Functional Analytic Psychotherapy (FAP): A review of publications from 1990 to 2010

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Abstract

Functional Analytic Psychotherapy (FAP), a therapy based on radical behaviorism, establishes the priority of the therapeutic interaction as a mechanism of change in psychotherapy. Since the first book on FAP appeared in 1991, it has been the focus of many papers and has been incorporated by the community of behavior therapists. This paper is a review of 80 international publications on FAP from 1990 to 2010, including publications from Brazil, the United States, Spain, Switzerland and Colombia. The goal was to analyze how FAP has been treated and developed across these 20 years, and also to propose some directions for further studies. The analysis suggests a diverse range of FAP publications, points to the necessity of more empirical studies with tighter control of variables and objective measurement of data to better understand FAP's process and effectiveness, and highlights the importance of increased communication between international research groups to increase the potential benefits of singular and collective research efforts on FAP.

Keywords

Functional Analytic Psychotherapy, literature review

Functional Analytic Psychotherapy (FAP), a model for psychotherapy based on radical behaviorism first developed by Kohlenberg and Tsai in 1991 (translated into Portuguese in 2001), proposes that the therapeutic relationship is the primary context for behavioral change in the therapeutic process for clients with interpersonal problems (Kohlenberg & Tsai, 2001; Kohlenberg, Tsai & Kanter, 2009). The authors suggest that everything the therapist needs and can use to help clients through the change process occurs during the session, in the therapeutic relationship. Specifically, FAP encourages the therapist to identify three classes of client clinically relevant behavior (CRB) occurring in session: CRB1, defined as behavioral problems occurring in session; CRB2, defined as behavioral improvements or progress in session, and CRB3, defined as the client's descriptions about the functional controlling variables of his behaviors (both inside and outside the session). FAP systematizes five rules around which the therapist should base treatment, including: (1) Observe the occurrence of CRBs, (2) Evoke CRBs, (3) Reinforce CRB2s, (4) Observe the reinforcing effects of therapist behavior on CRBs, and (5) Provide interpretations about the variables that affect client's behavior (Tsai et al, 2009).

Since the FAP book appeared in 1991, many theoretical and empirical papers have appeared. These papers have been quite diverse. For example, several studies have been conducted to demonstrate how to use FAP combined with other interventions (Callaghan, Gregg, Marx, Kohlenberg, & Gifford, 2004; Gaynor & Lawrence, 2002; Kohlenberg, Kanter, Bolling, Parker, & Tsai, 2002). Follette and Callaghan (1995) and Callaghan (2006) discussed supervision in FAP, and described what they consider a more efficient way to conduct FAP supervision. Busch and colleagues (2008) performed an empirical micro-process analysis of FAP's mechanism of change. Oshiro (2011) also investigated the mechanism of change using interventions based on FAP, with an ABAB experimental design. Follette, Naugle and Callaghan (1996) presented important theoretical contributions to understand how FAP's therapeutic relationship can function as a mechanism of change in therapy. Callaghan, Summers and Weidman (2003) used FAP to treat a client with Histrionic and Narcissistic Personality Disorder. These examples demonstrate the diversity of writings on FAP that have appeared.

Despite this diversity of publications, FAP has been criticized for producing too many theoretical articles making claims of FAP efficacy, without supportive empirical studies (Corrigan, 2001), and for not yet having conducted a randomized controlled trial to support FAP's efficacy (Öst, 2007). According to Øst (2007), there continues to be a lack of empirical data for the validation and wide acceptance of FAP as an efficacious intervention.

A comprehensive review of papers on FAP has yet to be performed. In particular, previous reviews (e.g., Baruch et al., 2009; Corrigan, 2001; Øst, 2007) have been limited to only English-language publications, while we were aware of important publications on FAP in Portuguese coming out of Brazil, as well as in other languages. Thus, the current review made an effort to survey the global literature on FAP, not just English-language literature. Recently, Garcia (2008) included some Portuguese language publications in his review of FAP studies, which categorized FAP papers into six categories: integration with other therapies, supervision and improving therapeutic skills, methods for evaluation and data recording in therapy, studies of effectiveness and efficiency, experimental investigations into the

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ISSN: 1555–7855
relationship between thoughts and emotions, and application to clinical problems and new types of applications.

