT-Q.

5. Study 2

A necessary property of the FIAT-Q to demonstrate clinical utility is that scores change with intervention. However, scores should remain relatively stable over a short time frame when no intervention is occurring. This second study explored the test–retest reliability of the FIAT-Q.

6. Method

6.1. Participants

Participants were recruited by similar means and criteria as study 1. Sixty students were originally recruited. Participants were required to complete the measure two times, 30 days apart. Data collected past this time frame were not included in the analysis in an effort to minimize variability with time. The final sample, those that had complete data for both time points, included 32 participants. Twenty-eight percent were male with an average age of 24.31 (SD = 4.88). Data regarding ethnicity is in Table 1.

6.2. Procedure

Participants completed the FIAT-Q twice, with a month in between. A significant number of the participants did not provide complete data at both time points. *T*-test and chi-square analyses were conducted on demographic variables to examine whether significant differences were present between those who had complete data and those who did not. These same tests were used to examine differences between samples from Study 1 and Study 2. Ethnic/racial categories were combined to perform the chi-squared analyses due to expected values less than 5; the categories included in these tests were Caucasian, Asian, Hispanic, and Other. For those participants who gave complete data, Pearson's *r* was calculated on the 111-item FIAT-Q scores from these two time points. Additionally, a t-test examined whether there were significant differences between scores from the two time points. These same tests were repeated to examine the test–retest reliability of the sub-set of items included in the short form of the FIAT-Q.

Table 8
T-test examining test–retest reliability of FIAT-Q and FIAT-Q-SF.

	Mean	*SD*	*t* (*df*)	*p*
FIAT-Q Score Time 1	−48.72	39.87	−1.67 (31)	.105
FIAT-Q Score Time 2	−39.03	50.55		
FIAT-Q-SF Score Time 1	−16.56	18.31	−.533(31)	.598
FIAT-Q-SF Score Time 2	−15.41	18.4		

7. Results

Results comparing participants who gave complete data compared to those who did not do not indicate significant differences between participants age ($t = -1.189$; $df = 58$, $p = .239$), gender ($\chi^2 = 2.154$, $df = 1$, $p = .142$), or race/ethnicity ($\chi^2 = 1.138$, $df = 3$, $p = .768$).

Results comparing participants from the two different samples indicated significant differences on age ($t = -4.883$; $df = 70.253$, $p < .001$), and race/ethnicity ($\chi^2 = 12.301$, $df = 3$, $p = .006$) but did not do not indicate significant differences on gender ($\chi^2 = .002$, $df = 1$, $p = .966$).

The correlation between total FIAT-Q scores from the two time points was significant ($r = .733$; $p \leq .001$). The correlation between the total FIAT-Q short form scores from the two time points was also significant ($r = .776$; $p \leq .001$). There was not a significant difference between the scores at the two time points for either the 111 item or 32 item version of the FIAT-Q (Table 8).

8. Discussion

The preliminary results of the test–retest data are also promising. Both the correlation and the *t*-test support the relative stability of the FIAT-Q over a 1 month period. This was also true for the FIAT-Q-SF. The strength of these results is limited by the small sample size and moderate correlation between the data points. Also, the amount of variance explained by the correlation between the test–retest scores is not ideal ($r^2 = .53$; $r^2 = .60$ for the FIAT-Q-SF). The large variability of scores observed will require large changes in order to demonstrate change due to treatment if the FIAT-Q is used as an outcome measure. It must also be noted that the significant differences found between samples from Study 1 and Study 2 on the age and ethnicities of participants may be a threat to the generalizability of the results. Thus, the current results must be reproduced in a test–retest sample with less participant attrition before a strong conclusion about the stability can be drawn. Despite this, a more important aspect for future research to examine is whether responses on the FIAT-Q change to reflect actual changes in interpersonal functioning.

9. General discussion

The goal of the present studies was to provide initial data regarding the psychometric properties of the FIAT-Q; the clinical utility of the FIAT-Q awaits future research. Initial analyses, including correlations between subscales, and internal consistency, supported the theory underlying the FIAT-Q. Preliminary discriminant and convergent validity was also supported by the correlations with other measures related to mental health and distress. Some support for the construct validity of the Rational Model of the FIAT-Q was provided by the confirmatory factor analysis, including the test comparing it to a Single Factor model. Since the results did not support the original structure as robustly as intended, the underlying structure of the data was further examined using an exploratory factor analysis. This resulted in a shorter version of the FIAT-Q (FIAT-Q-SF) with six interpretable subscales that have moderate internal consistency. Finally, the preliminary test–retest reliability was found for both the original, longer FIAT-Q and the FIAT-Q-SF.

