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ORIGINAL ARTICLE

The Development of the Functional Analytic Psychotherapy Intimacy Scale

Rachel C. Leonard · Lindsey E. Knott · Eric B. Lee · Sonia Singh · Angela H. Smith · Jonathan Kanter · Peter J. Norton · Chad T. Wetterneck

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Abstract
Background Functional analytic psychotherapy (FAP) is a contextual behavior therapy that targets idiographic behaviors relevant to interpersonal functioning. FAP often targets issues with intimacy, defined as behavior exchanges that are vulnerable to interpersonal punishment. While existing measures examine similar constructs to FAP's conceptualization of intimacy, the literature lacks a FAP-consistent self-report measure that adequately captures intimacy-related behavior with the capacity to assess behavior change and aid in clinical outcome research. *Method* The Functional Analytic Psychotherapy Intimacy Scale (FAPIS) is a 14-item measure developed for both clinicians and researchers to assess intimacy-related behavior. Utilizing two samples of undergraduate students, exploratory and confirmatory factor analyses were conducted, supporting factorial validity of the FAPIS.
Results Reliability tests, including internal consistency and test–retest reliability and construct validity were assessed, providing further support for the psychometric properties of the FAPIS.
Conclusions The FAPIS appears to be a psychometrically sound measure of intimacy that could assist in future FAP-related research. Further research should also assess the FAPIS for clinical utility.

Keywords Functional analytic psychotherapy · Intimacy · FAPIS

R. C. Leonard · C. T. Wetterneck (✉)
Rogers Memorial Hospital, 34700 Valley Road, Oconomowoc, WI 53066, USA
e-mail: ocdspectrum@yahoo.com

L. E. Knott · E. B. Lee · S. Singh
Houston OCD Program, 1401 Castle Court, Houston, TX 77006, USA

A. H. Smith · P. J. Norton
Department of Psychology, University of Houston, 126 Heyne Building, Houston, TX 77204-5522, USA

J. Kanter
Department of Psychology, University of Washington, Box 351525, Seattle, WA 98195-1525, USA

The promise of contextual behavioral science (CBS) is a clinical science more adequate to the challenge of the human condition that has as its goals not only the amelioration of psychopathology but positive behavior change in multiple realms (Hayes, Barnes-Holmes, & Wilson, 2012). For example, Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) aims to increase psychological flexibility while decreasing experiential avoidance, a transdiagnostic process established as important across a wide range of diagnoses and clinical presentations (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Although multiple measurement strategies are important to a full CBS strategy, to date most research on psychological flexibility and experiential avoidance has been conducted with the Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004) or AAQ-II (Bond et al., 2011). These are simple self-report questionnaires developed through a classic psychometric-theory approach that have demonstrated utility across a range of research and clinical settings (Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

Similarly, Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991; Kohlenberg & Tsai, 1994; Tsai et al., 2009) is an idiographic approach located within the contextual behavioral tradition (Vilardaga, Hayes, Levin, & Muto, 2009) that, while intended to be tailored to the unique presentations of clients with functionally different presenting problems (e.g., Darrow, Dalto, & Follette, 2012), often targets problems with intimacy as a common presenting problem. FAP holds that intimacy, like psychological flexibility, may

be seen as a transdiagnostic functional category relevant to a range of clinical populations (Wetterneck & Hart, 2012). For example, interpersonal functioning in general and intimacy-related difficulties in particular have been linked to depression (e.g., Bottonari, Roberts, Kelly, Kashdan, & Ciesla, 2007; Pettit & Joiner, 2006; Vittengl, Clark, & Jarrett, 2004), the obsessive-compulsive spectrum (Abbey, Clopton, & Humphreys, 2007; Wetterneck, Woods, Norberg, & Begotka, 2006), and anxiety, particularly generalized anxiety disorder and posttraumatic stress disorder (Mendlowicz & Stein, 2000; Przeworski et al., 2011). Research has demonstrated multiple benefits of intimacy, including more successful relationships and better coping with the negative effects of stress, among other important outcomes (Wetterneck & Hart, 2012).

To address problems with intimacy, FAP therapists are trained to engage in and reinforce client improvements related to intimate responding, functionally defined as developing from histories in which behavior perceived as vulnerable to interpersonal punishment is instead reinforced by the other person (Cordova & Scott, 2001). Such intimate responding will vary in form from person to person, but in general may take the form of courageous interpersonal risk taking, authentic and vulnerable responding, self-disclosure, expressing appreciations, and emotional openness (Cordova & Scott, 2001). Using the FAP Impact Scale, a self-report measure of therapist use of such interventions in therapy, therapists have demonstrated an increase in these behaviors and have reported more closeness and intimacy in the therapeutic relationship after training in FAP (Kanter, Tsai, Holman, & Koerner, 2012).

Research on client outcomes in FAP is sparse, and—while the available research is supportive (e.g., Kanter et al., 2006; Kohlenberg, Kanter, Bolling, Parker, & Tsai, 2002; Landes, Kanter, Weeks, & Busch, 2013)—measurement has not focused on intimate responding specifically. The idiographic, functional nature of most previous descriptions of FAP have lead some researchers to employ behavioral frequency counts as outcome measures (Callaghan, Summers, & Weidman, 2003; Ferro-García, Valero-Aguayo, & Vives-Montero, 2006; Oshiro, Kanter, & Meyer, 2012) with which it is difficult to measure intimacy as an outcome, while other researchers who have used self-report outcome measures have not consistently used the same measures across studies (Kanter et al., 2006; McClafferty, 2012; reviewed in Mangabeira, Kanter, & Del Prette, 2012). A primary problem is that a relevant, self-report measure of changes in a client's intimate relating as targeted in FAP has yet to be published. Lack of such a measure, in fact, serves as a major obstacle to increasing empirical research on FAP outcomes, as called for by numerous authors (Bonow & Follette, 2009; Corrigan, 2001; Hayes et al., 2012; Maitland & Gaynor, 2012; Mangabeira et al., 2012; Weeks, Kanter, Bonow, Landes, & Busch, 2012).