In the current review, we expanded on the review by Garcia (2008) and conducted a comprehensive international search for FAP publications from 1990 to 2010. We discuss research methodologies employed in the publications on FAP to fully evaluate the empirical status of FAP and its mechanism of change. We also emphasize the international and developmental nature of the publications. An objective was to identify different phases in research on FAP at different times between 1990 and 2010, as well as authors and/or countries with the highest production of research on FAP. We conclude with discussion of future directions for research and practice in the area.

METHOD

BIBLIOGRAPHIC BASE

The following sources of virtual access information were consulted: PubMed, the Scientific Electronic Library Online (SciELO), the Virtual Health Library - Psychology (VHL-PSI), ScienceDirect and ISI Web of Knowledge. In addition to these databases, search engines were reviewed for relevant publications in the Journal of Applied Behavior Analysis (JABA), Journal of the Experimental Analysis of Behavior (JEAB), The Behavior Analyst, The Behavior Analyst Today, International Journal of Behavioral Consultation and Therapy (IJBCT) and Journal of Early and Intensive Behavior Intervention (JEIBI).

The keywords “Functional Analytic Psychotherapy” were used in all searches. We also consulted references listed on the FAP website, http://functionalanalyticpsychotherapy.com/, and with members of a FAP email listserve for additional articles. The final period of data collection took place in July, 2011. We included articles from international periodicals in three languages: English, Portuguese or Spanish. Books or chapters were excluded. From these sources, the final sample consisted of 80 articles, identified with an asterisk in the reference list.

METHOD OF ANALYSIS

The abstracts of the selected publications were analyzed to obtain the necessary data for this categorization. Further analysis of the full text was conducted when the article was available (70 of 80 articles). The publications were organized into three pre-defined categories (bibliographic characteristics, thematic characteristics and research methods), each with a series of sub-categories identified for analysis.

With respect to bibliographic characteristics, we identified: a) Year of publication, b) Country of author’s origin, c) Journal name, d) Name of the authors and e) Number of authors.

With respect to thematic characteristics, we identified: a) Type of study, b) Themes, and c) Client characteristics. Regarding type of study, the articles were classified as either theoretical or empirical. The theoretical studies were composed of publications that presented and/or discussed the FAP as a proposal for intervention, but did not have any data about the use of FAP.

Empirical publications received this categorization when the publication presented any data type (including case reports).

Regarding themes, publications had their main themes categorized and sub-categories that emerged from this analysis were: 1) Contributions from FAP, 2) Treatment using FAP, 3) Characterization of FAP, 4) Group therapy based on FAP, 5) Integration of therapies, 6) Development of an instrument based on FAP, 7) Comparison of ACT with FAP, 8) Therapy for children and adolescents based on FAP, 9) Supervision based on FAP, 10) Analysis of empirical data on FAP, 11) Efficacy studies of FAP, 12) Training therapists in FAP, 13) Couples therapy based on FAP, and 14) Comparison of CBT or CT with FAP.

With regard to client characteristics, three predefined sub-categories were used: 1) Child, 2) Adolescent, and 3) Adult. Twelve other categories were created, including: 4) Major Depression, 5) Histrionic Personality Disorder, 6) History of childhood sexual abuse, 7) Obsessive Compulsive Disorder, 8) Chronic pain resistant to treatment, 9) Non-specific Personality Disorder, 10) Substance abuse, 11) Abuse problems in interpersonal relationships, 12) Conduct Disorder, 13) Borderline Personality Disorder, 14) Anxiety and academic performance, and 15) Exhibitionism.