Taken together, these results demonstrate the difficulty of fitting a functional behavior analytic approach into a traditional psychometric framework. The traditional view of construct validity embodied by factor analytic approaches is not in line with the bottom-up approach of functional analysis. The goal of a functional

approach is to situate behaviors with respect to the environment, rather than identify ways in which behaviors might be indications of some underlying problem. The purpose of identifying the problem behaviors in the FIAT is not to name or simply categorize them. Instead, the purpose is to specify the problem repertoire in the service of directing the clinician toward shaping the prosocial repertoire to supplant that ineffective behavior. This approach is idiographic in nature and is an exemplar of functional behavioral assessment. For example, if the client has noted that he or she has difficulty with problems knowing when or with whom to ask for support as assessed by the FIAT-Q, the therapist could target this problem by attempting to teach this skill, practicing in-session with the client, reinforcing approximations engaging in this skill of discrimination, and then having the client practice these skills outside of session with others. If the client evidences improvements in-session and reports improvements outside of session and these correspond to a decrease in distress or suffering, that suggests an important link between that particular problem for the client and his or her struggles or impairment.

The FIAT Classes are meant to sidestep the typical goals of taxonomy and move toward narrowing the possible list of problems with interpersonal repertoires, particularly those targeted in FAP interventions. The FIAT-Q is one step in this direction. Its goal is to help the clinician create a succinct case formulation for FAP or other therapy clients while allowing therapists and researchers to use a common language to communicate. Importantly, clinicians using the FIAT-Q should help clients understand the importance of completing the assessment process; case conceptualization should be a collaborative process where therapists and clients agree on treatment goals. Creating this type of therapeutic environment can help clients engage in the process, especially when asked to complete lengthy questionnaires such as the FIAT-Q.

Some mention should be made about the nature of training required to use the FIAT-Q. As previously indicated, the FIAT system and the Questionnaire were developed with very specific behavior analytic language and principles, although the questions in the FIAT-Q are written for the lay public to understand. While this has advantages with respect to precision and scope, it may inherently require some training in behavior analysis to fully understand the system and the purpose of the FIAT-Q. One of the goals of contemporary behavioral therapies remains to be dissemination to both therapists and clients from backgrounds broader than just those trained in behavioral language. The use of the FIAT-Q, then, may require some basic education in behavior therapy and theory. It is an assessment initially designed to be used by FAP therapist and other contemporary functional contextual interventions. These treatments require some basic knowledge of behavioral principles, and it will be important to determine to what extent the FIAT-Q (and FIAT system) goes beyond a contemporary behavior therapist's knowledge or skill set in understanding and utilizing these principles.

Alternatively, the six factor, 32 items scale (FIAT-Q-SF) retained from the exploratory factor analysis is likely to be more easily implemented as a way to track therapy progress. The full version of the FIAT-Q could be used as a pre- and post-measure while the short form could be used on a weekly basis. However, FIAT-Q-SF solution does not map onto the original, five factor solution, which makes it difficult to predict the utility of using these versions in conjunction. Furthermore, the moderate internal consistency may be problematic when implementing the shorter version. Future research might explore how to improve the subscales. Although, whether the subscales change during therapy is more relevant for the current effort. The failure of the CFA to show clear results and the low internal consistency of the short form subscales may not be problematic to the clinical utility of the different versions of the FIAT-Q. Behaviors that are identified by the items in this system may be important for guiding therapy, although they may not measure an identifiable latent variable.

Ultimately, the validity of the FIAT-Q will come from intervention research that examines how useful the items and scores are at guiding treatment. Using the five-factor model, researchers will be able to examine whether different individuals with different scores across the five factors benefit from different treatment approaches. For example, an individual whose FIAT-Q scores indicate problems with emotional expression is likely to do better in a treatment that focuses on effectively communicating emotions where as an individual whose FIAT-Q scores indicate problems with expressing needs would likely benefit from a treatment where ways to get needs met was the focus. These differential hypotheses would not be feasible if the Single Factor model fit the data better. This research approach will also allow for the revision of items within the five classes as more data are gathered. The validation of the short form will require similar methods.

There were many methodological decisions made during this effort that reflect the goal of clinical utility. This included eliminating items that were scored as absolute values, using robust estimation methods rather than transforming data to improve normality, and only calculating scale scores if all data was available. Future researchers should be mindful of these issues in developing the FIAT-Q and other similar measures.

