IDENTIFYING PATHS TO SUCCESSFUL MARRIAGE AND FAMILY THERAPY RESEARCH: EXTERNAL FACTORS WITHIN THE PUBLICATIONS OF THREE EMINENT MARRIAGE AND FAMILY THERAPY RESEARCHERS

by

Sarah Rebecca Sancher Droubay

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ABSTRACT

Identifying Paths To Successful Marriage and Family Therapy Research: External Factors Within the Publications of Three Eminent Marriage and Family Therapy Researchers

by

Sarah Rebecca Sancher Droubay, Master of Science Utah State University, 2002

Major Professor: Dr. Thorana S. Nelson
Department: Family and Human Development

In an attempt to identify a possible pathway to successful research in marriage and family therapy (MFT), publications of three eminent MFT researchers—James Alexander, John Gottman, and Howard Liddle—were content analyzed. These 208 journal articles, books, book chapters, and dissertations were examined for external factors and patterns across time.

Results supported the importance of doing clinical work, having a sustained research interest area, obtaining funding, and maximizing the utility of one’s research samples. Implications and recommendations for future researchers, research training, career paths in clinical research, and further research are given.

(155 pages)
I dedicate this thesis to the memory of Olive Harris Fugal, my grandma, as a tribute to her great presence in my life:

To me, she was an example of life-long learning and improvement, a teacher of dedication and hard work, a woman with strength and kindness, and a friend with great wisdom and vision.
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Sarah Droubay
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As the field of marriage and family therapy (MFT) continues to grow in size and influence, a number of problems persist. One of the biggest problems is the need for more evidence that marriage and family therapy is a viable mental health modality for the treatment of a variety of problems. The need for more research in MFT presents a challenge for current and prospective researchers and clinicians alike to demonstrate the efficacy and effectiveness of MFT. In order to remedy this lack of research, the field needs more researchers. According to the literature, the field of MFT is not alone in its concern for low numbers of researchers (Bakhai & Halbreich, 1993; Johnson, 1991; Leebens, Walker, & Leckman, 1993). Bakhai and Halbreich further stated that the problems many junior psychiatric faculty face with respect to not advancing in their career paths is directly linked to not having higher numbers of researchers in the field.

MFT researchers have undertaken the task of studying systemic phenomena—including individual, marital, and familial—with the hopes that the patterns, relationships, and treatments they identify will somehow benefit their clinical populations and the field of MFT as well as society. This will not happen without sufficient and innovative research. The American Association for Marriage and Family Therapy (AAMFT) has as one of its goals stated in the current strategic plan (American Association for Marriage and Family Therapy [AAMFT], 2001) to increase the role of the association promoting both MFT research and the training of MFT researchers. Although the MFT research field has produced successful researchers, there is no research in the
MFT literature that is specific to either career paths in MFT research or how to be successful at conducting research. Currently, we do not have a model that works to help guide and inspire researchers in MFT.

Success in a research career in MFT is not just the goal of established researchers. MFT trainees who hope for success in a career that includes research in MFT also do not have a path to look to for direction. Without a good guide, trainees will not choose research either because they cannot see themselves being successful or because perhaps research does not appeal to them as much as clinical work. By choosing to limit themselves to clinical work, MFT graduates perpetuate the lack of researchers in the field of MFT. Prospective MFT researchers also need to know more about successful MFT research paths so they can be encouraged in optimal ways and can have a good guide. In addition, researchers who are better prepared to do research will be able to better understand the phenomena they study and more likely to produce research publications.

If we need more MFT researchers, we need to better understand career paths in MFT research to help guide young researchers. Part of the solution should include seeking a better understanding of how people become researchers and how they obtain success. We have chosen the framework of external factors in career development to examine part of a pathway to success in the MFT research field.

**Justification for the Research**

Identifying relevant factors contributing to research success is important because knowing more about the career paths of successful researchers may help in training new
ones by helping them be more efficient and directed in their efforts to develop research careers that will benefit the field and clients.

The current research is justified by its value to the academic world that trains researchers. Johnson (1991) studied the ways that prospective researchers are encouraged and even persuaded to choose research as a career path. He focused on the idea that the literature thus far has not attended to how graduate students learn or are persuaded and encouraged to make research an integral part of their career paths. His main point was, "Graduate students need not only to learn about research, but they also need to be persuaded that the research enterprise is meaningful to their career development" (p. 12).

Furthermore, in their review of literature leading up to their study on the Research Self-Efficacy Scale, Bieschke, Bishop, and Garcia (1996) recognized the need to measure the research ability and preference that doctoral students have to select research as a possible career path. This information is important because research experience in graduate school can greatly affect students’ successful career paths—jobs, movement within the field, and respect from peers.

Although career development theories have identified both external and internal factors associated with career choice, career decision-making, and career success (Holland, 1996; Super, 1992, 1994), the career development literature is looking more at external factors than previously (Blustein, 1997; Collin, 1997; Ream, 1996). Earlier researchers such as Eiduson and Beckman (1973) stressed the necessity of examining external factors in addition to internal factors that may be associated with career choice and development. While it appears from the available literature on career choice and
career path development that identifying relevant internal and external factors of a career that includes research in MFT is important, it also seems that most of the existing literature for all fields focuses on internal factors.

Purpose of the Research

Existing research has focused mostly on career choice and career development separately, although one could argue that one’s choice of career is the beginning of a career path and one’s decisions during the career that determine the development of the career path. Research has examined the effects of both internal factors (personality, biology, childhood experiences, scholastic aptitude) and external factors (degree, place of study, salaries, publications, research experience, funding on career path choices). Most studies about external factors and career development or career path management have centered on superficial, job environment factors. Few studies have focused specifically upon the produced research itself to identify trends or patterns that may have contributed to its author(s)’ success. The purpose of the current research is to identify external factors and trends in the research career paths of three successful MFT researchers—John Gottman, Howard Liddle, and James Alexander—through their published works, integrating findings with existing career path literature to begin building a model that will help guide research in MFT.
Definitions

The Miriam-Webster Dictionary (1974) defines success as “satisfactory completion of something” and one who succeeds as someone who has “obtain(ed) a desired object, or end” (p. 683). John Gottman, Howard Liddle, and James Alexander are successful researchers in the field of MFT who are distinguished and eminent researchers in their respective interest areas, hold high ranks or positions in the MFT research community, having contributed much to the field, and are evident and conspicuous to mental health practitioners and researchers alike—not just those in MFT. Thus, they are eminently successful.

Second, we distinguish between career choice, career development, and career path. Career choice is the process by which an individual decides upon a career. Career development, on the other hand, is slightly more complex. It is best conceptualized as the process by which individuals make decisions about where they are in their careers and where they would like to go. Career path reflects the qualitative shifts one makes as he or she moves from one career to another or, in the case of the current research, one research topic or interest area to another topic or interest area. In its entirety, a career path includes the initial career choice and subsequent career decisions that have been made since that initial choice.

Although the present study attempts only to identify external factors, it is important to distinguish them from internal factors. Internal factors are those that are inherent to the scientist. These include and are not limited to the scientist’s personality, biology, internalized meaning of life experiences, self-efficacy (and more specifically
research self-efficacy), individual decision-making skills, family size, birth order, interest in helping professions, perceptions of early family life, and so on (Bieschke et al., 1996; Eiduson & Beckman, 1973; Garden, 1997; Jones & Jung, 1976; Ream, 1996; Savickas, 1995; Vasil, 1992). External factors are those that are outside of the scientist—in the workplace, in the immediate social context, and even in the scientist’s research itself. These include and are not limited to resources such as time, money, facilities, and undergraduate or graduate students; mentors; quality of educational establishment where the scientist received his or her degree(s); the scientist’s research recognition as quantified by the number of citations received in others’ works (Newman & Cooper, 1993); productivity as measured by the amount of paper generated as in books, reports, articles, chapters in books (Vasil, 1992); or number of publications in general (Castle, Refault, & Murray, 1991).
CHAPTER II

LITERATURE REVIEW

The purpose of this chapter is to review the existing literature that provides the foundation and basic framework for the current research project. First, the literature on career success is reviewed, although little has been written specifically on success. Because eminent researchers are successful by definition, literature on eminence is reviewed. In addition, because of the lack of research on success, it also was necessary to include older literature. This literature is then integrated with findings that have been extrapolated from later, more recent literature. A review of the literature that pertains to career paths follows. Following this, the literature on internal and external factors is presented. The chapter concludes with a statement of the research questions for the current project.

Research on Success and Eminence

Much of the early literature on success was reviewed by Eiduson and Beckman (1973). The literature they reviewed identified external and internal factors that contribute to social or behavioral career choice and career development—conceptualized in this research project as the research career path—and career success. Eiduson and Beckman reviewed literature on career success, but they distinguished eminence specifically. They defined eminence as making "the kind of great discovery or breakthrough that has brought recognition and respect from colleagues" (p. 21). One cannot be eminent without career success, but one can certainly have career success and
still not achieve eminence. Factors specifically indicated as being associated with eminence include having an early career start, being more likely to coauthor articles and book chapters, having majored in humanities or any other "soft" science, being in the top five percent of one's college class, having high research and conceptual aptitudes, having an eminent researcher/psychologist as a father, having an upper-middle class origin, and being either a first-born or only child. Eiduson and Beckman cited additional research concluding that an eminent researcher's current academic affiliation is more important than where the researcher received his or her degree.

With respect to the career path, a researcher's level of motivation and good judgment in choosing a research topic as well as the researcher's students' recognition by peers were more important than where an eminent researcher attended school (Eiduson & Beckman, 1973). Eiduson and Beckman cited other research that compared eminent researchers to noneminent researchers. They found that eminence is associated with more research, greater conceptual skills, and willingness to have a professional career with professional obligations such as meetings and administrative tasks in order to have career success. In addition, eminent researchers are more devoted to research and professional commitments, but are not associated with high levels of altruism—doing research for the benefit of others. However, achieving eminence changes things for the researcher. Specifically, there is a greater demand for administrative activities such as lectures, advising, and traveling. These activities in turn take the researcher away from what brought him or her eminence in the first place.
Simonton (1992) looked at professional output—publications—among other career development characteristics to create a composite picture of the typical eminent American psychologist. Simonton operationalized eminence as having served in the American Psychological Association (APA) presidency and by posthumous reputation. In qualitatively analyzing each researcher’s output trends, Simonton used content analysis to examine research publication titles. Results of his analysis yielded the following description.

The typical eminent (thus successful) researcher had a 10% chance of being born outside the US, received his education at an institution where there was an average of five other eminent and successful psychologists, had a 75% chance of having done his graduate work under another eminent and successful psychologist, completed graduate training around age 28, had on average 13 eminent colleagues over his career path course, and had a 50% chance of being elected APA president. In addition, the typical eminent and successful American psychologist published around nine publications—including articles, book chapters, and books—that have received an average of 62 citations and tended to research popular topics (Simonton, 1992).

Gordon and Vicari (1992) stated that success “. . . within a field is a construct amenable to many forms of operationalization” (p. 26). For their study on success within the field of social psychology, they looked primarily at output (publications) and recognition by peers (citations received) and used a numerical formula to compute eminence rank as a quantification of success. Results indicated a significant relationship between being cited in others’ work and number of publications produced.
Stevens and Gardner (1985) interviewed eminent female psychologists and asked them to give the names of the person and publication that most influenced their lives. Women were more likely than men previously studied to indicate a family member’s influence on their career paths.

Donald Super was an eminent researcher who studied career choice and career decision-making, both of which contribute to one’s career path. Savickas (1995), in eulogizing Super, described Super’s career path as beginning with a focus on career choice from a developmental and psychological point of view, then expanding into a conceptualization of career decision-making as including a person’s self-concept, taking into account the social context as well as an individual’s personal needs. This suggests a potential pattern of idea progression for successful researchers.

In summary, the existing literature on success is sparse, but it indicates that there are internal and external characteristics of the researcher that may contribute to achieving success. External factors such as choice of research subject, recognition by peers, productivity, and association with other successful researchers appear to be important.

The Research Career Path

In addressing how exposure to an extensive research experience affects undergraduate psychology students’ later research career choices, Kremer and Bringle (1990) suggested involving undergraduate students in research even though they will learn about research in graduate school. Kremer and Bringle cautioned that undergraduate students who have not had intense research experience run the risk of
making a hasty, "uninformed" (p. 5) decision not to pursue a research career. They cited other research that expresses concern over the projected lack of researchers in the field of psychology because of losing students to practice-oriented graduate school focus.

Castle et al. (1991) surveyed psychiatry cohorts from 1965 to 1975 who graduated from the largest postgraduate training facilities in Great Britain to identify factors that contributed to career paths. They found that having a Ph.D. before entering psychiatry training and being involved in research during psychiatry training both predicted a career path that included success in remaining in academic psychiatry and success in research publication. Eiduson and Beckman's (1973) literature review indicated that age, financial resources, and academic rank affected vertical career path movement and that career success—measured by publications, presentations, grants, honors, and awards—affected the researcher's extension into other areas, which in turn resulted in more success. In addition, successful researchers were likely to spend fully one third of their professional time interacting with colleagues.