Finally, the publications were categorized with respect to research methods, divided into: a) Design, b) Measurement instruments, and c) Intervention performed.

Regarding design, four case study sub-categories were defined using the classification scheme proposed by Kazdin (1982, 1993) that classifies case study data according to the degree to which the data presented addresses risks to the internal validity of the conclusions: 1) Narrative case studies that report on a case but present no objective data, 2) Case Studies Type I that present some objective data, 3) Case Studies Type II that include repeated objective measurements, and 4) Case Studies Type III that include repeated objective measurements from two or more subjects. In addition to case study designs, the following research design categories were created also based on Kazdin (1982, 1993): 5) Manipulation of conditions of type A/A+B, 6) Manipulation of conditions of type A/B/A+B, and 7) Group designs.

Regarding measurement instruments, four sub-categories were included: 1) Scales and standardized questionnaires, 2) Rating systems, 3) Non-systematic observation of sessions, and 4) Systematic observation of sessions.

Regarding Interventions performed, six sub-categories included: 1) FAP, 2) CBT, 3) ACT, 4) CBT + FAP, 5) FAP + ACT, 6) Group FAP, and 7) BA + FAP.

RESULTS AND DISCUSSION

BIBLIOGRAPHIC CHARACTERISTICS

The 80 articles that comprised the bibliographic database included a total of 90 different authors (including first authors and coauthors). The majority of authors (74%) appeared only once in the database; 11% appeared twice and 13% had three or more publications (average of 2.36 publications per author). This analysis indicated that the systematic study of FAP is dominated by several specific research groups, including G. M. Callaghan (15 publications, San Jose State University), R. J.
Kohlenberg (14 publications, University of Washington), J. W. Kanter (11 publications, University of Wisconsin-Milwaukee) and one Brazilian, L. Vandenberghe (16 publications, Pontificia Universidade Católica de Goiás). The fact that we found several authors who have published only once may indicate a growing interest in FAP; alternately, it may indicate specific interests in FAP that do not continue after initial publications. In fact, one-publication authors were observed throughout the 20 year study period, supporting the second hypothesis. It is likely that these articles by one-publication authors may be the result of isolated research (i.e., masters or doctoral degree research).

Figure 1 presents the cumulative number of FAP publications between 1990 and 2010, and the acceleration of the curve indicates a growth in the number of publications over time. This increase also support the hypothesis that a greater number of authors are interested in exploring FAP and may suggest a large number of publications over the coming years if this trend continues. An alternate way to demonstrate this growth in the rate of FAP publications is to break the history into five year periods. Specifically, for the five-year period between 1990 and 1995 there were 5 FAP publications; between 1996 and 2000 there were 16 publications; between 2001 and 2005 there were 22 publications, and between 2006 and 2010 there were 37 publications.

The analysis of authors’ countries of origin indicates that more than half (51%) of publications were authored by authors from the United States of America (USA), the country of FAP’s origin, including its originators Robert J. Kohlenberg (14 articles) and Mavis Tsai (10 articles). Brazil and Spain both produced 24% of the total publications each. In Brazil, the most productive FAP author was Luc Vandenberghe with 16 publications while in Spain the most productive author was Rafael Ferro García with 14 publications. Both Switzerland and Colombia appear with one publication each. The distribution of 80 articles from five countries shows that the efforts to explore FAP are highly concentrated in small centers of study. Some American universities that present themselves as the core of studies of FAP are: San Jose State University, the University of Nevada-Reno, the University of Washington and the University of Wisconsin-Milwaukee. In Brazil, the primary center of study has been Vandenberghe’s Catholic University of Goiás, although some newer research is coming out of the lab of Sonia Beatriz Meyer at the University of São Paulo. In Spain, Garcia is located at the Center for Clinical Psychology CEDI in Granada, Spain. Improved communication and exchanges between these nuclei of FAP therapists and researchers can strengthen the work, and it would be desirable to carry out integrated research, which could help in labor efficiency as well.