Several existing scales that measure similar or overlapping constructs related to FAP intimacy were identified, including the Intimate Risk Taking Scale from the Authenticity in Relationships Scale (AIRS; Lopez & Rice, 2006), the Close Relationships Questionnaire (CRQ; Maxwell, 1985), the Fear of Intimacy Scale (FIS; Descutner & Thelen, 1991), the Functional Idiographic Assessment Template–Questionnaire (FIAT-Q; Callaghan, 2006), the intimacy cluster of the original version of the Inventory of Interpersonal Problems (IIP; Horowitz, 1979), the Marital Intimacy Questionnaire (MIQ; Van den Broucke, Vertommen, & Vandereycken, 1995), and the Miller Social Intimacy Scale (MSIS; Miller & Lefcourt, 1982). Elements of intimate responding as per FAP were tapped by items of several of these scales, but no one scale fully captured the construct of interest fully, briefly, reliably, and validly. Key theoretical elements of FAP's contextual science approach to intimacy, not found in existing scales, include measurement of intimate responding as a behavior in specific relationships rather than solely as an affective state towards another person or as a predisposition towards or comfort with intimacy in imagined or nonspecific relationships. A methodological priority also is to identify a scale that would be sensitive to clinical intervention and that potentially measures change in intimate responding weekly over the course of FAP or another therapy experience.

The current set of studies therefore set out to develop and validate the FAP Intimacy Scale or FAPIS: A brief, client self-report scale useful for both FAP clinicians who would like a quick and brief measure of weekly changes in intimacy during FAP treatment and researchers exploring issues of moderation, mediation, and outcomes of FAP and related therapeutic approaches targeting intimate responding in relationships.

Study 1

The first study was completed to select the best items for inclusion in the FAPIS, to examine the internal consistency of these items, and to evaluate initial evidence for construct validity.

Method

Scale Development Over 30 scales related to intimacy initially were reviewed by members of the research team, and seven scales of particular relevance were selected (listed above). The appropriateness of each of the scale items was reviewed by a team of experts in FAP composed of the original authors of FAP (Robert Kohlenberg and Mavis Tsai) and other published researchers and trainers in FAP. Items were considered appropriate for inclusion if the item was relatively consistent with the goals of FAP. A total of 77 items were extracted and modified from the following scales: The AIRS (Lopez & Rice, 2006; 11 items); the CRQ (Maxwell, 1985; 2 items); the FIS (Descutner & Thelen, 1991; 18 items); the FIAT-Q (Callaghan, 2006; 21

items); the IIP (Horowitz, 1979; 13 items); the MIQ (Van den Broucke et al., 1995; 10 items), and the MSIS (Miller & Lefcourt, 1982; 2 items). Items were modified for two reasons: to reflect relationships more generally, rather than only a marital or romantic partner (some scales, such as the AIRS, had items that referred specially to "my partner"), or to align with the instructions that participants complete the items based on the past week. For this reason, the tense was frequently changed (e.g., items on the FIS were more hypothetical, such as stating "I would feel . . . " and were therefore changed to the past tense). In addition, 15 new items were developed by the research team for a total pool of 92 items.

Instructions for the initial administration of FAPIS items first asked participants to "Please choose the person to whom you are closest in your life. This person could be a parent or other family member, a friend, or a romantic partner. Please answer the following questions about your relationship with this person." The next question asked, "What type of relationship are you describing?" with response options "parent," "sibling," "other family member," "friend," "romantic partner," and "other." Then, participants were asked, "How long have you been in this relationship (in months)?" Following these questions, instructions for the FAPIS items were "Please read each statement carefully and then circle the number which best describes how much the statement was true for you DURING THE PAST WEEK, INCLUDING TODAY." Each FAPIS item then was rated on a 6-point scale from 0 to 6, with 0=*not at all*, 2=*a little*, 4=*a lot* and 6=*completely*.

Participants The initial item set was administered to 337 undergraduate students at a large Midwestern university as part of a larger, anonymous online survey. Participants were informed of the basic nature of the study, potential risks and benefits, and were permitted to proceed to the study upon providing consent to utilize participant data for research. Inclusion criteria included being in a romantic relationship for at least 6 months during the time the assessment was administered, and consenting to full use of the data for research. Due to failure to complete all measures, 29 participants were removed, reducing the sample size to 308. The sample was 82.8 % female (n=255), and 83.8 % Caucasian (n=258). The mean age was 20.89 years (SD=4.03, range from 18 to 52 years of age). The majority of the sample (n=294) also completed other measures of interest that were used to investigate convergent and discriminant validity.

Measures Centers for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a 20-item self-report measure of type and severity of depressive symptoms. Items are rated on a 4-point scale, with higher scores indicating greater severity of depressive symptoms. The CES-D has demonstrated good validity and internal consistency in a sample of individuals with depression (α=.92; Segal, Coolidge, Cahill, & O'Riley, 2008). For the current sample, internal consistency was excellent (α=.91). It was hypothesized that scores on the CES-D would be negatively related to scores on the FAPIS, demonstrating divergent validity between severity of depression and relationship intimacy.