Trice (1993) investigated factors that influenced psychologists who were trained in experimental research to choose to continue on a research career path. They pitted "nonresearchers" (defined as having published fewer than three papers in the last five years) with members of editorial boards for research journals. The assumption inherent in Trice's study is that editorial board members are considered to be successful researchers who are continuing on a research career path. Results indicated that editorial board members were more likely to have published their theses or dissertations, were more likely to have taken a job in a research or university setting, were less likely to have
had debt at the end of graduate school, and were more likely to have had their first independent research article accepted.

Other literature looks at factors influencing research topic choice, which is a part of one’s research career path. Busch, Lacy, and Sachs (1983) looked at factors associated with research topic choice from within the field of the agricultural sciences. In their factor analysis, Busch et al. created a category of responses they termed “career advancement.” These factors for research topic choice included funding and likelihood of publication in professional journals. The factor analysis yielded only a small correlation between “career advancement” factors and research topic choice, suggesting that choice of research topic is not related to one’s desire for career advancement (as these authors defined it) in the agricultural sciences.

Feldman (1989) conducted an interesting study in the field of organizational behavior focusing on the careers of employees, which refers to the sequences of jobs individuals hold over time. Feldman used adult development theory, which looks at the stage models for career development. This includes job stability, job exit, socialization, and attribution theory, which seeks to explain the time allocation of employees. Interesting parallels exist between this concept of adult development theory and a career path in research.

First, the study looks at the sequences of jobs over time. In adult development theory, mentoring is crucial; likewise, mentoring is important for career path development (Bakhai & Halbreich, 1993; Eiduson & Beckman, 1973; Healy, Kosslyn, & Shiffrin, 1992; Johnson, 1991; Leebens et al., 1993; Newman & Cooper, 1993). Job stability is
conceptualized by length of time in career plateaus, which is time spent in one’s current job. This parallels the amount of time one spends researching a particular topic and affects one’s research career path. Job exit refers to a person’s decision to leave a dying organization; in research, perhaps there is a time in each researcher’s career where he or she realizes that a certain research topic is dead and moves on. Finally, socialization represents a good fit between the individual and the group with which he or she works. In research, one could argue that this parallels the working environment, also a fit between the researcher and topic choice and the fit between research objectives and funding source ideals.

Perkins (2000) traced his own career path. He began his career by volunteering as an undergraduate student for an off-campus community research project that later became the foundation for his undergraduate thesis. His research interests after graduation called his attention to limitations in using a medical model to address environmental problems. Because of this, he became a Ph.D. student in a community psychology program, leaning toward an environmental focus rather than limiting himself primarily to a clinical focus. From there, he volunteered to be the lead data collector in exchange for rights to the data set for his dissertation. This resulted in a job in his area of research interest. He wrote grants to help fund his dissertation. He then sought the advice of prominent National Institute of Mental Health (NIMH) researchers in order to assist him in developing a measure. This networking later paid off in his earning a paid position at NIMH. Perkins reported believing that this experience increased his marketability as well as enhanced his research skills.
Perkins (2000) reported that other factors aided his career path as well. These included being able to move effectively and easily between the worlds of academia and practice. Specifically, he supported integrating research, teaching, and community service work. He termed this the interdisciplinary or environmental focus of a community psychologist. To summarize, Perkin’s research autobiographical sketch highlights factors and decisions along his career path that contributed to his success.

In summary, early research experience, professional networking, early publications, research topic choice, and seeking out funding opportunities appear to be important in influencing career path development. In addition, being able to integrate the worlds of academia and practice seem critical as well.

Research on Internal Factors

Existing literature on the internal factors associated with both career choice and career success (conceptualized together as the career path) are related to psychological and familial factors. Eiduson and Beckman (1973) did an extensive review of the literature. The review identified psychological aspects of scientific research career choices as well as those that are influential in career path development. Scientific career choice seems to be associated with childhood interests in science, lower performance grades in mathematics, a fondness of language as a school subject, good performance in both English and social studies, and an early interest in behavior. In addition, scientific researchers are more likely to have come from urban backgrounds, contributing to their greater sensitivity to urban problems. Also, according to the literature, these people tend
to have had a desire to be recognized by their peers for contributions: a desire for eminence.

Eiduson and Beckman (1973) also identified family of origin factors that contributed to the career choice of scientists. Many researchers described themselves as having gravitated toward their father’s career—particularly if it was a professional career. In addition, these professional fathers were more likely to choose research colleges for their children. Having come from smaller families or having a perceived isolated or lonely childhood also was predictive of a research career. Researchers also reported lacking strong relationships within their families of origin and tended to describe their homes as having been rejecting. They also reported having felt physical and emotional distance from their fathers and were more likely to identify with their mothers as being achievement oriented. Other scholastic factors include an early interest in science and things rather than in people, creativity, verbal skills, and abstract thinking skills. Personality traits identified include introversion, being withdrawn, and being less aggressive, but these scientists also reported that the intracommunity competition inherent in their work was a good outlet for the smaller amounts of aggression they did feel.

Other literature looked at research self-efficacy (RSE) (Bieschke et al., 1996; Vasil, 1992) to explain why some individuals choose a scientific research career and also why researchers make the decisions they do along their career paths. Bieschke et al. wanted to see how well a scale for measuring RSE measured the confidence of doctoral students in the biological sciences, social sciences, humanities, and physical sciences with respect to their ability to conduct research. They also wanted to see if their measure of
RSE was predictive of career choice. Their results indicated that measuring RSE was useful in helping graduate students assess both their strengths and weaknesses regarding research. In fact, time in graduate school and having been involved in research was associated with higher RSE scores. A major assumption made at the outset was that RSE is better than external factors such as training, environment, or previous research experience at predicting career choice in research. One implication of their finding that RSE is useful is that confidence in research abilities and also awareness of the limitations of abilities were significant internal factors in choosing research as a career path. Therefore, researcher self-efficacy may play a role in decisions that researchers make along their career path.

Vasil (1992) applied a scale measuring academic self-efficacy (ASE) to full-time faculty in several fields in an attempt to ascertain its relationship to achievement and research productivity within academic careers. The results of this study indicated that there was indeed a positive correlation between research self-efficacy (as quantified by the ASE scale) and research productivity as measured by number of papers, presentations, grants received, and how many doctoral students each faculty member graduated. This finding suggests that one’s perceived ability and effectiveness in doing research is an internal factor related to being successful in a research career path.

In summary, it appears from the literature that childhood factors seem to affect career path development. These include an early interest in science, family of origin factors, child-parent relationship factors, parental achievement orientation, a desire to be well-known, and one’s own self-assessment of ability in research.
Research on External Factors

Eiduson and Beckman's (1973) extensive literature review on social and behavioral science career choice and development addressed external factors that contribute to career path development as well. Their list of external factors was associated with behaviors or conditions during training and/or employment. They used social learning theory (Bandura, 1977) as a foundation for their explanation: As one modifies and changes to fit job or field expectations and to earn social rewards, he or she becomes more successful. The literature Eiduson and Beckman reviewed identified that career success was associated with researchers’ relationships with their supervisors or administrators, their interactions with colleagues, increased opportunities for independence in their activities and decision-making, the nature of the tasks, and having similarity between the goals of their research and the goals of the organizations for which they worked. In addition, marginal academic settings (such as hospitals, medical schools, or mental health agencies) yielded more innovative research than did highly academic institutions such as universities. The researchers’ explanation for this finding was that there is more freedom and independence in decision-making and a higher visibility for research goals in marginal academic institutions.

The remainder of this section focuses on the themes that emerged from the literature on external factors that contribute to success in research careers: funding, training in research, mentoring and networking, and productivity. Age, gender, and time are briefly addressed.
Funding

As this theme emerged, it included two subthemes: (a) researchers do well when they are funded; and (b) researchers who are not funded have a difficult time. Bakhai and Halbreich (1993) discussed the plight of junior faculty who are suffering in the “publish or perish” (p. 84) world of the academic institution. Their difficulty is that when “the main criterion for success is innovative, funded, and published research” (p. 84) and they are in resource-poor departments, it is impossible to produce research to become successful. In addition, as Perkins (2000) traced his own very successful career path, he noticed that he was very active in seeking the funding he needed to accomplish his goals.

Some literature indicates that seeking, obtaining, or even recognizing the need for funding is not related to research self-efficacy (Bieschke et al., 1996). Other literature refers to the strong impact that access to funding has on all parts of career exploration (Blustein, 1997).

Trice (1993), finding that successful researchers were less likely to have debt after graduate school than unsuccessful researchers, suggests that nonresearchers may have not been overly interested in research, and that this lack of motivation may have contributed to these individuals’ not being as successful in receiving financial assistance nor as interested in university faculty positions as were the researchers in his study. Furthermore, Bowden’s (1997) study of research scientists in the context of their job settings found that obtaining grant funds for continued research, continuing professional development, and managing one’s own career are the way to become successful as a researcher. In their discussion of the research priorities and considerations in career
decision-making in the social sciences, Jones and Jung (1976) noted that if one does well with the funding one receives, that the funding source is more likely to fund a second project.

In her book on grant-seeking, Illes (1999) commented that funding rates as well as the length of time one can expect to maintain funding have decreased through the years. If obtaining funding for research is associated with success, it is important to know that grants are much more competitive now. Knowing very specifically what to ask for and how to ask for it makes a difference in fund-seeking. Illes listed the requirements researchers should meet when applying for project funds: Research should be grounded in science, have merit, relate to an overall program, match with sponsor ideals, expect realistic and deliverable results, have a sound experimental plan, have proper resources, and have a good proof of concept, that is, the quality of the data supporting the research is high.

The assumption here is that if research is funded, chances are that the research met the above requirements. Therefore, there is a “quality of research” factor influencing the likelihood it will be funded; funded research is more likely to be considered useful to the field as well as helpful to a researcher’s career path. Illes (1999) went on to point out the circular relationship between research and funding. A good idea serves as the basis for a good research proposal, which in turn is likely to receive funding. Funding facilitates results in that sufficient resources and procedures are affordable. Results get published and the availability of information through publications generates more ideas and the
cycle begins anew. A final step, according to Illes, is to maintain a good working relationship with the funding source, which increases the likelihood of future funding.

In summary, funding is an external factor associated with research career success and a researcher will not likely receive funding without taking appropriate steps. A successful researcher must know how to seek funds, use them well, and maintain a good relationship with his or her funding source. A successful researcher will have a large percentage of his or her publications supported by funding.

Early Research Experience and Training

Most of the literature indicates that increased research experience yields more and better research resulting in research career success. The key seems to be to begin this experience during undergraduate and graduate school. Although Trice’s (1993) study on the influence of a sustained research path indicated that undergraduate research experience is less influential than graduate school research experience and early professional research experience, Kremer and Bringle (1990) found that undergraduate experience with research is crucial to choosing a research career as well as being successful in that career.

Kremer and Bringle (1990) compared undergraduate psychology students who had had an intensive research experience with other undergraduates who had not had this experience. During the intensive research experience, the undergraduates were paired with a faculty/researcher and the students’ role was that of a colleague. The student spearheaded the literature review, gave seminars, ran the study, and prepared the results for publication or presentation at a conference. These undergraduate student participants
were more likely to produce work that was more likely to be accepted for publication, to possess greatly improved research skills, to apply and be accepted to a research-oriented graduate school, and to have a career in research.

Halpain, Jeste, Katz, and Lebowitz (1997) conducted a similar study with graduate-level geriatric psychiatry researchers. This program had two main goals: (a) to increase the number of researchers in the field of geriatrics, and (b) to increase the research skills of the participants and ultimately the availability of research skills in the field of geriatric psychiatry as a whole. Halpain et al. wanted to identify research tools and offer them to would-be researchers. Their Summer Institute consisted of research seminars and specific trainings. At follow-up (one year after the training), 88% of the participants had presented at professional meetings, 81% had publications, most had written grant proposals, and 33% of those proposals had been funded. The investigators concluded that increased education and researcher training can help geriatric psychology researchers be more successful in their careers.

Johnson's (1991) literature review lends support to the notion that having research experience in training or in school leads to research productivity later in one’s career. Knowing how to do research and using that knowledge by doing research early increases one’s independence, which can have an isomorphic effect upon one’s career path. If one can independently seek financial resources for research, one is more likely to be successful. As Bakhai and Halbreich (1993) stated, “It might be suggested that capable and motivated young psychiatrists will find opportunities for research and take advantage
of them without any organized effort to help the process” (p. 85). If researchers have the skills to do research and the motivation to do it, they will be successful.

Bowden (1997) looked at research scientists in the context of their job settings: industry, university, government research, and independent research. Findings indicate that the more schooling one has, the higher position one is likely to have in a research career. Moreover, Bowden has pointed out that historically, career path progression has been associated with promotion. He suggested a dynamic model: the interaction of continuity and change, which holds that one may advance vertically in one’s career while keeping an eye open for a qualitative (or horizontal) shift to another area or career entirely, and that both horizontal and vertical movement account for career path development. Leebens et al. (1993) found when they examined career choice and retention in child psychiatry, that having at least 2 years of training in research was associated with getting and keeping a full-time research position. Having begun one’s employment with a research center also contributed to increased number of years at a research job. Leebens et al. also suggested that one barrier to job acquisition (the beginning of a career path in research) in this field is applicants’ lack of research skills.