A final bibliographic analysis considered the journals in which FAP articles have been published (Table 1). There is a predominance of publications in the journals The Behavior Analyst Today and the International Journal of Behavioral Consultation and Therapy, both produced by the Behavior Analyst Online organization, and the Behavior Therapist, the newsletter publication of the Association for Behavioral and Cognitive Therapies. In Brazil, nearly half of the Brazilian articles were published in the national journal, Revista Brasileira de Terapia Comportamental e Cognitiva, produced by the Brazilian Behavioral Psychology and Medical Association, and written in Portuguese, demonstrating good acceptance of FAP in Brazil but making it difficult to dialogue with other authors and study centers across the world. A number of journals have received only one FAP publication.
FUNCTIONAL ANALYTIC PSYCHOTHERAPY (FAP): A REVIEW OF PUBLICATIONS

### Table 1. Number of FAP Publications by Journal

<table>
<thead>
<tr>
<th>Journal</th>
<th>Number of Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>International Journals</strong></td>
<td></td>
</tr>
<tr>
<td>The Behavior Analyst Today</td>
<td>8</td>
</tr>
<tr>
<td>International Journal of Behavioral Consultation and Therapy</td>
<td>7</td>
</tr>
<tr>
<td>The Behavior Therapist</td>
<td>5</td>
</tr>
<tr>
<td>Análisis y Modificación de Conducta</td>
<td>4</td>
</tr>
<tr>
<td>Behavior Therapy</td>
<td>4</td>
</tr>
<tr>
<td>Journal of Consulting and Clinical Psychology</td>
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</tr>
<tr>
<td>Cognitive and Behavioral Practice</td>
<td>3</td>
</tr>
<tr>
<td>Psicothema</td>
<td>3</td>
</tr>
<tr>
<td>The Behavior Analyst</td>
<td>3</td>
</tr>
<tr>
<td>Clinical Case Studies</td>
<td>2</td>
</tr>
<tr>
<td>Counseling Psychology Quarterly</td>
<td>2</td>
</tr>
<tr>
<td>International Journal of Clinical and Health Psychology</td>
<td>2</td>
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<tr>
<td>Journal of Psychotherapy Integration</td>
<td>2</td>
</tr>
<tr>
<td>Apuntes de Psicología</td>
<td>1</td>
</tr>
<tr>
<td>Clínica y Salud</td>
<td>1</td>
</tr>
<tr>
<td>Revista de La Asociación Española de Neuropsiquiatría</td>
<td>1</td>
</tr>
<tr>
<td>Psychotherapy</td>
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</tr>
<tr>
<td>Psychotherapy Research</td>
<td>1</td>
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<tr>
<td>Behavior Modification</td>
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</tr>
<tr>
<td>Clinical Psychology &amp; Psychotherapy</td>
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<td>Clinical Psychology Review</td>
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</tr>
<tr>
<td>Journal of Applied Behavior Analysis</td>
<td>1</td>
</tr>
<tr>
<td>Journal of Trauma Dissociation</td>
<td>1</td>
</tr>
<tr>
<td>Psychotherapy: Theory/Research/Practice/Training</td>
<td>1</td>
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<tr>
<td>EduPsykhté</td>
<td>1</td>
</tr>
<tr>
<td>European Psychotherapy</td>
<td>1</td>
</tr>
<tr>
<td>Journal of Feminist Family Therapy</td>
<td>1</td>
</tr>
<tr>
<td>Journal of Mental Health</td>
<td>1</td>
</tr>
<tr>
<td>Papeles del Psicólogo</td>
<td>1</td>
</tr>
<tr>
<td>Professional Psychology: Research &amp; Practice</td>
<td>1</td>
</tr>
<tr>
<td>Psicologemas</td>
<td>1</td>
</tr>
<tr>
<td>Psicología Conductual</td>
<td>1</td>
</tr>
<tr>
<td>Behaviour Research and Therapy</td>
<td>1</td>
</tr>
<tr>
<td><strong>Brazilian Journals</strong></td>
<td></td>
</tr>
<tr>
<td>Revista brasileira de terapias comportamental e cognitiva</td>
<td>5</td>
</tr>
<tr>
<td>Estudios de Psicología (Campinas)</td>
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<tr>
<td>Psicología: Teoria e Prática</td>
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<tr>
<td>Terapia Psicológica</td>
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<tr>
<td>Torre de Babel</td>
<td>1</td>
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<tr>
<td>Psicología Clínica</td>
<td>1</td>
</tr>
</tbody>
</table>