Dyadic Adjustment Scale (DAS; Spanier, 1976). The DAS is a 32-item measure of general satisfaction and interactions within intimate relationships. Items are rated on 6-point scale, and scores may fall within the range of 0 to 150. The DAS has demonstrated good validity and excellent internal consistency in a sample of individuals in romantic relationships (α=.95; Carey, Spector, Lantinga, & Krauss, 1993). The DAS demonstrated excellent internal consistency in the current sample (α=.91). It was hypothesized that scores on the DAS would be positively correlated with scores on the FAPIS, demonstrating convergent validity.

Results

Participants reported that the FAPIS items referred mostly to romantic partnerships (62 %), followed by friend relationships (14 %), sibling relationships (11 %), and parent relationships (11 %). The mean duration of relationships was 9.3 years, (SD=8.99, range from 0 to 36 years).

Three exploratory factor analyses, using principle axis factoring with promax rotation, and discussions with a panel of FAP experts, were conducted to reduce the initial item set. A promax rotation was chosen based on recommendations by Fabrigar, Wegener, MacCallum, and Strahan (1999) and Russell (2002). An oblique rotation relaxes the constraint that the factors continue to be uncorrelated with each other. This leads to factors overlapping to some extent in the variance they explain in the measures being analyzed (Russell, 2002). Promax is a commonly used and recommended (Fabrigar et al., 1999) method of oblique rotation that initially uses a varimax rotation and then relaxes the constraint that the factors be uncorrelated in order to improve the fit to simple structure (Russell, 2002). The first factor analysis revealed 25 items across four factors that performed well, defined by a pattern matrix loading of≥.50 on any factor with secondary loadings of≤.40 on all other factors, and not being considered by the research team to be redundant with other items that loaded higher on the same factor. These 25 items were submitted to a second factor analysis, which identified four factors with eigenvalues greater than 1, and a four-factor model was supported by Cattell's scree test. These results were discussed with the panel of FAP experts who removed 10 additional items due to redundancy with other items or issues of conceptual clarity with FAP's definition of intimacy, and reinstated three items from the original pool for conceptual reasons, which resulted in a set of 18 items.

A third factor analysis was performed with this item set, and four similar factors again were identified with eigenvalues

greater than 1, and a four-factor model was supported by Cattell's scree test. After close examination and discussion with the panel, these factors were labeled as follows: Factor 1 (7 items): *Hidden Thoughts and Feelings*; Factor 2 (4 items): *Expression of Positive Feelings*; Factor 3 (5 items): *Honesty and Genuineness*; and Factor 4 (2 items): *Vulnerable Disclosure*. Due to the low number of items within Factor 4, this factor was removed from the measure entirely. Additionally, researchers decided to remove the two items with the lowest pattern matrix loadings from Factor 1, resulting in a final item set of 14 items across three factors: *Hidden Thoughts and Feelings* (5 items), *Expression of Positive Feelings* (4 items), and *Honesty and Genuineness* (5 items). The factor loadings of the final 14 items on these three factors in the final factor analysis are presented in Table 1. Internal consistency was adequate for all three factors, with Cronbach's alphas for Factors 1, 2, and 3 being .84, .85, and .82, respectively, and Cronbach's alpha for the total scale being .87.

Initial correlations between the FAPIS (including the three factors and the total score) and CES-D and the DAS are presented in Table 2. Of note, items on Factor 1 are reverse scored such that a high score indicates a lesser degree of *Hidden Thoughts and Feelings*. High scores on the other two factors indicate a greater degree of *Expression of Positive Feelings* (Factor 2) or *Honesty and Genuineness* (Factor 3). The sample for the correlational analyses was limited to participants who had completed all measures of interest (n= 294). Moderate correlations were found between a measure of relationship satisfaction (i.e., the DAS) and the FAPIS factors and total score, indicating convergent validity for the measure. Moderate negative correlations were found between depression symptom severity (i.e., the CES-D) and the FAPIS factors and total score, indicating divergent validity for the measure.

Table 1 Pattern Matrix of the Final 14 Items for the Final 3 Factors in Third Factor Analysis of Study 1 (N=308)

Item	Description	Factor 1	2	3
1	I showed my true feelings and behaved completely naturally with this person.	.083	.057	**.628**
2	I was comfortable discussing significant problems with this person.	-.003	-.171	**.801**
3	I felt comfortable telling this person things that I do not tell other people.	.075	.092	**.712**
4	I trusted this person with my deepest thoughts and feelings.	-.042	.115	**.725**
5	I revealed to this person what I feel are my shortcomings.	-.099	.066	**.505**
6	I expressed loving, caring feelings toward this person.	.026	**.860**	-.069
7	I was open and loving with this person.	.029	**.853**	.055
8	I attempted to get closer to this person.	-.057	**.690**	-.033
9	I expressed my feelings about this person directly to him/her.	-.070	**.732**	.063
10	At times I kept my opinions to myself because I was afraid of how this person might react.	**.761**	.117	-.188
11	I kept very personal information to myself and did not share it with this person.	**.651**	.145	-.002
12	When I talked to this person, I stuck to safe topics.	**.694**	-.082	.069
13	There were times when I held back information from this person.	**.756**	-.010	.060
14	I hid my emotions from this person.	**.622**	.019	.141

Note. Factor loadings in bold were considered for cluster interpretation

Table 2 Correlations Between FAPIS Factors and Other Measures in Study 1 (N=294)

	CES-D	DAS
FAPIS Total	-.29**	.47**
Hidden Thoughts and/or Feelings	-.34**	.40**
Expression of Positive Feelings	-.16**	.38**
Honesty and Genuineness	-.20**	.32**
DAS	-.44**	

* p<.05, ** p<.01.