In summary, early research experience and training are associated with an increased interest in research. This early involvement may also increase the likelihood of being successful in one’s research career path.

Mentoring and Networking

A human connection to others appears to be associated with career success in research. "His connection to others is represented through mentoring and networking
within the career profession. In his literature review, Johnson (1991) found that mentoring is a big part of how students’ attitudes toward research become more positive through school and after graduation. Through this academic process, students are encouraged to do research, are shown the benefits of having done this research, and use faculty as mentors. In addition, Bakhai and Halbreich (1993) suggested that junior faculty members should seek out mentors for guidance as well as for a sense of community and collaboration. Such collaboration, they suggested, could lead to more funding sources through networking. These authors also posit that co-authorship is another benefit to having a mentor. Leebens et al. (1993) surveyed first authors of adolescent psychiatry research poster presentations and found mentoring to be invaluable in influencing a career choice in research and staying in that career.

Healy et al. (1992) edited two books written in honor of their mentor, William Estes. Each chapter of Volumes I and II was written by previous students who presented research they were involved in that honored Estes. Each chapter also included accolades of Estes’ abilities and qualities as a successful and cherished mentor. For example, former students praised Estes’ ability to remain flexible and open to new ideas without losing sight of what he was working on. Some contributors referred to him as having a much deeper influence on them: “I... try to think of what he would do in the same situation” (p. 117), praising his “caring and support” (p. 256), and commenting on his “advice and support” (p. 231).

Estes’ mentoring also was evident in how his work influenced his students’ research interests (Healy et al., 1992). Each chapter of Healy and colleagues’ book began
with something to the effect of, “In working with Bill Estes, I became interested in...” For example, one contributor’s “specific starting point [in my research]. . . is a remark that Bill wrote. . . .” (p. 279). Each chapter related the topics the authors had become successful with or prominent for as being questions or findings they had while working with Estes.

The implication is three-fold. First, having a mentor and working with someone who is in the position to be a mentor contributes to career success for emerging researchers. Second, having the opportunity to be a mentor of graduate students contributes to one’s eminence. Third, and most important in light of the current research project, following up on ideas generated by one’s research with a mentor may contribute to success. Healy et al. (1992) assert that “Bill’s admonition that simple hard work applying existing theories and methods might well prove inadequate to promoting continued progress of scientific understanding” (p. 302). This statement offers support for this final implication: In order to be most successful, one must keep going from one research finding to the next, building on the findings generated by one’s research.

Eiduson and Beckman (1973) lend support to the implication that connections with mentors aids success. Their review of literature indicated that “direct or indirect ties. . . with one or more highly productive scientist brought other scientists of less productivity into a large community network” (p. 379). Likewise, Newman and Cooper (1993) investigated what they termed to be determinants of academic recognition, which could be defined as success or eminence. In their literature review, they associated recognition of scientific researchers with both their location in the field’s class structure
as well as increased resources for future research: opportunities, facilities, and research assistants.

In summary, it seems that having the opportunity to be mentored, to mentor, and to have networking connections is associated with peer recognition and success. In addition, being prepared to further one’s research also appears to be important.

Productivity

Productivity is measured by number of publications (Castle et al., 1991; Simonton, 1992) including reports, articles, books and book chapters; papers, presentations, grants received, and students graduated (Vasil, 1992); and number of citations a researcher receives in others’ publications (Gordon & Vicari, 1992; Newman & Cooper, 1993). Eiduson and Beckman (1973) cited findings indicating that the level of productivity and public recognition was related to the time allotted to different professional activities such as teaching, research, and administration. Allocating time to these activities also contributed to career success. Their review also revealed that there was a strong association between the number of citations and the author’s winning a Nobel Prize. Furthermore, a researcher’s career was reflected in the number of publications and citations and, to a lesser degree, honors and awards received.

In investigating what they termed “career advancement,” which could also be viewed as navigating one’s career path, Busch et al. (1983) looked at the perceived criteria for choosing a research topic in the field of agricultural science. Factors included in “career advancement” were funding and the likelihood of being published in professional journals. Vasil (1992) also found that there was a positive correlation
between research self-efficacy and research productivity. Therefore, researchers who perceived greater ability to do research were more likely to have published their research.

Newman and Cooper (1993) studied articles appearing in the Journal of Applied Psychology, looking for a relationship between the type of research article (conceptualized here as a research plot), number of citations, and the topic’s popularity. They classified the research articles into three research plot categories based upon whether the research was exploratory research (exploring new or never studied phenomena), refinement research (basic replication including moving from laboratory to natural setting, utilizing newer measures, or applying phenomenon to a new sample), or extension research (isolating variables, combining previously isolated variables, and looking at moderating variables). Their results indicate that exploratory research plots were the most cited, followed by extension research plots and then refinement research plots. The popularity of the topic researched was not related to these differences. The authors postulated that research plots have their own evolution. An idea begins in an exploratory research plot, is refined, and then extended.

To summarize, the literature conceptualizes a researcher’s productivity as the number of publications and citations. The literature also suggests that productivity as well as the type of research conducted contributes to the career path of the researcher.

Other: Age, Gender, and Time

The literature looks briefly at other external factors that may contribute to career choice, path development, and career success. Eiduson and Beckman (1973) cited literature indicating that the best offerings in the field of psychology occur mostly when
the researcher is between the ages of 30 and 39. The research does not suggest, however, that important or even crucial contributions cannot be made later in life. Eiduson and Beckman cited additional literature proposing that a research scientist's most productive years are between the ages of 30 and 50.

It is not the aim of the current research to focus on gender. However, it is interesting to note that Vasil (1992) found that males scored higher for research self-efficacy, had more time to do research, were more productive, and received more funding than did women. Although gender is an internal factor, time, productivity, and funding are external. Also, McGinty, Martin, DeMoss, and Hill (1994) looked at the effects of gender—specifically, of being female—on research as a career choice. Women were more likely to choose a research career if they had published, attended scientific meetings, given presentations, been mentored, and rated themselves as self-starters. In addition, McGinty and others' research suggests that for women, a clinical career is much preferred to one in research.

Other literature addresses time as an external factor that influences career paths of researchers. Halpain et al. (1997) reviewed the Summer Institute Research Training program, concluding from the literature that early research training leads to a successful career path in research. However, they found that 68% of the geriatric fellows spent less than 10% of their time involved in research activities. Likewise, Eiduson and Beckman (1973) cited research findings that claimed that level of productivity and amount of public recognition were directly related to time allocation. Specifically, researchers who spent
75% of their time doing research and 25% of their time involved in administrative rather than teaching duties were more likely to have greater career path success.

Bakhai and Halbreich (1993) addressed the problem that junior faculty in resource-poor departments face. Part of this problem is that these clinician/researchers are limited in personnel, funding, training/experience, and time. As a possible solution to the problem, Bakhai and Halbreich presented the idea of a “service center” (p. 88) that would be government-funded, supplied, and run. These centers would do all the “dirty work” such as data collection and analysis and training. However, the current literature review has indicated that those researchers who want to be successful will make the time, find the funds, get the training, and do whatever it takes for themselves to fulfill their research dream.

In summary, the literature indicates that having research funded, having early training and experience in research, being mentored and mentoring others, and publishing one’s research and having it cited by peers are associated with success. The purpose of the present research is to explore the possible external factors and trends in the career paths that are evident in the publications of three successful MFT researchers—Gottman, Alexander, and Liddle—in hopes of identifying a model or models that will help guide successful research in MFT.

Research Questions

For the scope of this project, we will identify only external factors that can be inferred or extrapolated from analyzing publications. The review of literature identified
career development factors across the social sciences; what we do not know is how individual MFT researchers develop their careers. This information, integrated with existing knowledge, will help researchers and their mentors identify the steps and factors that may enhance research career path development in MFT. This research may also help identify mistakes to avoid.

The research questions for this exploratory study are for each researcher:

1. What were the publication topics? How did they change over time?
2. What were reports of model development?
3. How many publications credited a funding source?
4. What were the research samples? How did they change over time?
5. What types of research were conducted? How did they change over time?
6. What were the research questions? How did they change over time?
7. Did the researcher follow up on research ideas he generated?
CHAPTER III

METHOD

Population and Sample

Although the research literature review draws from several fields (organizational behavior, agricultural science, psychology, psychiatry, and so forth), the present research seeks to examine the field of marriage and family therapy (MFT). Because this study is exploratory and descriptive in nature, we selected only three MFT researchers. Because the study addresses research success, we chose three eminent MFT researchers: James Alexander, John Gottman, and Howard Liddle. These researchers were selected not only because they are successful and because researchers and clinicians alike respect their data, but also because they have published a large quantity of research. Given the volume of the data, it seemed that three researchers would give both convergent and divergent data.

There were a number of important MFT researchers who fit the definition of success and even eminence in that they were well known, well-published, well-funded, and well-respected. However, the criteria for selection was not based solely upon number of publications. These three were selected mainly because they have clear and sustained research topic interests. One particular reason was that these three have not only researched well, but they have also applied their research and findings to treatment. One other researcher, Neil Jacobson, was considered, but due to his death we would have been unable to continue the research project. Other researchers on this project plan to do a more in-depth study on internal factors using interviews.
The aim of this study was to look at the publications of these successful MFT researchers to identify trends or patterns, including external factors, from within the publications themselves. Our sample consisted of journal articles, books, and book chapters either authored or coauthored by each researcher. Our sample totaled 208 publications: 38 for James Alexander, 119 for John Gottman, and 54 for Howard Liddle.

Table 1 presents a description of the sample. Specifically, the table shows the numbers of publications listed by the reference database PsychINFO for our research sample through the publication year 2000. In addition, the table also shows how many articles, books, book chapters, and dissertations were located and coded. Response rates for James Alexander, John Gottman, and Howard Liddle, respectively, are 100%, 93%, and 93%. Of 221 total possible publications, we obtained and coded 208, resulting in an overall response rate of 94%. The table also includes the number of publications that were research-oriented, discussed later.

In order to describe the sample more fully, we obtained measures of researcher and model popularity. The Social Sciences Citation Index listed 789 citations for James Alexander, 3,598 citations for John Gottman, and 442 citations for Howard Liddle. PsychINFO listed 32 additional publications by other researchers that investigated James Alexander’s Functional Family Therapy model (Alexander, Pugh, & Parsons, 1998). Although it appears that John Gottman has not named a specific model of therapy, he does have models or theories of marital and parental dynamics that he has modified through research. We made a distinction between models of therapy (specifically named) and models that explained or described a particular dynamic (not specifically named).
Table 1

Description of Sample and Response Rates

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Journal articles</th>
<th>Book chapters</th>
<th>Books</th>
<th>Dissertation</th>
<th>Total publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander</td>
<td>29</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>38</td>
</tr>
<tr>
<td>PsychINFO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>38 (100%)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Coded</td>
<td>29</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>38 (100%)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Research pubs</td>
<td>19</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Gottman</td>
<td>83</td>
<td>36</td>
<td>8</td>
<td>1</td>
<td>128</td>
</tr>
<tr>
<td>PsychINFO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>119 (93%)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Coded</td>
<td>80</td>
<td>31</td>
<td>7</td>
<td>1</td>
<td>119 (93%)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Research pubs</td>
<td>62</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>64</td>
</tr>
<tr>
<td>Liddle</td>
<td>43</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>PsychINFO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>51 (93%)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Coded</td>
<td>41</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>51 (93%)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Research pubs</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>12</td>
</tr>
</tbody>
</table>

<sup>a</sup> Percentage of publications found and coded

Howard Liddle has named one model for therapy or treatment. Multidimensional family therapy (MDFT) (Liddle & Diamond, 1991) has been cited eight times by other researchers. His preventive model, multidimensional family prevention (MDFP) (Hogue & Liddle, 1999) has not been cited by other researchers.
Measures

The first measure, used for identifying the sample, was the social science research index PsychINFO. This database is likely to have most journal articles, books, and book chapters produced by researchers who publish in the psychology, sociology, and related fields. It was used to identify a limited data sample—publications authored by the three MFT researchers available through PsychINFO as of Fall 2000. Appendix B has publication lists for all three researchers in chronological order. PsychINFO also was used to assess each researcher’s model’s or models’ popularity—a secondary measure of researcher popularity. How many other researchers besides these three investigated any named model of the three researchers?

A second measure employed was the Social Sciences Citation Index (SSCI). The SSCI is both computerized as well as in a bound hard copy; however, the available index was hard copy and therefore was searched manually. The SSCI begins in 1969 and data were collected through 2000. This index was used as a primary measure of researcher popularity, specifically, how many times Gottman, Liddle, or Alexander were cited in others’ publications.