**THEMATIC CHARACTERISTICS**

**Type of study.** As suggested by Corrigan (2001), there are a greater number of theoretical FAP publications (58%, N = 46) compared to empirical publications (42%, N = 34). Figure 2, below, shows the distribution of theoretical and empirical publications over the period between 1990 and 2010. Theoretical publications are present throughout much of the period between 1990 and 2010, while empirical studies occurred mostly in the last 10 years and appear to be on the increase.

This increase in empirical work is an expected result if we take into consideration that the natural course of development of interventions initially involves theoretical analysis and then empirical testing and validation. It is interesting to note also that in the third period, between 2001 and 2005, the number of empirical studies was greater than the number of theoretical studies, perhaps indicating a current concern to obtain empirical evidence for FAP in clinical interventions. During this time, the largest empirical study on FAP appeared. Specifically, Kohlenberg, Kanter, Bolling, Parker and Tsai (2002) compared Cognitive Therapy for depression with FAP-Enhanced Cognitive Therapy for 46 clients and found promising results for FAP-Enhanced Cognitive Therapy, although the authors noted that the study was not a randomized trial. Overall, a low number of empirical studies is found in the current analysis, and the mere existence of empirical publications does not mean that their reliability is high, as will be discussed in below.

Figure 3, below, shows the distribution of theoretical and empirical studies with the country of the authors.

In Figure 3, we examine the distribution of theoretical and empirical publications by authors’ countries of origin. The country with the largest number of publications is the USA with mostly theoretical publications. Brazil, second in the number of publications, shows a greater number of empirical studies. Vandenberghe, Cross, and Iron (2003) are among the Brazilians who have published empirical studies, and Moura and Conte (1997) are among the Brazilians that have published theoretical articles. However, these Brazilian empirical studies mostly consist of unsystematic case reports with no objective data and manipulation of variables, as will be discussed later. Spain, like the USA, presents more theoretical than empirical publications. Unlike in Brazil, the Spanish empirical publications provide empirical objective data and greater experimental control, as discussed below.

The major themes identified are presented in Table 2 below. As some of these issues are not mutually exclusive, some publications were categorized with more than one of these themes. One can see that most of the publications had as the themes the issues of contributions or characterization of FAP, which in fact occurred in most theoretical studies, while empirical studies mostly had as a main theme the treatment of clients using FAP and the integration of therapies. For example, Bermudez, Garcia and Aguayo (2010) presented a case of FAP with a client diagnosed with depression. The results, analyzed using the Beck Depression Inventory II (BDI - II), showed significant improvement in depressive symptoms and maintenance of gains but no control over alternative explanations for the findings.
Interestingly, four studies were dedicated to the development of instruments based on FAP aimed for use in future research and to provide clinical guidance. Among the tools developed are the Functional Idiographic Assessment Template (FIAT; Callaghan, 2006b), the Functional Analytic Psychotherapy Rating Scale (FAPRS; Follette & Callaghan, 2008), and the Functional Assessment of Skills for Interpersonal Therapists (FASIT; Callaghan, 2006c). These instruments are proposed to categorize...
client CRBs (the FIAT), to categorize therapist and client speech in FAP according to the five rules (FAPRS), and to measure FAP therapist skills in supervision (FASIT). For example, Callaghan and Follette (2008) created the FAPRS to capture relevant aspects of the therapeutic interaction, including therapist attempts to evoke CRB, therapist responses to CRB, and therapist failures to respond appropriately to CRB. The FAPRS also measures the occurrence of client CRB. The FAPRS was designed to facilitate the analysis of interactions in FAP and consequently the production of empirical data on FAP, and has been used in a number of studies.