Study 2

The purpose of Study 2 was to administer the 14-item version of the FAPIS in an ethnoracially diverse sample to examine other psychometric aspects, including convergent and divergent validity and internal consistency and test–retest reliability. In addition, a confirmatory factor analysis was conducted to further examine the factor structure.

Method

Participants Participants were 393 undergraduate students from a large university in the Southwest United States who were participating in a larger study on interpersonal relationships and anxiety. Participants were informed of the basic nature of the study and potential risks and benefits, and were permitted to proceed to the study upon providing consent to utilize participant data for research. Participants were excluded if they were not at least 18 years old. In exchange for course credit, participants completed several measures at two time points, including those related to interpersonal functioning, relationship intimacy, and personality. Participants signed up for the study through the university SONA system, an online research management system for universities. A researcher emailed participants 6 days after completing the first questionnaire battery, reminding them to complete the second battery on the following day. Participants were prohibited

from completing the second battery on the eighth day after the initial completion. Two hundred eighty-eight (73.3 %) participants completed the questionnaires at the second time point.

Most of the participants were female (87.3 %, n=343) with a range of diversity, including White (30.0 %, n=119), Hispanic/Latino (25.4 %, n=101), Asian (23.4 %, n=93), Black (16.4 %, n=65), and other ethnicities (4.8 %, n=15). The mean age was 23.53 (SD=6.10, range from 18 to 56). Regarding relationship status, 34.3 % (n=130) were single and not dating, 19 % (n=72) were actively dating, 34.6 % (n=131) were in a committed relationship, and 12.1 % (n=46) were married. As in the original study, participants responded to questions based on their closest relationship and listed the duration of that relationship. The most common relationships indicated were romantic partnerships (44.3 %, n=174), friendships (23.9 %, n=94), siblings (11.7 %, n=46), and relationships with parents (16.3 %, n=64). The mean duration of the indicated relationships was 8.22 years (SD=9.29, range from 0 to 56 years).

Measures Functional Idiographic Assessment Template–Questionnaire (FIAT-Q; Callaghan, 2006). The FIAT-Q is a 113-item, behaviorally based idiographic measure of the functions of behavior within interpersonal relationships within five domains: (a) Assertion of Needs, (b) Bi-directional Communication (feedback), (c) Conflict, (d) Disclosure and Interpersonal Closeness, (e) Emotional Experience and Expression. Higher scores indicate more problematic functioning in that area. In a recent study, the FIAT-Q (Darrow, Callaghan, Bonow, & Follette, 2014) demonstrated good psychometric properties (e.g., excellent internal consistency; Cronbach's α=.94). It was hypothesized that Assertion of Needs, Conflict, Disclosure, and Emotional Experience and Expression would have a negative correlation with the FAPIS Factor 1, *Hidden Thoughts and Feelings*, in that behaviors within these four domains may involve expressing more difficult or personal content. It was also hypothesized that Disclosure and Emotional Experience and Expression would have a negative correlation with Factor 2, *expressing positive feelings*, in that behaviors in these two domains may be related to expression of personal experience. Finally, it was hypothesized that Bi-directional Communication, Disclosure, and Emotional Experience and Expression would have a negative correlation with Factor 3, *Honesty and Genuineness*, as it may take willingness to be honest while engaging in behaviors within these three domains. In the current study, the subscales in the FIAT-Q demonstrated acceptable to good internal consistency (Assertion of Needs Cronbach's α=.87; Bi-directional Communication α=.84; Conflict α=.78; Disclosure α=.86; and Emotional Experience and Expression α=.85).

Interpersonal Competency Questionnaire (ICQ; Buhrmester, Furman, Wittenberg, & Reis, 1988). The ICQ is a 40-item questionnaire designed to assess five domains of interpersonal competence: (a) Initiating Relationships, (b) Disclosing Personal Information, (c) Asserting Displeasure with Others, (d) Providing Emotional Support and Advice, and (e) Managing Interpersonal Conflict. Items are rated on a 5-point Likert scale to indicate their level of competence and comfort in handling each type of situation, ranging from 1=*I'm poor at this; I'd feel so uncomfortable and unable to handle this situation, I'd avoid it if possible* to 5=*I'm EXTREMELY good at this; I'd feel very comfortable and could handle this situation very well*. The ICQ displays excellent psychometric properties (Buhrmester et al., 1988). In the current study, the domains in the ICQ demonstrated good to excellent internal consistency (overall Cronbach's α=.93, Initiating Relationships α=.86, Disclosing Personal Information α=.80, Asserting Displeasure with Others α=.86, Providing Emotional Support and Advice α=.90, and Managing Interpersonal Conflict α=.80). It was hypothesized that Disclosing Personal Information and Asserting Displeasure with Others would correlate with Factor 1, *Hidden Thoughts and Feelings*, in that behaviors within this factor may entail personal disclosure. It was also hypothesized that Providing Emotional Support and Advice would correlate with Factor 2, *Expression of Positive Feelings*. Finally, it was hypothesized that Initiating Relationships and Providing Emotional Support and Advice would correlate with Factor 3, *Honesty and Genuineness*.