A pilot study using three research articles from each of the three researchers was conducted in order to develop and refine a coding sheet (see Appendix A). This third measurement tool included places to insert research factor information: the article reference, first author, purpose of publication, type of research, sample, research questions, model development, funding and funding source information, and future research statement. The purpose of the coding sheet was to have a location for each piece
of data gathered from the research sample (each publication) that was to be analyzed. Some of the data recorded on the coding sheet were for publication identification: record number, reference, and first author. The rest of the data collected by the coding sheet were directly related to the research questions: purpose of publication, type of research conducted, sample size and makeup, research questions, model development, funding information, and future research statements.

A fourth measure employed was the Chronological List (CL) (see Appendix A). The purpose of generating a CL was to show the chronology of different factors to attend to trends that were time-relevant. After data were recorded on the coding sheets, a CL for each researcher was compiled for each research question. From these CLs, we hoped to identify trends over time, patterns in funding, and patterns in the types of research conducted at different stages of the research career.

Procedure

The data were collected using PsychINFO, SSCI, the coding sheet, and the CL. First, the research database PsychINFO was used to identify the research sample and to identify publication counts. Each researcher’s full name was entered as an author keyword into the database, resulting in a sample of 221 publications. Further, if the researcher had named a model, that model name was entered into PsychINFO in hopes of identifying how many times other researchers investigated the model. The three researchers’ names also were searched in the SSCI to obtain a count for the number of times each researcher was cited in other researchers’ publications.
After obtaining a list from PsychINFO of publications for each researcher, each article, book, or book chapter was then located. Publications were not analyzed in chronological order. The coding sheet was used to gather from each publication the specific pieces of data to be analyzed. In addition, purpose of publication, sample size and makeup information, research questions, model development statements, and future research statements were highlighted in the original publication for easy reference.

After analysis, coding sheets for each researcher were organized in chronological order by publication year for further analysis. Publications from the same year were organized as follows. First, journal articles were organized by volume number, then books for that year, then book chapters in the order they appeared on the list from PsychINFO. There were 38 coding sheets for James Alexander's works spanning his research career from 1967 to 2000, 119 coding sheets for John Gottman's research career ranging in publication year from 1969 to 2000, and 51 coding sheets for Howard Liddle's research career ranging in publication year from 1974 to 2000. After all of the coding sheets were completed, data for each researcher were organized on the CL for each research question.

Analysis

The content of each publication was analyzed according to a specific plan for answering each research question. Weber (1985) stated that one of the many uses of content analysis (CA) is to "describe trends in . . . content" (p. 9). The purpose of this study was to examine patterns and trends in publications, so CA was determined to be the
best analysis tool to do that. CA is a method of analyzing data that can make use of both qualitative and quantitative means for manipulating data. More specifically, one can decide to attend to any one particular word or phrase, examine other information that particular word or phrase is tied to, and obtain a count for how many times that particular word or phrase appears in a piece of writing. Furthermore, the remaining research questions address patterns over time, and CA can facilitate the time-sensitive organization of data. In order to check for coder bias, a second researcher coded a random selection of nine publications: three for each researcher. Differences were reconciled until there was a common understanding of all codes.

**Question 1. What Were the Publication Topics? How Did They Change Over Time?**

Analysis for this question included two steps. The first step was to infer the publication or research topic from the publication. The coding sheet did not specifically ask for the research topic. Rather, it asked for the purpose of the research and the reference (including title) for the publication. Simonton (1992) operationalized research topic as the title of publication. After the title and purpose of each publication were recorded on all the coding sheets, the research topic was inferred from both pieces of data. The second step of analysis was to analyze trends over time. To facilitate this, the research topics were entered into the CL for each researcher. Following this, similar topics were highlighted with the same color marker.
Question 2. What Were Reports of Model Development?

Analysis for this question included two steps. First, the coder searched the publication for any mention of a model or statements of model development. Any references to a model or model development were highlighted. This included specific models for treatment or therapy as well as models explaining or describing the dynamic or dynamics being addressed by the publication. The data were then paraphrased and condensed for rewording on the coding sheet. Second, the coder specified whether the model was built or described, if a model-based intervention was validated, and/or if the model was applied to another population. Data from the coding sheet were organized on the CL for each researcher to examine how the model(s) was/were developed over time. First, the publication year was noted, followed by the appropriate abbreviation for model development usage. Key points of model development, application, extension, or refinement were listed. The coder also noted whether the publication was a dissertation, book, book chapter, or journal article. This helped to distinguish between primary reports of research results that developed the model and using already reported results to further describe the model.

Question 3. How Many Publications Credited a Funding Source?

Analysis for this research question included descriptive statistics of counts for each researcher. Total number of publications that credited a funding source was divided by the total number of publications for each researcher to yield a percentage of
publications that credited a funding source. In addition, credited funding sources were listed on the CL to examine patterns.

**Question 4. What Were the Research Samples? How Did They Change Over Time?**

Analysis for this question included two parts. First, the coder highlighted sample size and description in the original publication and recorded the information on the coding sheet. Second, information was recorded as to how the sample was obtained, whether subjects were paid or given other incentives for their participation, and whether the sample was a previous sample revisited for longitudinal data or a new analysis of data from a previous sample. Analysis was based solely upon the information available from the publication. Sample descriptions were entered into the CL in order to be examined for possible trends.

**Question 5. What Types of Research Were Conducted? How Did They Change Over Time?**

There were three steps to the analysis of this question. First, we determined which publications were research-oriented. A research-oriented publication was operationalized as one that included data and analysis. Table 1 (p. 31) presents counts for number of research-oriented publications. The second step involved inferring the type of research question from each publication. We coded the type of research as exploratory, extension, refinement, outcome, process, or outcome/process. Newman and Cooper (1993) defined exploratory research as research that studies new or never studied phenomena. Extension research was defined as research that isolates variables, combines
previously isolated variables, and looks at moderating variables. Refinement research includes basic replication in a new environment, with new measures, or applying phenomena to a new sample.

These first three types of research cited and defined by Newman and Cooper (1993) may be the standards for social science research, but in order to examine clinical research in the field of MFT, additional categories of research must be included. Clinical research can be outcome-oriented (was the intervention studied effective in producing a certain outcome), process-oriented (focusing on therapist behaviors or strategies—the process—that occur during therapy), or both process- and outcome-oriented (having a focus on certain therapist behaviors connected with certain outcomes).

The third step of data analysis for this research question occurred after the inference was made and recorded on the coding sheet. The type of research was entered on the CL for each researcher, and then the CLs were examined to see if there was a trend over time in the type of research conducted.

Upon completion of analysis it became evident to us that using the definitions provided by Newman and Cooper (1993) was not useful in answering the research question. Not only was it difficult to code research type according to their definitions, but there were no trends or patterns that were helpful in identifying a path for each researcher in terms of the type(s) of research they conducted. Therefore, we qualitatively examined the data to find an interpretation that was useful in answering our research question. We examined data for themes related to patterns of research for each researcher and described those patterns.
Question 6. What Were the Research Questions?
How Did They Change Over Time?

Analysis for this question began with highlighting the research questions in the publication. If the research questions were not stated clearly, they were inferred from the publication. We looked first at the purpose of the publication and then to any hypotheses within the publications to infer the research questions. The questions were then recorded on the coding sheet. To facilitate examining patterns or trends over time, the research questions were entered into the CL for each researcher.

Question 7. Did the Researcher Follow Up
On Research Ideas He Generated?

Analysis for this question began by highlighting statements the researcher made in the discussion sections of research publications. These statements were then recorded onto the coding sheet and entered into the CL for pairing with later research questions. A specific examination of the CL paired statements about future research only with those research questions that were published subsequent to the original publication.
The purpose of this research was to identify external factors and trends in the research career paths of three successful MFT researchers through their published works, integrating findings with existing career path literature. This was accomplished by examining the data revealed through seven research questions for each researcher studied. This chapter will report the information obtained for each research question for each researcher—James Alexander, John Gottman, and Howard Liddle.

Question 1. What Were the Population Topics?
How Did They Change Over Time?

James Alexander

A main theme that seems to run through much of Alexander’s research is that of studying families of delinquent adolescents. From this general body of research emerged functional family therapy (FFT), Alexander’s hallmark therapy model. Most of the research addressed one or another aspect of this model of therapy. For example, his earliest research (including his dissertation) was on dependency behaviors in therapy—teasing out an important variable in the therapist-client relationship. The therapist-client relationship returns later in the career path as an important and crucial aspect of FFT. Other topics of Alexander’s research that relate to FFT were defensive and supportive communications, the role of attributions and reframes in therapy, therapist behaviors, and importantly, the role of process and outcome research in the field of marriage and family
therapy. Of the research reviewed, all but two publications were tightly woven around these general interest areas. The exceptions to this were two articles on hostility in the marital context and an examination of how type A behavior affects marital interaction.

The path of Alexander’s research topics began before his dissertation (see Figure 1). His first article (Alexander, 1967) addressed the value of therapeutic modeling and how it affects the therapist-client relationship. From this, he moved into dependency in therapy—another aspect of the therapist-client relationship. Research on delinquency began with an examination of family interaction patterns, defensive versus supportive communications with normal and deviant families, short-term behavioral interventions, and comparing results with other therapies. At this point there emerged two types of publications: One area focused on describing FFT and highlighting specific concepts and interventions, and the other on clarifying the roles of different variables of therapy with families of delinquents. Interestingly, Alexander tended to use FFT as an example when addressing the topic of delinquency and to use delinquency as an example when writing about FFT. About 20 years into his research career, Alexander began writing about the merits of process and outcome research in MFT, using again his FFT model and adolescent delinquency as examples.

John Gottman

Three general research topic areas emerged for John Gottman: methodology, the marital relationship, and children’s friendship and sibling relationships. Chronologically, it seemed that Gottman began his research career by focusing on methodology. His doctoral dissertation and first few articles were about time series analysis. He first
Figure 1. Publication topic path: James Alexander.
presented and discussed this statistical analysis tool and then applied it to the study of certain samples. Research publications from that point on incorporated his ideas about temporally sensitive and relevant data collection to whatever research topic was being addressed. These research topics tended to focus on either children's friendships or the marital relationship generally, using time-series analysis to isolate and/or identify moderating variables (see Figure 2).

Another interesting finding was that the research on marital relationships and children’s friendships began to overlap about 20 years into Gottman’s research career. Initially, the research was either on marital interactions (satisfaction versus dissatisfaction, stability versus divorce, conflict resolution) or children’s friendships (relationship formation, popularity in school, social isolation, social and affect development of children, how children affect each other through language, and how friendship changes over time). Later, Gottman began to integrate these two main areas by researching the effects of marital discord on children’s peer interactions. After this point, there still were efforts related to children’s friendship relationships, the marital relationship, and methodology, but the effects of parents’ marital relationships on children’s relationships as mediated by the parent-child relationship began to emerge as an independent research topic area.

Howard Liddle

Two main themes emerged: family therapy training, teaching, and supervision; and MDFI—out of which grew MDFP. Chronologically speaking, it appeared that
Liddle began his research career by focusing on family therapy training, teaching, and supervision (see Figure 3). His doctoral dissertation was on a completely different topic—a microlab (group) experience and its effects on interpersonal behavior and self-actualization. However, his first several articles were about family therapy training and supervision. In fact, in the 17 years spanning from his dissertation to his first publication on MDFT, he wrote 25 articles on issues relating to family therapy training and supervision and two articles about marriage and family therapy in general and its place in the social sciences field. In the next 10 years, during which he published mostly on
Figure 3. Publication topic path: Howard Liddle.
MDFT, he wrote one publication specifically on the topic of family therapy training and supervision. Twenty-three publications were produced on either MDFT or later MDFP.

An interesting finding was that although Liddle did not specifically research family therapy training and supervision in the most recent 10 years of his research career, he referred to one aspect of family therapy training and supervision—the isomorphic nature of therapy and supervision—and related it to MDFT and MDFP. For example, he talked about how the process of supervision and training is like the process of therapy and the growth of a therapist. He extended this idea to therapy with families of delinquent adolescents. His research and publications draw interesting parallels between the development of the therapist-client relationship and the process of therapy over time. In addition, in the single article on family therapy and supervision, he used MDFT to explain and highlight important concepts and issues relevant to family therapy and supervision.

Question 2. What Were Reports of Model Development?

Possible categories for model development information were descriptive (describing the model), building the concepts of the model, validating an intervention of the model applying an existing concept of the model to a new population, or other. Table 2 (shown later) presents data for all three researchers.

James Alexander

Of a total of 38 publications of Alexander’s work, 25 (66%) were coded for having descriptive model development information. This initially included describing
concepts relevant to his later model of therapy: dependency issues in therapy (the therapist-client relationship), what family systems interventions should look like, family therapy research, specific therapeutic goals, and family interaction. Next, he focused on describing Functional Family Therapy (FFT): the model itself, specific parts of the model that were relevant to the publication at hand, and the role of specific moderating variables. Finally, Alexander used his model of therapy to address issues relevant to MFT research and the field of MFT in general.

Thirty-three (87%) of Alexander’s 38 publications were coded as having built theory of the model. Clearly, this category represented the bulk of Alexander’s research. Although there was only one model of therapy throughout Alexander’s research, it seems that the bulk of the publications toward the middle of his research career were devoted to exploring, understanding, and clarifying the value of one of the concepts of the model: the therapist-client relationship. The pattern of model development begins with presenting and building upon concepts that would later be a part of his FFT model. His first publication focused on the efficacy of the therapist-client relationship on reaching resistant clients. Looking at the pattern of model development over time, this appears to be the beginning of attending to the therapist-client relationship as an important concept of FFT.