The present study used a non-treatment-seeking sample that may not reflect the population for which it is intended. This study should be replicated in a treatment-seeking population to determine that the constructs remain valid as well as the measure's clinical utility. An even more progressive pursuit would be to examine the utility and psychometric properties of the FIAT-Q within actual treatment settings. Important questions to be asked include: Does the FIAT-Q reliably and validly measure interpersonal dysfunction? Does the FIAT-Q increase the efficiency of current assessment methods? Does the FIAT-Q effectively inform treatment strategies? Does the FIAT-Q accurately measure an important process or outcome variable in FAP? It is hoped that this research line serves as a jumping off point to help further not only research on FAP and other interpersonal behavior therapies but continual progression of functional contextual and evidence based assessment approaches.

Appendix A. Classes and items in the FIAT-Q

Class A: Assertion of Needs

A1. I have problems getting my needs met.

A2. I get my needs met as soon as I ask. (reverse scored) A3. I know when I need help or support from other people. (reverse scored) A4. I realize that I need help in a particular situation after the situation has passed.

A5. I do not know how to put my needs into words.

A6. I am able to identify the kind of help or social support I need from other people. (reverse scored)

A7. I have trouble recognizing when I can ask another person for something.

A8. When I need something, I ask for it as soon as I need it. (reverse scored)

A9. I can identify people who are willing and able to help me with my needs. (reverse scored)

A10. When I need help or social support, I will ask a close friend or family member. (reverse scored)

A11. I will ask a stranger or casual acquaintance for advice about a personal situation.

A12. I avoid asking people for help in meeting my needs.

A13. I start to ask another person for something, then withdraw my request.

A14. I am willing to accept assistance from someone once the person has agreed to help me. (reverse scored)

A15. When someone notices that I need assistance, I deny that I need any help.

A16. People do not respond when I ask for help or social support.

A17. I express my needs subtly, for example, by hinting at what I need.

A18. When I ask for assistance, people understand what I need. (reverse scored)

A19. In a relationship, I give a lot of emotional support, but do not get much support from the other person.

A20. People tell me that I ask for things too often.

A21. People don't like the way I ask for things.

Class B: Bidirectional Communication

B1. I have problems receiving feedback from other people.

B2. I have problems giving feedback to other people.

B3. It is hard for me to identify when people are giving me feedback about my behavior.

B4. When I am interacting with another person, I am not sure how I affect them.

B5. I know when I am having an unpleasant impact on others. (reverse scored)

B6. The feedback I get from others seems accurate to me. (absolute value; item dropped)

B7. I carefully consider the source of feedback before changing my behavior. (reverse scored)

B8. I am able to identify situations when it would be constructive to provide feedback to another person. (reverse scored)

B9. I avoid situations when I might be provided with feedback, e.g., speaking up in class or at a meeting.

B10. If I am not certain about the impact I am having on a close friend, I will ask the friend to give me feedback. (reverse scored)

B11. When someone is giving me negative feedback, I shut down.

B12. I am overly aware of the impact I have on others. (*nonsignificant item-total correlation; item dropped*)

B13. I am easily hurt or upset when negative feedback is given to me.

B14. Regardless of whether feedback is positive or negative, I don't know how to respond to it.

B15. I change my behavior in response to the feedback that I receive. (absolute value; item dropped)

B16. If someone gives me feedback, I believe it is that person's problem, not my problem.

B17. When I realize I am having an unpleasant impact on someone, I try to ignore the person's discomfort.

B18. If someone gives me feedback that I don't like, I do the opposite of what the person wants.

B19. When people give me unfavorable feedback, I argue with them.

B20. I do not provide feedback to another person if they are having an unpleasant impact on me.

B21. When I tell people that their behavior is having a negative effect on me, they do not change what they are doing.

B22. I am told that the feedback I give is excessive and too detailed.

B23. When providing feedback to others, I respond in a way that is brief and specific. (reverse scored)

B24. I am told that when I provide feedback, I am too critical of the other person.

B25. When I give feedback, I repeat my position several times.

Class C: Conflict

C1. I have problems with conflict in my relationships.

C2. I feel uncomfortable when I experience disagreement with another person.

C3. I am aware when there is conflict with me and another person. (reverse scored)

C4. When another person is angry with me, I do not understand the problem between us.