Neuroticism Extraversion Openness Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992). The NEO-FFI is a 60-item, self-report scale designed to measure the five major domains of personality including: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C). Items are rated on a 5-point Likert scale from 1=*strongly disagree* to 5=*strongly agree*. The NEO FFI displays excellent psychometric properties (Scandell, 2000). In the current study, the domains within the NEO-FFI demonstrated questionable to good internal consistency (Cronbach's α=.72, Neuroticism α=.85, Extraversion α=.77, Openness α=.67, Agreeableness α=.75, and Conscientiousness α=.86). It was hypothesized that *Hidden Thoughts and Feelings* will be negatively correlated with Neuroticism, *expression of positive feeling* would be positively correlated with Agreeableness, and *Honesty and Genuineness* would be correlated with Extraversion.

Social Provisions Scale (SPS; Cutrona & Russell, 1987). The SPS is a 24-item measure examining the level of the respondent's social relationships' provision of social support within the following dimensions: Attachment, Social Integration, Reassurance of Worth, Reliable Alliance, Guidance, and Opportunity for Nurturance. Items are rated on a 4-point Likert scale from 1=*strongly disagree* to 4=*strongly agree*. The SPS displays acceptable psychometric properties (Russell & Cutrona, 1991). In the current study, the dimensions within the SPS demonstrated questionable to good internal

consistency (Cronbach's Attachment α=.78, Social Integration α=.80, Reassurance of Worth α=.68, Reliable Alliance α=.82, Guidance α=.84, and Opportunity for Nurturance α=.66). It was hypothesized that attachment would correlate with *Hidden Thoughts and Feelings* and *Expression of Positive Feelings* in that positive feelings may be related to attachment. In addition, Reliable Alliance would correlate with *Honesty and Genuineness*.

Experience in Close Relationships–Short Form (ECRS; Wei, Russell, Mallinckrodt, & Vogel, 2007). The ECRS is a 12-item scale measuring differences in attachment style and avoidance in individuals in close relationships. The ECRS contains two subscales: Anxiety about Close Relationships and Avoidance. Items are rated using a 7-point Likert scale ranging from 1=*strongly* disagree to 7=*strongly agree.* The ECRS displays excellent psychometric properties (Wei, Russell, Mallinckrodt, & Vogel, 2007). In the current study, the ECRS total and subscales demonstrated acceptable to good internal consistency (Cronbach's ECRS total α=.81, Avoidance α=.84, and Anxiety α=.71). It was hypothesized that avoidance would be significantly negatively correlated to *Hidden Thoughts and Feelings* and *Honesty and Genuineness*, as behavior within these two factors may involve more interpersonal risk.

Brief Fear of Negative Evaluation Scale (BFNE; Leary, 1983). The BFNE is a 12-item scale assessing an individual's fear, distress, avoidance, and expectation of negative evaluation by others. Items are rated using a 5-point Likert scale ranging from 1=*not at all characteristic of me* to 5=*extremely characteristic of me*. The BFNE displays excellent psychometric properties (Leary, 1983; Collins, Westra, Dozois, & Stewart, 2004). In the current study, the BFNE demonstrated excellent internal consistency (Cronbach's α=.95). It was hypothesized that fear of negative evaluation would be negatively correlated with *Hidden Thoughts and Feelings* and *Honesty and Genuineness*, as these behaviors may entail more difficult content or may inherently require more risk.

Data Analysis A confirmatory factor analysis (CFA) was performed in AMOS 21 in order to verify the three-factor structure obtained from the EFA. To determine proper model fit, Hooper, Coughlan, and Mullen's (2008) guidelines were utilized. Chi-square is often used to determine adequate model fit; however, its use is limited due to its tendency to nearly always reject the model when large sample sizes are used (Bentler & Bonnet, 1980). Thus, Wheaton, Muthen, Alwin, and Summers' (1977) relative/normed chi-square statistic was employed as it minimizes the impact of sample size on the model chi-square. Recommendations for acceptable ratios for this statistic range from 2.0 to 5.0. Goodness of fit was further evaluated using the root-mean-square error of approximation (RMSEA), standardized root-mean-square residual (SRMR), comparative fit index (CFI), and the Tucker-Lewis index (TLI). Hooper et al. (2008) define good model fit using the following criteria: RMSEA≤.07; SRMR≤.08; CFI≥.95; TLI≥.95.

Results

Confirmatory Factor Analysis The three-factor model exhibited good fit (χ^2/df=3.06, RMSEA=.07, SRMR=.04, CFI=.96, TLI=.95). Standardized factor loading estimates are shown in Fig. 1. Factor loadings were moderately to strongly related to their purported latent factors, providing further evidence for the proposed three-factor model. Moreover, medium to large correlations were found between the three factors, as shown in Table 3.

Reliability Internal consistency indicated good to excellent internal consistency reliability estimates for each factor of the FAPIS as well as the total score (*Hidden Thoughts and Feelings* α=.86, *expression of positive emotions* α=.93, *Honesty and Genuineness* α=.92, and FAPIS total α=.91). Next, a correlational analysis was performed between the three FAPIS subscales and the total score. Results are displayed in Table 3. The FAPIS subscales demonstrated strong, significant correlations with the total score.