Other early publications built upon his ideas of understanding family interactions—the variables involved, how dependency plays into therapy and the role of MFT research. About nine years into Alexander’s research career, he adopted a matching-to-sample philosophy, where the findings of his previous basic research were
translated into a set of clearly defined treatment goals and specific intervention techniques for the specific population with which he was working. He indicated that such a philosophy was a blueprint for future intervention programs. After this apparent turning point, model development—as manifested by theory building—took on a new face as evidenced by a change in focus from intervention outcome comparison studies to looking for moderating variables within the therapy itself. This translated to identifying skills that were effective in treatment across cases and ideas about how to help clinicians develop those skills and avoid skills that were demonstrated to be ineffective.

One such skill that became a primary focus 21 years into Alexander’s research career was reminiscent of his first publication: the therapist-client relationship. Several research publications followed looking at different aspects of this relationship to identify the skills that fostered an effective relationship as opposed to those that hindered it. Interestingly, Alexander’s vision did not appear to become clouded by this one factor’s effect on the efficacy of FFT. He continued to identify and study other variables and concepts of FFT.

An interesting finding was that one of the book chapters Alexander wrote for a book compiled and coedited by Howard Liddle on supervision reflected Liddle’s apparent influence on Alexander’s thinking. The chapter’s focus was on how the training of FFT parallels the treatment model of FFT. What is obvious from subsequent publications is that this view of FFT enhanced the model.

Seven (18%) of the 38 publications were coded as having validated an intervention. These articles validated the model development pattern that has been
portrayed so far. For example, the finding from Alexander’s first publication that the therapist-client relationship can be an intervention was significant in later model development. Likewise, Alexander’s publications that validated the matching-to-sample philosophy (Parsons & Alexander, 1973) and short-term family interventions (Alexander & Parsons, 1973) appeared to pave the way for FFT. Later, when FFT was developed and in the process of refinement and extension, fostering a cooperative relationship among family members and between family members and the therapist was validated as a therapy technique. Finally, positive reframes or attributions were found to be helpful in reducing blaming and therefore defensive and resistant behaviors that might emerge during FFT and impede its effectiveness.

FFT was applied to other populations in six (16%) of the 38 total publications. This included the initial application of the matching-to-sample philosophy and systems theory in general to the short-term study of the family, published back in the early 1970s. In the latter part of that decade, Alexander briefly addressed the application of family systems interventions to other community interventions (Klein, Alexander, & Parsons, 1977). In 1988, Alexander mentioned in his description and overview of FFT that the treatment model had been applied to eating disorders, depression, alcoholism, and school problems by other researchers (Alexander & Newberry, 1988). In this last decade, Alexander worked, although not as primary investigator, with other researchers in applying attributions, hostility, and type A/B behaviors to marital relationships (Sanders, Smith, & Alexander, 1991; Smith, Sanders, & Alexander, 1990). It seems that Alexander initially developed FFT after applying his ideas about treatment and research in MFT to a
particular community setting. After the model was developed, it appears that further applications of the treatment model were made mostly by other researchers.

Five (13%) publications were coded as “other.” Two of these were responses that Alexander published to critiques by his peers (Alexander & Turner, 1995; Alexander, Warburton, Waldron, & Mas, 1985). These responses were respectful and assertive in clarifying the tenets of his model. Two other publications tested the validity of a subscale for defensive communications (Waldron, Turner, Alexander, & Barton, 1993) and a coding procedure (Alexander, Newell, Robbins, & Turner, 1995), respectively. In the publication that defended his coding procedure, Alexander also asserted that family process research is thriving. This was a validation of the importance of MFT process research. One of the most recent publications coded was a recommendation for researchers (Wilson, Alexander, & Turner, 1996). Alexander asserted that in order to be professionally competent, clinicians must do certain things (in terms of research) to keep current with new findings, and translate them into clinical practice.

Finally, it is important to consider the type of publication to answer the question of model development. For the first 21 years of his research career, Alexander published only in journals. During 1988, he contributed four book chapters to his publication list. After this, it was six more years of publishing only in journals before he would add book chapters to his list of publications. Most of his journal articles were research-based; most of the book chapters were applications of FFT to the topic of the book. It appears that Alexander recognized the importance of producing research that validated and
furthered development of his model, as well as contributing to the general understanding of adolescent behavior and therapy within the field.

John Gottman

In total, of 119 publications, 89 (75%) were coded for having descriptive model development information. This included describing current model thinking: the role of different variables, methodology, current understanding of the dynamic being studied, and so forth. A common model description in Gottman’s research, for example, was to present his methodologies in ways that would encourage other social scientists to use them. He mentioned more than once that his intended audience was not advanced researchers, but clinicians and non-academic researchers who might otherwise be intimidated by the seeming technically advanced but, in fact, user-friendly methodologies. Therefore, one useful way in which the methodological model was developed was to make it and its tenets accessible to other professionals—clinicians and researchers alike.

In addition, 98 (82%) of Gottman’s publications expanded, extended, or refined (built) the theory of the model in some way. For example, one research publication looked at the difference in how demanding behavior plays out in men’s and women’s behavior in the context of domestic violence. Domestic violence had been researched by Gottman as well as by other researchers, as had verbal behaviors in conflict resolution, as had demanding behavior specifically. This particular article (Berns, Jacobson, & Gottman, 1999), however, built on the models for all three dynamics by using them together to identify the role of demanding behavior by men and women in relationships with husband to wife violence. This extended the knowledge of domestic violence,
conflict resolution, and demanding behaviors as well as created a relationship among all three concepts.

Clearly, theory building represented the bulk of Gottman's research. A pattern emerged: Gottman began by researching methodology and applied it to family research, particularly the marital relationship dynamic. Then, a theory or model of marital interaction began to emerge and moderating variables identified by the research were teased out and examined independently to identify their roles and functions. Part of Gottman's model for understanding the marital relationship dynamic included predictive variables that would indicate which marriages would succeed and which would end in divorce. Therefore, longitudinal studies looking specifically at the accuracy of using these moderating variables for predicting marital stability were part of Gottman's research career path. Intermittent publications in the CL on methodology were based on his research work and new methodologies were incorporated into subsequent research projects.

There were also publications in Gottman's work that linked previously unrelated models of human relationships: children, friendship development, and peer relationships; and the marital relationship, marital discord, and conflict resolution. Integrating how the marital relationship affects children became a new focus and led to further theory building about the role of emotion regulation in the marital relationship, in children's relationships, and in how parents' discussions about emotions may mediate or serve as a buffer for children's outcomes. Identifying the role and function of moderating variables and being able to significantly predict marital stability or divorce led to recommendations
for therapy. This culminated later with publication of a book (Gottman, 1999) that tied research, methodology, assessment, and intervention skills together in a usable model of therapy for marriage.

Ten of Gottman’s 119 publications (8%) coded in this study validated interventions. This included evaluating the efficacy of skills training, recommendations for children and parents based on his research findings, and recommendations for marital therapy based on his research findings. This last category was interesting. A number of publications addressed different recommendations for clinicians based upon extension research on a particular variable. For example, in one of his book chapters (Gottman, 1994), Gottman discussed what his recommendations would be for marital therapy: 5 to 1 ratio of positive to negative interactions, reducing prevalence of “four horsemen of the apocalypse,” and so forth. But one of his most recent works was a book (Gottman, 1999) that discussed the broad range of his model for marital therapy that was based upon years of research. This particular publication included almost 100 pages of appendices: instruments, questionnaires, interviews, intervention tools, and so forth.

Twenty-five of Gottman’s publications (21%) applied an existing theory to a new population. These publications included early application of his time-series methodology to the marriage and family research arena. Also, he related his developing model of the marital interaction dynamic to older couples, culturally diverse couples, first-time parents, and couples with husband to wife violence. In addition, he extended the research about children’s friendship formation to young adults, and looked at how marital conflict affects children’s relationship formation and their new sibling relationships. Gottman also
related other researchers’ theories to his populations. For example, he applied existing theories of stress, coping, and resiliency to children who have witnessed marital conflict, related other researchers’ theories to couples with husband to wife violence, and drew from existing theories about change in families.

There was a category of “other” for the model development question on the coding sheet. Sixteen of Gottman’s 119 articles (13%) fell into this category. These types of “other” consisted of research that validated measures or procedures (9 or 57% of “other”), responses to critiques by other researchers (3 or 19%), model of marital interaction dynamic comparison (1 or 6%), critique of family therapy research methodology (1 or 6%), a publication whose specific purpose was to introduce another researcher’s chapter in a book (1 or 6%), and using film-making as a metaphor to understanding the relevance and importance of temporal data (1 or 6%). Thirteen percent is not a huge amount, but it is interesting and important to review. Most impressive, in the present author’s opinion, was the respectful way in which Gottman responded to critiques by fellow researchers. For example, he said in one response that it (the critique) “raise[d] important questions. . . . highlight[ed] . . . characteristics. . . .that may affect [future research]. . . . suggest[ed] directions for future research” (Katz, Gottman, & Hooven, 1996, p. 284). The general attitude seemed to suggest that Gottman respected and was grateful for the feedback and planned to incorporate it in subsequent theory-building.

It is important to consider the type of publication to answer the question of model development, particularly because there was a pattern to type of model development or
application. It seemed that for the first 17 years of his research career, Gottman wrote his doctoral dissertation, journal articles, and one book on psychotherapy and evaluation. Most of these articles included primary research involving data and analysis. Beginning in 1986, after these initial 17 years, Gottman began to produce as many book chapters as he did journal articles. The primary function of the book chapters was to include his model describing a particular dynamic to enhance another’s book, textbook, or research consortium presentation on the topic. However, there still was a clear and direct focus on primary research. It appears that Gottman continued to value producing research that validated and built his models for understanding the dynamics he studies.

Howard Liddle

Of a total of 51 coded publications, 46 (90%) were coded for having descriptive model development information. This included describing two models: an application of systems theory to family therapy training and supervision, and the therapeutic MDFT model. Liddle also described specific parts of the model that were relevant to the research project at hand in each publication, the role of moderating variables, and general philosophical thought in the field. For example, Liddle published several articles on systemic thought and how it relates and is applicable to not only supervising and teaching marriage and family therapy but also to therapy itself. One impressive trend in the way Liddle described the models was that he practiced what he preached. He wrote about systemic thought and encouraged the reader and the field to utilize such thinking in what they did. A common description in Liddle’s research was that the process of training and supervising therapists was parallel to the process of therapy itself. This isomorphism of
training/supervision and therapy was a thread that wove through Liddle’s entire research career.

Descriptive model development publications represented the bulk of Liddle’s publications. Most publications began with a clear description of the model—whether therapeutic or related to another MFT research dynamic—being discussed as well as an explanation for the reader of the philosophical background of the model. It seemed to serve as a good base for the philosophical theory building pieces of the publications that would follow. For example, in one article, Liddle cautions the reader against adherence to conceptual messiahs, suggesting that it is limiting to cling to a new school of thought with a narrow interpretation (Liddle & Saba, 1983). He goes on to point out that this is very tempting to do at a theory’s emergence, especially when such emergence occurs at a time when we as a field are stuck. Such a statement reflects his knowledge of systemic thought in that he recognized the temporal and systemic relevance of the theory’s emergence.

The second category of model development in Liddle’s work included publications that built upon existing theory. Thirty-seven (73%) of Liddle’s publications expanded, extended, or refined theory in some way. This was the second most prevalent category of model development in his publications. Both Liddle’s models of training and supervision as well as MDFT followed a similar pattern of development.

Liddle expanded his theoretical model of MFT supervision on both philosophical and conceptual levels. His focus on the isomorphic nature of training and therapy best illustrates this process. His second publication (Tucker, Hart, & Liddle, 1976) described
his supervision model and stated that supervision with students goes through phases over the course of the training year just as it goes through phases during each supervisory session. Later, he discussed systemic resistances to teaching family therapy. He furthered the developmental model of group supervision and called the readers’ attention to how live supervision encourages the growth of the therapist-as-a-person.

Liddle also looked at supervision in MFT as a whole and systemic thought as it related to therapy and supervision at the time. His publications then focused on how training parallels therapy. Liddle expanded this idea to a higher level: supervision of supervisors of trainees and how supervision of supervisors also parallels the therapy process. Finally, Liddle examined the role of MFT and how the field needs to examine its place in the mental health system in general and to be more systemic.

Of the 51 coded publications of Liddle’s work, four (8%) were coded as having validated an intervention. In fact, Liddle’s dissertation (Liddle, 1974) was a validation of a microlab (group) experience looking at long-term attitudinal and behavior change. At about the time that he was first presenting his ideas about MFT training and supervision, he responded to a request in a journal article for advice in a therapy situation (Liddle, 1982b). His response offered a technique called mental imagery and talked about how it would aid the development of the self-of-the-therapist. In his most recent publications, Liddle looked at specific interventions to be included in MDFT. In these publications, Liddle again talked about the interventions on a conceptual level and integrated them into his therapeutic model. For example, the parental reconnective intervention was
conceived for when the parent-adolescent relationship is overshadowed by the behavioral problem.