When analyzing the types of psychiatric disorders focused on in FAP publications, the overwhelming majority of publications focused on depression (16), followed by Histrionic Personality Disorder (3), Borderline Personality Disorder (2), and a variety of disorders and conditions represented by two publications (Obsessive Compulsive Disorder, Substance abuse, and problems in interpersonal relationships) and one publication (sexual abuse in children, chronic pain, Conduct Disorder, academic anxiety, Agoraphobia, Exhibitionism, Anorgasmia, nonspecific personality disorder, and nonspecific anxiety disorder). These data support the hypothesis that FAP authors view FAP as quite flexible as an intervention and future research may benefit from exploring the possible uses and limitations of FAP across a range of conditions.

The vast majority (88%) of the articles focused on FAP with adults, and a small minority (12%) studied FAP for children and adolescents. Among these studies is that of Gosch and Van-denberghe (2004) that presented FAP with a defiant-aggressive child with promising results. More research to validate FAP as an intervention for children would be of great value (Del Prette, 2011).

**METHODOLOGICAL CHARACTERISTICS**

Figure 4 shows the distribution of empirical publications by design category. Most of the publications were categorized as narrative case studies, suggesting very little control over inter-

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**Table 2. Number of Publications According to the Main Theme Presented**

<table>
<thead>
<tr>
<th>Main theme</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAP contributions</td>
<td>39</td>
</tr>
<tr>
<td>Interventions using FAP</td>
<td>27</td>
</tr>
<tr>
<td>FAP characterization</td>
<td>25</td>
</tr>
<tr>
<td>Integration of therapies</td>
<td>7</td>
</tr>
<tr>
<td>Group therapy based on FAP</td>
<td>6</td>
</tr>
<tr>
<td>Comparison between CBT and FAP</td>
<td>1</td>
</tr>
<tr>
<td>Development of an instrument for FAP</td>
<td>4</td>
</tr>
<tr>
<td>Comparison between ACT and FAP</td>
<td>4</td>
</tr>
<tr>
<td>Child/adolescent therapy based on FAP</td>
<td>3</td>
</tr>
<tr>
<td>FAP supervision</td>
<td>5</td>
</tr>
<tr>
<td>Analysis of empirical data about FAP</td>
<td>5</td>
</tr>
<tr>
<td>Efficacy study of FAP</td>
<td>4</td>
</tr>
<tr>
<td>Therapist training based on FAP</td>
<td>1</td>
</tr>
<tr>
<td>Couples therapy based on FAP</td>
<td>3</td>
</tr>
</tbody>
</table>

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**Figure 4. Distribution of empirical publications by design category.**
MANGABEIRA, KANTER, & DEL PRETTE

to some aversive procedures used in FAP, discuss the difficulties of conducting controlled FAP research in the clinic and suggest other self-report measures particularly for differentiating client avoidance.

In general, we may say that some efforts have been made to validate FAP, although much still needs to be done. For example, Kohlenberg, Kanter, Bolling, Parker, and Tsai (2002) used a group design and repeated objective measures for each group and thus was characterized both as a Case Study Type III and Group Study. Although this study represents an advanced design relative to the existing research, even this design did not involve random assignment of clients to conditions and thus is quite limited. More controlled designs are absolutely necessary.