Test–retest scores for the FAPIS subscales and total score are displayed in Table 4. Paired sample *t* tests indicated that, on average, the scores for both *Hidden Thoughts and Feelings* and the total score were significantly different at Time 2 compared to Time 1 scores. However, the effect size of these differences was quite small (.16 and .12, respectively). Additionally, no significant differences were found for *Expression of Positive Feelings* or *Honesty and Genuineness*. Further, Pearson correlation coefficients between Time 1 and Time 2 scores displayed significant, strong correlations.

Convergent and Divergent Validity Correlations between the FAPIS factors and total score and the FIAT, NEO, ICQ, SPS, ECRS, and the BFNE are displayed in Table 5. A large negative correlation was found between the ECRS Avoidance subscale and the three FAPIS factors and total score. However, only a small negative correlation was found with the ECRS Anxiety subscale. Additionally, moderate negative correlations were found between each of the FIAT subscales and the FAPIS total. Although the predicted negative correlations between the FIAT Bi-directional Communication, Disclosure, and Emotional Experience and Expression subscales and the FAPIS *Honesty and Genuineness* subscale were obtained, the large number of correlations between each of the FAPIS subscales and the FIAT subscales indicate that in general high FAPIS scores are related to functional interpersonal qualities.

Strong correlations were demonstrated between the Attachment, Social Integration, Reassurance, Reliable Alliance, and Guidance SPQ subscales and the FAPIS total. Conversely,

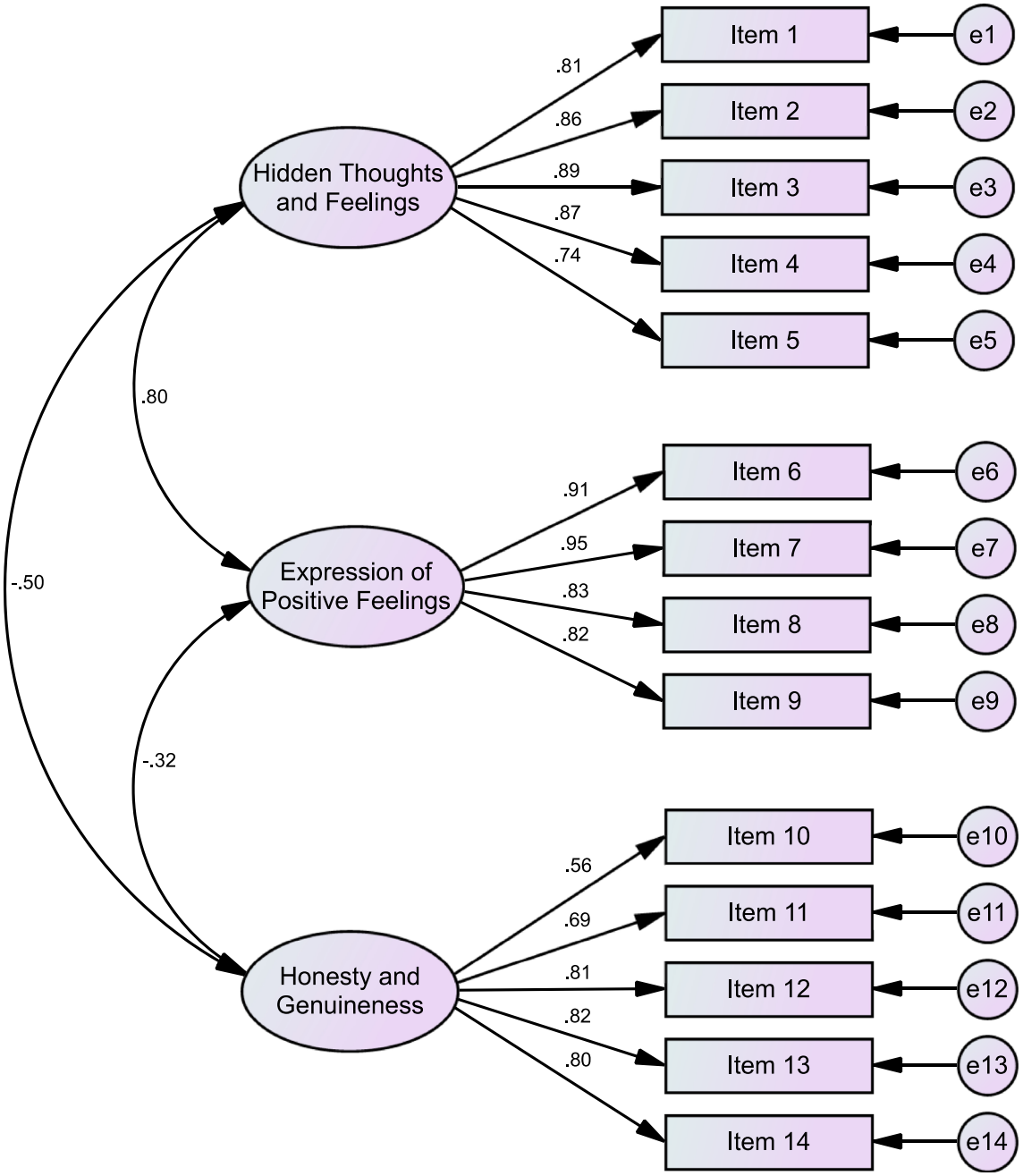

Fig. 1 Confirmatory factory analysis

only a small relationship was found with the SPS Nurturance subscale, which relates to others' reliance on oneself, rather than interpersonal or intimate social relationships. Similar to the FIAT predictions and findings, most of the SPS subscales were moderately to strongly correlated with each of the FAPIS subscales and total score. Therefore, while several of the correlations between the SPS and the FAPIS were accurately predicted (i.e., SPS Attachment and FAPIS low levels of *Hidden Thoughts and Feelings* and *expression of positive emotions*, SPS Reliable Alliance and FAPIS *Honesty and Genuineness*), the large number of significant correlations indicate that, in general, the FAPIS relates to one's perceived level of social support.