Four (8%) of Liddle’s 51 coded publications applied one of his models or theories to another population. Two of them focused on his supervisory model: extending his ideas about supervision from supervisors of therapists-in-training to supervisors of supervisors of therapists-in-training, and incorporating mental imagery into his ideas for developing therapists. Another publication applied two social skills training models to African American youth. Liddle was not the primary author for this publication, and it does not fit into his two main foci, but it is important to consider. Its very presence may suggest that for Liddle, it was important to mentor and publish with other researchers and clinicians, even though their topics did not advance his therapeutic model. Perhaps it did advance his model in some way that was not obvious to the present author, but clear to Liddle. Finally, the last publication coded was an application of MDFT to depressed adolescents. Prior to this, his research had been confined mostly to adolescents with alcohol/drug-related or behavioral problems.

Four publications (8%) fell into the model development category of “other.” This category reflects applications of the model that went beyond the other choices available, or that were of particular interest. First, it was interesting that none of the publications were responses to critiques by other authors. It may be that Liddle did not receive criticism by other researchers; it may also be that Liddle did not respond to critiques or comments that were received. One of his publications was a caution against conceptual messiahs. Another offers support for his philosophical perspective. The third
“other” was a book he coedited on family therapy training and supervision (Liddle, Breunlin, & Schwartz, 1988). This was a great venue for the integration and application of his ideas about MFT training and supervision that went beyond basic description and pragmatics to bring special issues and further considerations to light. Liddle, like Gottman, used metaphor to illustrate a concept of MDFT: “walking the tightrope” or establishing and maintaining alliances with both the adolescent and the adolescent(s)’ parents.

Finally, it is important to consider the type of publication to answer the question related to model development, particularly because there was a pattern to type of model development or application. It seemed that for the first 14 years of his research career, other than his doctoral dissertation, Liddle wrote only journal articles. Few (only five) of these articles included primary research involving data and analysis. The articles instead were focused on theory. Beginning in 1988, after these initial 14 years, Liddle went through a period of 3 years during which he published one book and eight chapters (five of which were in his book). Then, in 1991, Liddle returned to the journals with one exception of a book chapter in 1992. This second upsurge of journal articles was mostly related to MDFT and tended to be mostly funded primary research. However, there still was a clear and direct focus on theory and model development.

Question 3. How Many Publications Credited a Funding Source?

Table 2 presents descriptive statistics for publications citing a funding source. These numbers reflect information available from the publications themselves.
Table 2

Descriptive Statistics for Funding Among the Three Researchers

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Publications Coded</th>
<th>Publications citing funding source(s)</th>
<th>Percent funded</th>
<th>Number of funding sources cited</th>
</tr>
</thead>
<tbody>
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<td>Alexander</td>
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<td>24</td>
<td>63</td>
<td>12</td>
</tr>
<tr>
<td>Gottman</td>
<td>119</td>
<td>73</td>
<td>61</td>
<td>34</td>
</tr>
<tr>
<td>Liddle</td>
<td>51</td>
<td>21</td>
<td>41</td>
<td>16</td>
</tr>
</tbody>
</table>

James Alexander

Of 38 total coded publications of Alexander’s work, 24 (63%) cited a funding source. These funding sources were split between National Institute of Mental Health (NIMH) and National Institute on Drug Abuse (NIDA) federal grants and University Fellowships from the University of Utah. What is not always clear from the publications is which were awarded to Alexander and which were awarded to his co-authors.

Information gleaned from the publications suggests that six (25%) of 24 total publications crediting a funding source were supported by funds in Alexander’s name, which reflect a combination of three separate awards. He coauthored 18 (75%) additional publications that reflect eight awards to other researchers. Of these additional 18 publications, 7 (30% of the total 24) credited funds in both Alexander’s and a coauthor’s name, 6 (25%) credited funding to other researchers, and 5 (21%) funding sources did not specify who received the award. In total, at least 12 (50%) of the 24 funded publications
credited funds awarded to Alexander. Coauthors who also received funding include Timothy Smith, Alice M. Newberry, C. Haydee Mas, Holly B. Waldron, and Cole Barton.

A final observation is that of the 38 coded publications, 21 were coded as having been research-oriented. When that number is compared to the 24 publications that were supported by funding, we see that Alexander also published book chapters and journal articles utilizing the results obtained by the research supported by funding. In these cases, he credited the funding sources for contributing to the writing of the manuscript.

**John Gottman**

Of 119 total publications of Gottman’s that were coded, 73 (61%) cited at least one funding source. These funding sources were mostly National Institute of Mental Health (NIMH) federal grants. Gottman was also awarded a NIMH Research Scientist Award that he held for a number of years. Thirty-eight of his books, book chapters, and journal articles were supported by this award over the course of his research career. This number includes six chapters he authored or coauthored in a book he coedited. Gottman also cited funding support from the Department of Special Education; the Public Schools of Madison, Wisconsin; the Instructional Research Laboratory at the University of Wisconsin; and the University of Houston Research Initiation Grant.

Of 73 total funded publications, 27 (37%) gave credit to funds in Gottman’s name that reflect a combination of thirteen separate monetary awards. He also coauthored 46 (63%) additional publications that reflect nineteen additional monetary awards to other researchers. Of these additional 46 publications, 35 (48% of the total 73) credit funding awards to both himself and another researcher and 11 (15%) give credit to funding...
sources in other researchers’ names. In total, 62 (85%) of the 73 publications credited a funding source awarded to Gottman. The two researchers with whom he coauthored the most publications that credited a funding source were Robert Levenson and Neil Jacobson.

Another collaboration that may have been financially helpful to Gottman was the research consortium for which he contributed book chapters. As a member of this consortium, he may have benefited from two NIMH grants—one teaching and one research—that were credited in each of five books for which Gottman contributed a chapter. However, it was unclear from the chapters themselves whether Gottman’s personal contribution was supported by the monies issued to the consortium. Finally, there were seven additional funding sources supplied by seven additional coauthors with whom Gottman collaborated 10 times.

While the answer to the question of how many publications cited support by funding is clear, it is also important to address the pattern of using funds to support research. It is interesting to note that Gottman was able to utilize combined funding awards to support the publications he coauthored with others. What also is noteworthy is that with the 13 monetary awards specifically cited in his name, he was able to produce 62 publications. It seems that Gottman was able to use the monies awarded him effectively and/or able to design his research well to use multiple funding sources.

A final observation is that of the 119 coded publications, 64 were coded as having been research-oriented. However, 73 publications cite funding support. This suggests that Gottman used research to develop an understanding of marital conflict and/or
children’s friendships and developed his models from data, not from theory. He then applied these data-based ideas to clinical work, crediting funding sources as helpful to him in the whole process.

Howard Liddle

Howard Liddle cited funding assistance for 21 (41%) of the 51 publications that were coded. Most of these fundings came from NIDA and were awarded to Liddle as principal investigator. In addition, Liddle received financial assistance from the United States Department of Education and the Temple University Faculty Research Fund.

Of 21 total funded publications, 14 (67%) cited support by funds to Liddle, reflecting a combination of eight separate monetary awards. He also coauthored seven (33%) additional funded publications that reflect five additional monetary awards to other researchers. Of these additional seven publications, five (24% of the total funded publications) cited funding collaborations, one (5%) cited funding to another researcher, and one (5%) publication cited funding support that was not identified with any particular researcher. In total, 20 (95%) of the 21 publications cited funding support entirely or partially awarded to Liddle. Researchers who contributed additional sources of funding were Gary M. Diamond, Guy S. Diamond, and Aaron Hogue, all of whom are frequent coauthors with Liddle.

Again, we know how many publications were supported by funding. It continues to be useful to examine the pattern of using funds to support research and publications. Like Gottman, Liddle was able to utilize combined funding awards to support his collaborative publications.
Finally, of the 51 coded publications, 12 were coded as having been research-oriented, whereas 20 publications cited funding support. Liddle apparently published additional books, book chapters, and journal articles utilizing the results obtained by the research supported by funding. In these cases, he credited the funding sources for contributing to the writing of the manuscript.

Question 4. What Were the Research Samples?

How Did They Change Over Time?

**James Alexander**

Alexander's research samples remained fairly consistent across time. With two exceptions, every study included samples consisting of either families of delinquent and/or "normal" adolescents or the delinquent and/or "normal" adolescents themselves. The two exceptions were two research articles in which he looked at a single sample of 60 nonclinical married couples.

As stated, these research samples did not appear from the publications to have changed over time. Most samples were adolescents aged 13 to 17 in two-parent families who were either referred to the program at the University of Utah by the Juvenile Court System or Youth Detention Center for shoplifting, running away, ungovernable behavior, or substance abuse, or they were nonclinical families recruited through religious youth groups or athletic groups. In the publications that looked at therapist behaviors, the therapist samples consisted of clinicians who were trained or training in FFT. The research publications did not indicate that subjects were paid for their participation.
The human, nonclinical samples that Gottman studied were mostly families or subsystems of families: children, parent-child dyads, or married couples. The exceptions to this were with his earliest research. These research samples consisted of high school and grade school children, independent of family relationships.

Gottman’s research samples changed over time with research topics. Toward the beginning of his research career, his research samples consisted of children dyads or married couples. As his research began to address the effects of marital conflict on children, his samples were families with children between the ages of 4 and 5. In addition, as his research began looking at long-term predictability, he would recontact families or couples that he had used as research samples in earlier research to collect longitudinal data. When looking at how marital interaction or parenting affects children’s social relationships, he studied families at baseline and longitudinally.

An interesting finding with Gottman’s samples was that he analyzed the same data in multiple ways. For example, he published a study (Gottman & Katz, 1989) in order to establish a multimethod database and then begin to formulate theoretical models about the effects of marital conflict on children and their peer relationships. This sample consisted of 56 nonclinical families with married parents and children aged 4 to 5. Several subsequent research publications indicated that the data from this sample were used for additional analyses. Indeed, the purpose of the original study was to create a database for future analyses. This study was definitely not the only one whose data were analyzed for more than one publication. Another study (Levenson & Gottman, 1983)
presented an additional research sample whose data were reanalyzed for several research publications as well as being recontacted longitudinally for investigation.

Another pattern that emerged from studying Gottman’s research samples in his publications was that he used many means for obtaining his samples. Gottman and his research associates used convenience samples such as university students, placed advertisements in newspapers and on the radio, reached subjects through random digit telephone dialing, posted advertisements, and recruited children through preschool and other program rosters. An interesting observation of these different styles is that some research samples were response samples, meaning the subjects came to the researchers. Other research participants were sought out by the researchers; the researchers went to the subjects. A final observation is that the research participants in at least three of the research samples were paid 5 dollars (Gottman & Levenson, 1999), 15 dollars (Gottman & Porterfield, 1981), or 200 dollars (Gottman et al., 1995) for their participation.

Howard Liddle

Liddle’s research samples were quite varied. From looking at his research topics, we identified that his topics were centered around two main themes: family therapy training and supervision, and multidimensional family therapy (MDFT). Therefore, his research samples were related to both general areas. He reviewed family therapy training and supervision publications, family therapy programs, and family therapy efficacy studies. In addition, he interviewed trainers and trainees of family therapy, and studied therapist, adolescent, and family behaviors in treatment with MDFT.
Liddle’s samples changed over time because of the shift in focus. Related to the change in research samples among topics, there also was a change in research samples within topics. For example, while he was researching family therapy training and supervision, his samples included publications on family therapy training and supervision, family therapy programs, and human samples of family therapy trainees, supervisors and trainers. When he was researching MDFT, his samples were both nonhuman (including family therapy efficacy studies) and human (including videotapes of master’s level therapists, families with adolescents, and adolescents themselves). Research publications did not indicate whether human samples were monetarily compensated for participation.

Question 5. What Types of Research Were Conducted?
How Did They Change Over Time?

James Alexander

Of 38 total publications, 21 (55%) were coded as being research-oriented. There was a pattern to the type of research that he conducted. His research was all conducted under the main umbrella of clinical research regarding the application of his FFT model to the human clinical sample of delinquent adolescents that he identified early in his research career. Under this umbrella of clinical research were exploratory research, theoretical research, and the clinical research that relates to specific process, outcome, and process-outcome research.
Alexander's exploratory research initially presented his treatment model for working with juvenile delinquents and their families (Alexander, 1973) as well as examined, throughout his research career and development of the model, relationships between variables and outcomes. This reflected his tendency to study new ideas rather than replicate previous studies. The theoretical research within his clinical research included development and refinement of the model including extension studies, for example, looking at gender as a variable in dependency behaviors in therapy (Alexander & Abeles, 1969); and refinement studies, for example, examining defensive and supportive communication statements in healthy, nonclinical families (Parsons & Alexander, 1973) and comparing the results to his clinical population of dysfunctional families.