Figure 5 shows the distribution of publications over 5-year intervals by design category, suggesting an increase in empirical research on FAP in the last 10 years. These data support the idea that researchers are increasingly concerned with the production of empirical data and validation of FAP. Although most of these studies were narrative case studies without much control, such studies are often the result of clinicians who work closely with FAP and these studies may provide important clinical guidance. However, it is important that more rigorous designs become more frequent in FAP research. It is interesting to note the existence of only one group study which was not a randomized trial (Kohlenberg, Kanter, Bolling, Parker & Tsai, 2002). As pointed out by Öst (2007), this is a major weakness with respect to knowledge about FAP. Research involving many participants is difficult to perform without funding and an alternative to this would be more investment in better single-subject research de-
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The therapeutic relationship and this increased focus may have improved weekly outcomes. According to the authors, this paper suggests the importance of enhancing traditional therapies with FAP. In contrast, Garcia, Aguayo, and Montero (2006) used a pure FAP-based intervention to treat a patient diagnosed with depression. Their results showed an increase in CRB2s and a decrease in CRB1s in session.

It appears that most publications on pure FAP involve narrative case studies with no objective data, such as Mendes and Vandenberghe (2009). Attempts to integrate therapies such as ACT or CBT with FAP appear to have designs with better experimental control, directly manipulating variables or employing Type III case studies. The best controlled research is that of FAP Enhanced CBT compared to traditional CBT. Comparing FAP to other known interventions is an important objective of these publications and is important to the advancement of FAP.

The final analysis we undertook was of measurement instruments used in FAP publications, divided among four categories: 1) Scales and standardized questionnaires, 2) Categorization systems, 3) Unsystematic observation of sessions, and 4) Systematic observation of sessions. Sixteen of the 20 instruments found were scales and standardized questionnaires, two were systems used to categorize client and therapist behavior (the FIAT and the FAPRS) and the last one was another audiovisual recording system (categorized as systematic observation). Thirteen empirical studies used systematic observations and some form of recording, while the other six studies did not record sessions. The studies which have not used any form of recording were the narrative single case studies and are mostly Brazilian.

Figure 6 presents the different research designs by country of origin of the authors. The distribution of publications suggests that Brazil, despite having a relatively large number of empirical publications, has mostly produced narrative case studies, explaining in part the finding that Brazil is the only country to produce more empirical than theoretical studies. The majority of Brazilian publications have reported on cases treated using FAP but do not present objective measurements, while in other countries the presentation of objective data is more frequent. An example can be found in Vandenberghe and Iron (2005). In this study the authors apply a FAP intervention adapted to a group of patients with chronic pain. No objective data is presented or analyzed by the authors.

Figure 7 shows the distribution of publications by types of interventions performed. Note that the same publication may have employed different interventions at different stages of the design and so some publications have indicated more than one intervention. Most of the publications described only interventions based on FAP, CBT or the union of FAP and CBT. This indicates repeated efforts to study FAP through comparison with CBT, a known intervention. It also demonstrates efforts to increase the effectiveness of other interventions by enhancing them with FAP. For example, Kanter et al. (2005) did an analysis of data from Kohlenberg et al. (2002) which compared Cognitive Therapy and Cognitive Therapy enhanced by FAP for the treatment of Major Depression. Kanter and colleagues found that therapists who used CBT + FAP increased their focus on the therapeutic relationship and this increased focus may have improved weekly outcomes. According to the authors, this paper suggests the importance of enhancing traditional therapies with FAP. In contrast, Garcia, Aguayo, and Montero (2006) used a pure FAP-based intervention to treat a patient diagnosed with depression. Their results showed an increase in CRB2s and a decrease in CRB1s in session.

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Wisconsin-Milwaukee, and Sonia Beatriz Meyer at her lab at the University of São Paulo. This research has progressed from initial descriptions of the process of uncontrolled FAP cases (Busch, Callaghan, Kanter, Baruch, & Weeks, 2010; Callaghan, Summers, and Weidman, 2003) to more sophisticated analyses of controlled single-subject research using A-B designs (Busch, Kanter, Callaghan, Baruch, Weeks, & Berlin, 2009), and additional FAPRS analyses of designs with increased precision and control are now coming out of the University of São Paulo (Follette & Bonow, 2009).