As hypothesized, FAPIS low levels of *Hidden Thoughts and Feelings* significantly negatively correlated with NEO Neuroticism. Moreover, significant positive correlations were found between the FAPIS *Expression of Positive Feelings* subscale and NEO Agreeableness. Further, the BFNE significantly negatively correlated with low level of *Hidden Thoughts and Feelings* and *Honesty and Genuineness* but not *Expression of Positive Feelings*. Finally, the ICQ significantly positively correlated with the FAPIS total.

Table 3 Interscale Correlations Among the Factors in Exploratory and Confirmatory Factory Analyses of the FAPIS

Exploratory Factor Analysis			
	1	2	3
1. Hidden Thoughts and/or Feelings			
2. Expression of Positive Feelings	.26**		
3. Honesty and Genuineness	.46**	.75**	
4. FAPIS Total	.77**	.77**	.89**
Confirmatory Factor Analysis			
1. Hidden Thoughts and/or Feelings			
2. Expression of Positive Feelings	.32**		
3. Honesty and Genuineness	.50**	.80**	

** $p<.01$.

Discussion

These two studies reported on the development of the FAPIS, a 14-item scale with three subscales termed *Hidden Thoughts and Feelings*, *Expression of Positive Feelings*, and *Honesty and Genuineness*. Exploratory and confirmatory factor analyses of two samples converged on this three-factor solution, as well as provided evidence for a psychometrically sound factor structure. Consistent with FAP theory, the factor structure of the final model and the number of items per subscale indicate that the FAPIS measures willingness to disclose personal thoughts and feelings; honesty, genuineness, and openness; and, to a slightly lesser extent, open expression of positive emotions, within the context of a specific, identified relationship. The total scale and all three subscales demonstrated good to excellent internal consistency. Examination of test–retest reliability, however, revealed that the subscale *Hidden Thoughts and Feelings*, as well as the FAPIS total score were significantly different across the two time points. Although the effect sizes for these differences were quite small and there were large, significant correlations between the two time points for all three subscales and the total score, the differences are of notable mention. This significant difference between time points may reflect problems with the reliability of the scale or, conversely, because the scale is intended to be sensitive to changes over time, it could reflect a sensitivity of the underlying construct to context. Future research might examine the FAPIS's sensitivity to context. Likewise, this significant difference between time points might also be attributed to a resulting increase in self-awareness within the selected relationship. Participants might better observe their behavior after the initial administration of the questionnaire, possibly resulting in altered responses on the second administration of the questionnaire.

A series of correlations with relevant measures supports and clarifies the construct validity of the FAPIS. All three subscales and the total score of the FAPIS were moderately

Table 5 Correlations Between FAPIS Factors and Measures (N=399)

Measure	Factor 1	Factor 2	Factor 3	Total
FIAT A	-.36**	-.26**	-.37**	-.42**
FIAT B	-.36**	-.25**	-.32**	-.39**
FIAT C	-.41**	-.19**	-.27**	-.37**
FIAT D	-.38**	-.32**	-.43**	-.47**
FIAT E	-.41**	-.28**	-.36**	-.44**
NEO N	-.29**	-.03	-.18**	-.23**
NEO E	.11*	.23**	.22**	.22**
NEO O	.09	.10	-.01	.07
NEO A	.23**	.15**	.17**	.23**
NEO C	.25**	.23**	.30**	.32**
ICQ Initiation	.16**	.20**	.25**	.25**
ICQ Negative Assertion	.16**	.32**	.31**	.31**
ICQ Disclosure	.13*	.24**	.33**	.27**
ICQ Emotional Support	.21**	.39**	.37**	.39**
ICQ Conflict Management	.10*	.18**	.17**	.18**
ICQ Total	.21**	.36**	.39**	.38**
SPS Attachment	.44**	.49**	.59**	.62**
SPS Social Integration	.37**	.43**	.49**	.53**
SPS Reassurance	.36**	.42**	.48**	.51**
SPS Reliable Alliance	.41**	.49**	.54**	.58**
SPS Guidance	.40**	.48**	.61**	.61**
SPS Nurturance	.18**	.29**	.24**	.28**
SPS Total	.41**	.50**	.57**	.60**
ECRS Anxiety	-.33**	-.12*	-.15**	-.26**
ECRS Avoidance	-.42**	-.53**	-.56**	-.61**
ECRS Total	-.45**	-.40**	-.42**	-.52**
BFNE	-.28**	-.07	-.13**	-.21**

* $p<.05$, ** $p<.01$.