Alexander's clinical research included process, outcome, and process-outcome research. An example of process research was a study in which Alexander identified family members' and therapists' communications regarding feelings, behavior, and thought processes (Mas, Alexander, & Barton, 1985). Alexander conducted outcome research when he looked at recidivism rates for adolescents who had been in therapy as well as rates of their siblings' contact with the Juvenile Court System two and a half to three and one half years following family treatment (Klein et al., 1977). Process-outcome research was exemplified by a study (Waldron, Turner, Barton, Alexander, & Cline, 1997) that examined how therapist and spouse's defensiveness in therapy affected therapy outcomes.
John Gottman

Of 119 total coded publications, 64 (54%) involved data and analysis. There was a pattern in the type of research conducted for these 64 publications. Gottman began with the human, nonclinical populations he was studying, specifically, children’s friendships (Gottman, Gonso, & Rasmussen, 1975) and the marital relationship (Gottman et al., 1976). His research with those populations was mostly exploratory in the sense that he was attempting to understand newly studied phenomena as well as new relationships between established aspects of the phenomena and/or theoretical, in the sense that he was developing a theory of marriage and a theory of how children develop friendships.

Within those two nonclinical populations and under the umbrella of exploratory and theoretical research, Gottman conducted extension research (isolating variables, looking at moderating variables, combining more than one variable). One study (Gottman et al., 1995) attempted to isolate a physiological response (heart rate changes from baseline) in husband perpetrators of domestic violence and examined that variable’s power in predicting the couple’s marital status 2 years later. In addition, Gottman looked at moderating variables. For example, he examined the ability of parental vagal tone to serve as a protective factor buffering children from the harmful effects of marital hostility (Katz & Gottman, 1995). Gottman also extended the research by combining previously isolated variables (Gottman, Coan, Carrere, & Swanson, 1998). This study referred to previously identified variables that were examined together in terms of their ability to predict divorce singly or in combination.
In addition, Gottman conducted refinement research (new measures, new environment, new population) with these two models. An example of using a new measure was a study in which instead of having independent raters rating couple communication, the couples themselves rated their own as well as their partners’ intention of communication. This “talk table” had not been used before and was validated as useful in studying reciprocity within the marital relationship (Gottman et al., 1976). Gottman referred to a new environment (an apartment laboratory he designed) where he replicated his research with marital couples (Gottman, 1990). A final way in which Gottman refined his exploratory and theoretical research was to apply his theory to subpopulations, for example, couples with male to female domestic violence, or moving from young children’s friendships to adult sibling relationships.

As his research career progressed, another pattern wove through his research. This pattern had to do with describing the process of the phenomena over time. Gottman looked at processes that lead toward the outcome of marital success or divorce. This included places in publications where Gottman presented findings as they related to theory and pointed toward developing a model describing marital success or divorce dynamics. In addition, Gottman was likely to make recommendations for clinicians based on those processes.

Very few of Gottman’s research-oriented publications were specifically devoted to clinical research. One example was a study (Glass, Gottman, & Shmurak, 1976) in which Gottman looked at teaching dating skills and cognitive self-statements to see which would be more effective in improving real-life dating situations.
Howard Liddle

Thirteen publications out of 51 coded (26%) were deemed research-oriented. There was a pattern evident in the types of research Liddle conducted. Initially, Liddle’s research-oriented publications presented theoretical research based upon describing and developing his application of systems theory to MFT training and supervision. Then, he shifted to the clinical research of his MDFT model. Under these two main topic areas for research-oriented publications, Liddle published other types of research.

While developing his ideas about MFT training and supervision, Liddle conducted theoretical research that supported his understanding of the dynamic. His research-oriented publications during this time attempted to explain how he envisioned the training and supervision of MFT trainees. For example, his research looked at what the current literature said about the phenomenon (Liddle & Halpin, 1978), answered questions such as who should teach and be taught family therapy, how and in what setting it should be taught (Liddle, 1982a), and furthered the model by addressing what should be the characteristics of trainers, trainees, and supervisors (Saba & Liddle, 1986).

Liddle’s clinical research included theory related to the development of the MDFT (Schmidt, Liddle, & Dakof, 1996) model. This included exploratory research that presented MDFT and identified new relationships among variables such as therapist behaviors, and improved therapist-client alliances (Diamond, Liddle, Hogue, & Dakof, 1999); extension research that isolated therapist and client behaviors associated with both the successful and unsuccessful breaking of therapeutic impasses (Diamond & Liddle, 1996); and refinement research that validated intervention scales (Hogue et al., 1998) and
applied social skills training models to African American youths (Banks, Hogue, Timberlake, & Liddle, 1998).

Liddle's clinical research also included process, outcome, and process-outcome research. An example of process research was a study that looked at how therapists responded with the shift event in therapy when an impasse in therapy was reached (Diamond & Liddle, 1999). Outcome research was exemplified by the study that looked at the efficacy of social skill training for African American youths (Banks et al., 1998). Process-outcome research included the study that looked at the therapist and client behaviors involved with successfully and unsuccessfully resolving a therapeutic impasse (Diamond & Liddle, 1996).

Question 6. What Were the Research Questions?

How Did They Change Over Time?

James Alexander

Alexander's research questions served to develop, refine, and test the FFT model in multiple ways. Although the topic of research did not change from FFT, its focus changed.

Initially, research questions investigated the treatment model and parts of the model: What therapist behaviors are associated with good outcomes in a program already demonstrated to be effective (Alexander, Barton, Schiaro, & Parsons, 1976)? Research questions also strengthened or built the treatment model: Will client dependency change through therapy (Alexander & Abeles, 1968)? What is the discriminant validity for the
subscales of a particular measure (Waldron et al., 1993)? Do positive attributions affect
or influence delinquent and nondelinquent families differently (Barton et al., 1988)?

Finally, other research questions served to further validate and examine the
model’s usefulness in treating families of delinquent adolescents: What are the effects of
reattributional manipulation regarding delinquent behaviors (Morris, Alexander, &
Turner, 1991)? Does higher therapist defensiveness in early therapy sessions predict
poorer marital therapy outcome (Waldron et al., 1997)? Does the therapist’s use of
reframing decrease the client’s resistance to therapy (Robbins, Alexander, Newell, &
Turner, 1996)?

John Gottman

In the publications that were research-oriented, there was a definite trend to
Gottman’s research questions. Gottman’s research questions tended to be indicative of a
search for a complete understanding of the problem(s) or phenomena he was studying.
This included looking at specific relationships among variables, for example, will a
father’s directiveness be associated with negative peer behaviors (Kahen, Katz, &
Gottman, 1994)? The ability of one or more variables to discriminate between subject
groups also was examined, for example, do couple behaviors during the oral history
interview discriminate between couples who will remain married or divorce (Buehlman,
Gottman, & Katz, 1992)?

Methodologies and measuring tools also were validated, e.g., does the SPAFF
measure what it is supposed to measure (Gottman & Lowell, 1989)? The predictability
and/or stability of variables over time was also assessed by the research questions, for
example, will how a marital conflict discussion begins predict divorce four years later (Carrere & Gottman, 1999)? Although most research questions had a specific focus, there were a few studies Gottman claimed were purely exploratory and therefore posed no specific hypotheses. As was the case with the research samples, the research questions changed over time in terms of the research topics.

Howard Liddle

Liddle’s research questions also changed with the topics. His research questions while he was studying MFT training and supervision tended to be directed toward building and strengthening his model for understanding that process. These questions increased understanding by identifying what programs that teach MFT look like (Liddle, Vance, & Pastushak, 1979); who should teach MFT; what should be taught; how it should be taught; how the setting influences the teaching/training (Liddle, 1982a); and the characteristics of the trainees, trainers, and supervisors (Saba & Liddle, 1986).

During his clinical research of the MDFT clinical model, Liddle’s research questions built and strengthened the model; assessed the nature and extent of change in parenting in families treated with MDFT (Schmidt et al., 1996) and validated measures (Hogue et al., 1998). Questions also evaluated the efficacy of the model or specific aspects of the model; described the therapist behaviors involved in successful resolution of therapeutic impasse (Diamond & Liddle, 1996); assessed whether therapists actually practice model-prescribed interventions (Hogue et al., 1998); and identified which interventions are associated with better alliances (Diamond et al., 1999).
Question 7. Did the Researcher Follow Up On Research Ideas He Generated?

James Alexander

Alexander generated many statements regarding future research. Twenty-one (55%) of his publications were research oriented and 20 (53%) contained statements about future research. However, Alexander was not likely to follow up on the research ideas he generated. It was not likely, after examining suggestion statements of any publication, to find the recommendation among the research questions in subsequent research-oriented publications. One example of where he did follow up was a publication that called for an examination of how the degree of stress aroused by a task affects subsequent interactive behavior (O’Neill & Alexander, 1971). Later (Mas, Alexander, & Turner, 1991), he published a study that looked at the rates of defensive communication during discussions of problematic issues after therapist positive or negative reframing. He also looked at whether reframing reduced resistance to treatment (Robbins et al., 1996). Another example of follow-up was when Alexander called for research that looked at the effects of therapist gender on treatment (Mas et al., 1985). A few years later, he examined not only therapist gender effects, but also client gender effects and gender interaction in therapy (Newberry, Alexander, & Turner, 1991).

Alexander, more so than Liddle and Gottman, tended to make recommendations for future publications that extended beyond specific research hypotheses. He issued suggestions for therapists, recommendations specific to clinicians, implications for treatment, general and specific recommendations for researchers and research,
recommendations specific to trainers who would be educating future FFT clinicians, and many calls for more outcome-based research.

John Gottman

Gottman tended to follow up on research ideas that he generated. For example, in his earliest research days, he stated that future research should use low and high conflict tasks for observing couple interaction (Gottman et al., 1976). Much of his subsequent research on couple interaction included methodologies that asked couples to discuss long-standing topics of conflict as well as daily activities. In addition, one of Gottman’s publications recommended that future research identify potential buffers for children exposed to marital stress or conflict (Katz & Gottman, 1991). Later studies not only looked at child buffers, but also family and parental buffers as well.

Not all of Gottman’s recommendations concerned specific research topic foci. For example, he indicated that further research needed to be done by researchers who were willing to devote their entire research careers to programmatic studies of one problem (Gottman, 1989). In fact, this is largely what Gottman has done. There was a definite trend for Gottman to extend his recommendations for future work beyond topics of research into general calls for additional research, replication, or use of his time-series methodology, for example. In addition, Gottman tended to generate future research recommendations even in publications that were not research related. Of 119 total publications, 64 (54%) were research-oriented (involving data and analysis); 80 (67%) of the 119 publications contained some form of recommendation for future research.
Many of Gottman's recommendations for future research were for other researchers. This indicated either that Gottman did not need to “corner the market” or that he perhaps preferred to remain focused on his own research trajectory and leave much of the extension and refinement research to others. A final trend was that Gottman was likely to indicate in his publications that he and his colleagues were planning next to research a particular angle of the problem. For example, he discussed the plans for an apartment laboratory (which would later be some of his hallmark research), which he planned to use for more naturalistic observation (Gottman, 1990).

Howard Liddle

Howard Liddle generated many statements of what future research should address. Of 51 coded publications, 25 (49%) made recommendations. When this number is compared with the fact that only 12 publications were research-oriented, one can see that Liddle, similar to Gottman, was likely to issue recommendations for future research in publications that did not involve data and analysis.

Although Liddle did not tend to follow up on the future research ideas he generated, he did follow up on a few. For example, one of his publications called for a model-by-model comparison of training paradigms in terms of their assumptions, objectives, and methods (Liddle, 1980). Later, Liddle compared six schools of thought in family therapy in order to demonstrate that understanding diagnosis and assessment processes for any model of therapy will assist in integrating the model(s) into one’s therapy (Liddle, 1983). In addition, Liddle called for the field of family therapy to catch up with psychotherapy in doing more empirical research and applying the findings to
clinical practice (Liddle, 1991). Later, Liddle did this by looking at the nature and extent of change in the behavioral, affective, and cognitive features of parenting in families being treated with MDFT (Schmidt et al., 1996).

Another trend was that Liddle, like Gottman, made recommendations for future researchers that extended beyond the realm of specific research topics. For example, Liddle gave general recommendations for future researchers; issued more than one call for integration of research, theory, and practice; and called for the field of family therapy to examine its place systemically among other mental health fields.
CHAPTER V
DISCUSSION

The purpose of this chapter is to integrate results of the present study in a coherent way that highlights findings in general and in terms of each research question. This includes discussing general characteristics of the sample, presenting results that are similar among the three researchers, calling attention to important differences, and integrating findings with the current literature outlined in Chapter II. In addition, we present the limitations of the current project, implications and recommendations for developing career paths in clinical research, training considerations, suggestions for further research, and suggestions for future researchers.

General Sample Description Findings

These three eminent researchers produced a large quantity of publications individually and together. There was quite a range between Alexander and Liddle (38 and 55, respectively) and Gottman (128 total publications). One interesting descriptive observation was that Alexander had been publishing research the longest—33 years—but had produced the fewest number of publications. In comparison, Gottman had been producing publications for 31 years and had produced almost three times as many publications. Liddle had been producing publications for 26 years, resulting in 55 publications. It appears that Gottman produced quite a bit more than the other two researchers combined.
Interestingly, even Alexander, with his 38 publications, produced more than the typical successful American psychologist described by Simonton (1992). Simonton indicated that the average successful psychologist produced nine publications. Alexander published four times that many, Liddle published six times that many, and Gottman published nearly 14 times as many. In addition, our findings support those of Gordon and Vicari (1992), who operationalized eminence as output. It appears that for this criterion of eminence, these three researchers pass with flying colors!