C5. I feel that there are times when it is beneficial to express disagreement in a relationship. (reverse scored)

C6. I get into conflict with others over things that do not seem to matter to them.

C7. People tell me that I want to discuss conflict at inconvenient or inappropriate times.

C8. I will engage in conflict with another person without considering who they are.

C9. I avoid conflict at all costs.

C10. In order to avoid conflict, I try to anticipate what the other person wants me to do.

C11. I withdraw in the face of conflict, regardless of the circumstances.

C12. After I voice a disagreement with another person, I immediately apologize for bringing up the issue.

C13. When I am having conflict with another person, I ask what I can do to make things better between us. (absolute value; item dropped)

C14. I am successful at resolving conflict with others. (reverse scored)

C15. When I have a disagreement with another person, I explain repeatedly why I think I am right.

C16. During an argument, I am careful to avoid hurting the other person's feelings. (absolute value; item dropped)

C17. I approach solutions to conflict directly, clearly communicating what can be done to resolve our differences. (reverse scored)

C18. I express anger indirectly, for example, by not speaking to the other person.

C19. People say I am not willing to compromise when there is a conflict.

C20. When I am arguing with someone, the argument goes on for a long time.

C21. During an argument, I feel more connected and close to the other person.

C22. When I am arguing with someone, the argument becomes more intense as time goes on.

C23. I deliberately upset the other person during an argument.

Class D: Disclosure and Interpersonal Closeness

D1. I have problems being close with others.

D2. I have had one or more close relationships. (reverse scored)

D3. I am not able to identify when it would benefit me to share my experiences with another person.

D4. I am aware when it is appropriate to ask people about their experiences. (reverse scored)

D5. I will share personal information with a stranger or casual acquaintance.

D6. I will talk about myself and my experiences with only a small and select group of people.

D7. When friends ask me about how I am doing, I choose not to tell them.

D8. I feel the need to keep secrets from people who are close to me.

D9. I talk about myself and my experiences with other people. (reverse scored)

D10. I feel it is best not to talk about my own experiences with anyone.

D11. I start to talk about what I am going through, and then decide it is better to keep my feelings to myself.

D12. I have told people about my problems, and then wished that I hadn't.

D13. Close relationships are important to me. (reverse scored)
D14. I do not want to share things about myself with others.
D15. I ask other people to tell me about their feelings and their experiences. (reverse scored)
D16. I have difficulty making conversation with people.
D17. When I talk about my experiences, people clearly understand what I am telling them. (reverse scored)
D18. After I share something personal about myself, I downplay the importance of what I've disclosed.
D19. I exaggerate my good points and brag about my skills and abilities.
D20. People say that I talk about myself in a way that downplays my good qualities.
D21. I am told that I talk too much about myself.
D22. People tell me that when I talk about my own experience, I share information that is too personal.
D23. I listen to others and offer them support. (reverse scored)
D24. I am told that in relationships, I ask for a lot of emotional support, but provide little support to the other person.

Class E: Emotional Experience and Expression

E1. I have problems with my emotions.
E2. I have problems identifying what I am feeling.
E3. I am aware of my feelings and emotional experiences as they are happening. (reverse scored)
E4. I fail to notice my emotions during an experience, but become aware of them when I look back at the event
E5. I can tell the difference between one emotion and another. (reverse scored)
E6. My emotional responses make sense to me when I consider the circumstances. (reverse scored)
E7. I express my emotions at appropriate times and places. (reverse scored)
E8. I will talk about my feelings in any situation (nonsignificant item-total correlation; item dropped)
E9. I intentionally hide my feelings.
E10. I try not to feel certain emotions.
E11. I avoid situations that might bring out strong feelings.
E12. I allow myself to feel all emotions, even strong ones. (reverse scored)
E13. When I have an unpleasant emotion, I take immediate action to stop feeling it.
E14. I am able to put a name to what I am feeling. (reverse scored) E15. I tell people that I am feeling one way, when I am actually feeling another way.
E16. People tell me that my emotional expression is flat.
E17. When I talk about how I am feeling, I use the same few words to describe my feelings.
E18. People tell me that they want me to express my feelings more openly.
E19. When I share my feelings with others, they do not react in the way that I expect.
E20. I clearly communicate my emotions to people so that they know exactly how I feel. (reverse scored)
E21. People say that I talk about my feelings too much.
E22. I express my emotions in an overly intense manner.
E23. People don't like it when I talk about my emotions.
E24. People are annoyed by the way that I express my emotions.

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