Table 4 Means, Standard Deviations, and Test–Retest Coefficients for the FAPIS Subscales and Total Score (n=288)

	Time 1 M (SD)	Time 2 M (SD)	Paired t(287)	Test–retest r	Cohen's d
Hidden Thoughts and/or Feelings	20.04 (7.14)	19.28 (7.89)	2.72**	.68**	-.16
Expression of Positive Feelings	20.25 (4.70)	20.30 (4.71)	.29	.60**	.02
Honesty and Genuineness	24.79 (6.00)	24.49 (6.18)	1.10	.67**	.07
FAPIS Total	65.09 (14.43)	64.06 (15.79)	2.06*	.73**	-.12

* $p<.05$, ** $p<.01$.

negatively correlated with depression, which is consistent with previous research indicating that interpersonal functioning and difficulties with intimacy are associated with depression (e.g., Bottonari et al., 2007; Pettit & Joiner, 2006; Vittengl et al., 2004). The FAPIS also significantly correlated with several aspects of interpersonal functioning, including significant positive correlations with satisfaction in one's romantic relationship, interpersonal competency (including competency in initiating relationships, disclosing personal information, asserting displeasure, providing emotional support, and managing interpersonal conflict), and the degree of social support received, and significant negative correlations with anxiety regarding close relationships and avoidance of close relationships. Results indicated a broad pattern in which all three subscales and the total FAPIS score significantly correlated with each measure of interpersonal functioning, including all of the subscales of these measures. This suggests that the extent to which an individual does not hide thoughts and feelings, expresses positive feelings, and is honest and genuine are important aspects of intimacy, which relates to interpersonal functioning.

Examination of relationships between the FAPIS and personality domains revealed that the FAPIS subscales and total score significantly positively correlated with extraversion, agreeableness, and conscientiousness. While we had predicted that *Expression of Positive Feelings* would significantly correlate with agreeableness, the additional correlations were not anticipated. It may be the case that extroverts more naturally engage in intimacy-enhancing behaviors through a greater desire for and tendency to seek out social activities with corresponding opportunities to obtain reinforcement for these behaviors.

The significant correlations between low levels of *Hidden Thoughts And Feelings* and *Honesty and Genuineness* and agreeableness are somewhat puzzling at first glance. As defined above, intimacy involves vulnerability, such as disclosure of difficult topics to which another individual may respond negatively. This may appear to be less likely among individuals highly invested in social harmony. As measured by the NEO, however, agreeableness comprises trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness (Digman 1997; Goldberg 1992). The relationship between the FAPIS and agreeableness may be most related to aspects of agreeableness such as trust, straightforwardness, and tender-mindedness. Likewise, it is possible that the FAPIS subscales correlated with conscientiousness due to aspects of conscientiousness, such as importance placed on fulfilling moral obligations (e.g., honesty and genuineness, not keeping relevant thoughts or feelings hidden), a sense of self-efficacy, and a tendency to deliberate before speaking. Future research would benefit from additional exploration of how specific personality features relate to intimacy as measured by the FAPIS.

Finally, fear of negative evaluation negatively correlated with FAPIS low levels of *Hidden Thoughts and Feelings* and *Honesty and Genuineness* but not with *Expression of Positive Feelings*. While there is less risk of negative reactions when expressing positive feelings, disclosing difficult thoughts and feelings and behaving in an honest and genuine manner do often require risk taking. Therefore, these two subscales of the FAPIS may best measure the vulnerability inherent in many, but not all, intimacy enhancing behaviors. Future research may benefit from further exploring this relationship with additional measures that may relate to interpersonal risk-taking.

In line with FAP theory, the extant literature indicates that these three constructs have important implications for interpersonal relationships. For instance, open expression of negative emotions is associated with support from relationship partners, development of new close relationships, and increased intimacy in very close relationships (Graham, Huang, Clark, & Helgeson, 2008). Within romantic relationships, self-disclosure is associated with confidence in one's partner, responsiveness to one's partner and increased relationship quality (Sprecher & Hendrick, 2004). There is also evidence that congruence and genuineness in therapeutic relationships may relate to improved outcomes (Kolden, Klein, Wang, & Austin, 2011).

In summary, hidden thoughts and feelings, honesty and genuineness, and expression of positive feelings are important constructs to assess and target throughout therapy according to both FAP theory and research indicating the relevance of these constructs for depression and relationship quality. These two studies provide initial support for the FAPIS as a psychometrically sound and clinically useful measure with which to assess these constructs within the context of FAP and other therapy approaches targeting intimate responding as well as within research examining FAP processes and outcomes.

Limitations and Future Directions While these two studies provide initial support for the FAPIS, several limitations should be noted. First, participants completed the FAPIS about a variety of relationship partners (i.e., romantic partners, friends, relatives, etc.), not including therapeutic relationships, and completed the measure about a particularly close relationship partner. It may be the case that individuals with low rates of intimacy-enhancing behaviors may not have been widely represented within the sample. Future research would benefit from examining the FAPIS among a sample of individuals who may be more likely to struggle with intimacy, such as those seeking treatment for interpersonal difficulties. Likewise, our samples comprised undergraduate students with lower mean ages in comparison to the general population (the mean age in years for Studies 1 and 2 were 20.89 and 23.53, respectively). Although our study has strength with ethnoracial diversity, the lower mean age for our samples

may result in limited generalizability. The FAPIS might benefit from future research on a sample with an age range that is more reflective of the general population. In addition, while the measures presented herein provide initial evidence of convergent and divergent validity, additional research with measures chosen a priori to specifically examine the validity of the FAPIS will be beneficial, specifically with respect to the FAPIS subscales. If additional differences do not emerge between the different FAPIS subscales, the FAPIS total score may provide the most utility in examining intimacy-enhancing behaviors. Furthermore, as the FAPIS was designed to measure theoretical changes occurring within the therapeutic relationship, as well as other relationships, over the course of FAP or a similar therapy approach, future research would benefit from examining the FAPIS in this context. Of particular interest is whether changes that occur within session over the course of FAP will correspond with changes on the FAPIS.

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