At the moment, the variability of measurement instruments makes it difficult to compare results between studies and to create a body of consistent data on FAP. We believe the use of the research instruments discussed above, such as the FIAT and the FAPRS, are important and viable methods for the necessary standardization to occur for the advancement of research on FAP. Also we believe it is important for researchers to develop and validate measurements of hypothesized outcomes in FAP, such as improvements in intimate, interpersonal functioning. With such validated outcome measures in place, it will be easier to conduct the randomized controlled trials of FAP that remain an elusive goal.

The closest FAP researchers have come to the consistent use of an instrument to create a body of scientific findings is with the use of the FAPRS (Callaghan & Follette, 2008; Callaghan, Follette, Ruckstuhl, & Linnerooth, 2008) to measure the turn-by-turn therapeutic process in FAP. In fact, some programmatic research using the FAPRS has been conducted at several FAP research sites. First developed by Callaghan and Follette at the University of Nevada-Reno, it has since been used by Callaghan at San Jose State University, Follette at the University of Nevada-Reno, Jonathan Kanter at his lab at the University of Wisconsin-Milwaukee, and Sonia Beatriz Meyer at her lab at the University of São Paulo. This research highlights the great promise of FAP as not only a behavior analytic clinical intervention but as an intervention that lends itself to sophisticated process research that can feed back and improve the intervention, and we encourage continued use of the FAPRS and related systems in future research (Follette & Bonow, 2009).

**Final Considerations**

This survey of publications on FAP between 1990 and 2010 in national and international journals points to a growing number of theoretical and empirical investigations on FAP. A greater number of theoretical studies was found than empirical studies, indicating that much work is necessary to understand FAP as a clinical intervention. It is highly recommended that future publications focus on the presentation of controlled empirical data to contribute a better analysis of the effectiveness of FAP and the mechanisms that promote change in the therapeutic process in FAP.

The small number of empirical publications is further limited by the small number of publications that present objective data, as many of the empirical publications are narrative case studies.
studies. These publications contribute very little to the validation of FAP as an effective intervention in psychotherapy. We must, however, note that these publications are generally the product of the work of clinical psychologists who have close contact with the use of FAP in the therapeutic context. Thus, these data, although limited in terms of generalizability, provide important directions for future research using designs that offer less threats to the internal validity of the data. More controlled research on FAP appears to be increasing, indicating a concern of researchers to produce robust and reliable data with respect to FAP. The development of outcome measures sensitive to the kinds of changes produced by FAP is a necessary research goal, and the completion of randomized controlled trials and replicated single-subject designs to demonstrate FAP’s efficacy are extremely important. We also recommend that researchers build on existing research using the FAPRS to better understand the process of FAP and verify the mechanism of change during the course of treatment in randomized trials or single-subject designs.

The current analysis identified a number of comparisons between FAP-based interventions and other known interventions such as CBT and ACT. These comparisons are very promising, especially when incorporating more controlled research designs that isolate and compare FAP to the other intervention. Other studies suggest an interest in using FAP to enhance known interventions, as FAP is proposed to be very flexible, leaving no explicit limitations as to how it may be employed. On the other hand, this flexibility requires a greater assurance of the applicability of its principles when integrated with known interventions and of the effectiveness of FAP-enhanced treatments.

There are few researchers who are consistently dedicated to producing research on FAP as indicated by multiple publications. The same is true for the distribution of home countries of researchers, which can be summarized as USA, Brazil and Spain. In each country there are one or more researchers dedicated to the production of knowledge about FAP, but little dialogue between countries has occurred. This is a major problem that is easily addressed with today’s resources that allow for easy and affordable global communication via the internet. For example, the lab of Sonia Beatriz Meyer, at the Universidade de Sao Paulo, has begun to work in collaboration with the lab of Jonathan Kanter, at University of Wisconsin-Milwaukee, on several research projects. Such collaborations can only improve research on FAP and we hope these initial efforts can spark more global collaborations in the years to come.

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