These three researchers were cited many times by other researchers. Again, Gottman’s numbers greatly exceed the other two. Specifically, Gottman’s work received 3,598 citations by other researchers, Alexander’s work received 789 citations, and Liddle’s work received 442 citations. Once again, the three researchers surpass Simonton’s (1992) definition of the successful American psychologist. According to Simonton, the typical successful psychologist was cited by other researchers an average of 62 times. In addition, our finding supports that of Gordon and Vicari (1992), who stated that eminence was related to citations received by one’s peers.

The data from the sample indicated that two researchers—Alexander and Liddle—had named models of therapy while Gottman had not, although he presented one in book form (Gottman, 1999). Alexander had almost five times as many citations for his FFT model than Liddle had for MDFT. In addition, Liddle’s newer model—MDFP—had not received any citations by other researchers. One possible explanation for the finding that Alexander’s FFT model had received so many more citations than Liddle’s was that FFT had been around longer than MDFT, had received more exposure to the field, and
thus was received more by other researchers. Alexander’s entire research career to the current time has been devoted to the development, refinement, and testing of this model. Liddle, on the other hand, began publishing his MDF model about halfway through his research career, reflecting fewer years of exposure.

The fact that Gottman has not named a model for his ideas about marital interaction does not appear to have affected how well-known and oft-cited his work is by other researchers. It was not the aim of the current research project to focus on the specific nature of the peer citations, only to obtain a supportive validation of eminence status, which then would support our use of these researchers as successful in the field of MFT. However, it is noteworthy that Gottman received so many citations even though he did not name a specific therapeutic model.

Our research sample supports the existing literature on eminence. Several researchers (Castle et al., 1991; Gordon & Vicari, 1992; Newman & Cooper, 1993; Simonton, 1992) have operationalized productivity and popularity as peer citations. This appears to extend also to peer citations of a researcher’s model.

Question 1. What Were the Publication Topics?

How Did They Change Over Time?

Alexander’s main research focus has not changed much over time. There seems to be a general tone to the research that successful therapies involve attending to therapist and client factors, identifying which are helpful and not helpful by effective research methods, and implementing those results into the clinical setting. Alexander’s research
career has evolved from beginning with one variable of the therapeutic setting and moving through others to model development, model testing, and general discussion of theory. As with the other two researchers, Alexander appears to have integrated research findings into subsequent projects, resulting in extending and refining his research in the general topic areas identified.

Generally speaking, Gottman’s main research topics (marital relationship, children’s friendships, and methodology) were fairly consistent over time, but they were continually being modified and better understood within themselves. In addition, Gottman is unique from the other two researchers in that he integrated findings from the other topic areas with each other. This is evidenced by the studies in which he used time series analysis to examine the effects of marital conflict or other marital interaction factors on children’s friendships and sibling relationships.

In general, Liddle’s research topics were not consistent over time, evidenced by the shift in his research career from family therapy and supervision to MDFT. However, within each topic span, he was consistent in researching different aspects of the same general topic. For example, within the first span, research topics focused on his ideas about family therapy and supervision, but ranged from general discussion of the processes involved, to surveys of supervisors about training and supervision, to cautions and suggestions for different models of therapeutic thought, to more specific applications of live supervision, to discussions of systems epistemology, and so forth. During the second span, research addressed the role of research in MFT using MDFT as an example, process-outcome studies of therapist behaviors in MDFT associated with positive
outcomes, comparative studies of MDFT, and process studies addressing specific techniques and interventions.

In summary, each researcher has a research topic path that he has developed. Differences among the three include that Alexander was unique in that his research focus remained consistent over time, whereas Liddle’s topic path shifted about halfway through to this point, and Gottman’s three topic foci are integrated throughout the path we examined.

The literature reviewed for this project suggested trends for research topic choice. Feldman (1989) used adult development theory to describe career path changes. He referred to job exit, when a person decides to leave a dying organization or stagnant career, indicative of a change in job or career focus. In our research, changes in research topic focus suggest the researchers made decisions that altered their research career paths. One possible explanation for the change in focus within Liddle’s research topic path, for example, might be related to funding. Perhaps he had the opportunity to obtain funding to test his developing model, although Busch et al. (1983) suggested that research topic choice is not related to funding and the possibility of publication. Perhaps one topic reaches a logical end.

Another possible explanation for change in research focus is that one research topic leads into the next. Perkins’ (2000) autobiographical sketch of his research career described such a trend. In our data, research findings from one study highlighted a topic for future research that either extended or refined the model being researched. In addition, Perkins also encouraged the integration of research, theory, and practice.
Perhaps this was one of Gottman’s goals as he began over time to integrate research topics: methodology, his primary research with married couples and children, and his recommendations for clinical work with these populations.

One of Gottman’s book chapters addressed publication topic choice (Gottman, 1990). His own words validate findings related to this research question:

> When I began teaching, my interests were not substantive but methodological. My advisor, Richard McFall, suggested that I select a research problem of some interest to me rather than sticking with primarily methodological and statistical questions. After a lot of soul searching, I decided that I would study marriage, and social isolation in children. Frankly, I selected these two areas of inquiry because they had been the source of considerable pain in my own personal life. (p. 249)

It was interesting to see the research findings validated by the data themselves. In addition, Gottman discussed the eventual integration of these two topic areas:

> In the past several years my student Lynn Fainsilber and I have begun to bring the research on marriage and the research on peer relationships together in a single series of studies. . . . In this work we have been focusing on the transfer of marital discord to the child and its effect on children when they are in a stage of learning the skills of emotional regulation. We are particularly interested in this research in the effects on the child’s relationships with a best friend. (p. 261)
Question 2. What Were Reports of Model Development?

Generally speaking, this question generated a lot of data for each researcher. Looking at reports of model development over time gave meaning to the change in research topics and research questions. In fact, the reports of model development over time are the blueprints for each of Alexander’s, Gottman’s, and Liddle’s research career paths. With the bulk of the coded research building concepts of a model or a model itself (81%) or describing a model (77%), and others applying a model (15%), one can see the importance of observing trends in model development over time.

Alexander’s research path in general showed an interesting pattern for model development. Alexander and Gottman each published a journal article before their doctoral dissertations, which for Liddle was his first publication. Alexander initially studied concepts that would later be integrated into his model of therapy. Then, with a target clinical population, he developed and presented his clinical model, attending to important variables and identifying their relationships to one another within the model. He then tested and continued to improve the model, applying it to other populations.

Gottman’s research has a pattern for model development. Models describing family dynamics were developed by a complex process whose parts were integrated across time: Models and/or parts of models were described; aspects of the model were extended and/or refined; interventions, procedures, and methodologies were validated and refined; models and/or parts of models were applied to other populations; and, as indicated by the “other” category, models were used in other unique ways. Each of these processes affected the others and resulted in multifaceted model development that
continues across time. It appears that the main focus of model development for Gottman was to empirically understand, as much and completely as possible, the dynamic he was studying.

When examined over time, Liddle’s model development had a theoretical tone to it. Both his model of MFT training and supervision and MDFT had a clear conceptual birth and development; each stage of development was important and conceptually sound; and once the model was developed and validated, it and/or parts of it were applied to other populations.

An additional trend that was indicative of Liddle’s focus on theory was his systemic way of conceptualizing, describing, and encouraging the field as a whole. Liddle appeared to place great value in his conceptual model of training and supervision and perhaps where he saw the field of marriage and family therapy. It seems that he wanted other professionals and trainees alike to consider the systemic ramifications of the choices they make with respect to their epistemologies, theories of change, and the actual therapy they do. Liddle tended to present his research, ideas, and knowledge in a way that paralleled the supervisory process he proposed. For example, in addition to describing concepts of supervision, he also encouraged therapists, supervisors, trainers, and the field as a whole to think more contextually about everyday problems and situations that arise. By focusing on a bigger picture in addition to and even more so than to the very important specifics, he, by example, encouraged his audience to do the same.

An interesting finding and comparison among the three was supportive of Perkins’ (2000) claim that it is crucial to be able to move between the academic and
practical worlds, integrating theory, practice, and research. All three researchers appeared
to do this, but the most interesting observation is that each researcher embodies one of
these three integrated parts. Gottman’s model development in general focused on
researching the dynamics of his interest areas, Liddle’s model development had an overall
focus on theory, and Alexander’s model development centered on the actual practice of
FFT with clinical populations. This highlights the importance of integrating research,
practice, and theory over a career path. Each of the three researchers’ different focus in
their career paths also demonstrates that research, practice, and theory are by themselves
very important to being successful.

Question 3. How Many Publications Credited a Funding Source?

Sixty-three percent of Alexander’s, 61% of Gottman’s, and 41% of Liddle’s
publications credited funding sources. Overall, 55% of these researchers’ total coded
publications credited funding sources. There were a few similarities among these three
researchers in terms of the funding they cited. First, many funding sources were cited
more than once: 24 of Alexander’s publications cited funding by 12 sources, 73 of
Gottman’s publications cited funding by 34 sources, and 21 of Liddle’s publications cited
funding by 16 sources. Because the funding source information was not always clear,
these are conservative numbers. It may be that other publications were supported by
these (or other) funding sources. Publications by each of these three researchers were
often supported by funds awarded to other authors of the publications.
Another similarity among the three researchers’ use of funds was that upon comparison of how many articles were research-oriented and how many credited funding support, we see that these researchers utilized funds beyond publishing primary research. In other words, these researchers published additional book chapters and journal articles utilizing the results obtained by the research supported by funding. In these cases, they credited the funding sources for contributing additional analyses, the writing of the manuscript, or other types of support. All three published with funding support from federal agencies such as NIMH, NIA, and NIDA.

There also were differences noted in the funding for each researcher. First, Gottman was unique in that he received a Research Scientist Award from NIMH that thus far has supported at least 44 publications between 1980 to 2000. In addition, Gottman received most of his support from NIMH, whereas both Alexander and Liddle received their support mostly from NIDA. Alexander also received additional funding in the form of grants from the University of Utah; Liddle’s publications cited additional support from the American Psychological Association (APA) and the American Association for Marriage and Family Therapy (AAMFT). Another distinction is that Alexander began receiving funding support almost immediately in his research career path, as did Gottman to a lesser extent, but Liddle credited no funding source for the first 10 years of his research career; his publications did not credit a funding source until he changed his research topic focus to MDFT. This is another finding that lends support to the hypothesis that one reason for the research topic change may have been an opportunity for funding to test his ideas with a specific population.
The data from the current study are interesting in light of the literature reviewed. Illes (1999) listed good requirements for obtaining funding. She stated that research needed to be grounded in science and that good research will be funded. This could mean that these three researchers received funding because their proposed research was good. This also could mean that these researchers carried out their research in a way such that it was good so they were able to obtain additional funding. Illes offered support for a recursive funding relationship that incorporates both explanations.

Eiduson and Beckman (1973) cited literature suggesting that successful scientist researchers are not likely to be altruistic. So, one possible question is: Did these three researchers seek to extend and refine their research for more funds or for the good of science? If one follows the finding cited by Eiduson and Beckman, the explanation would be that these three researchers are self-interested, wanting additional resources to do more research and get their names “out there,” and willing to take the necessary steps to obtain funding support. Other research (Busch et al., 1983) suggested that funding and the possibility of being published do not influence what a researcher chooses to study. Perhaps these researchers had opportunities to obtain funding that helped them test or build their developing models and ideas.

Question 4. What Were the Research Samples?

How Did They Change Over Time?

In general, the samples used by the three researchers were appropriate for the topics being researched and changed over time along with the topics. Although the
samples differed for each researcher due to the nature of the differences in research topic, the similarities in research samples were based on the fact that each researcher used appropriate samples. As the data were analyzed over time and among researcher, some differences emerged as well.

Gottman analyzed data from at least five different samples in multiple ways, including some longitudinal analyses. This resulted in many additional publications. Alexander analyzed data from three samples in multiple ways as well (including one longitudinal analysis), but these subsequent analyses resulted in only a handful of additional publications. Unlike Alexander and Gottman, Liddle did not use research samples (either longitudinally or through additional analyses of data) more than once, based on the information available from the publications.

The three researchers differed in their types of samples. Nearly all of Alexander’s samples were clinical. Nearly all of Gottman’s samples were human, nonclinical samples. Liddle’s samples were either human, clinical samples (the work on MDFT); human, nonclinical (supervisors, trainers, and trainees of MFT); or nonhuman. In fact, 4 out of the 13 samples examined were video tapes of therapy, family therapy or family-based intervention efficacy articles, clinical programs, and publications on MFT training and supervision. Therapist, supervisor, and educator/trainer behaviors were being examined, but the medium through which they were examined was different from other samples. It seemed that this added to Liddle’s research, making it multimedia and perhaps multifaceted.
After analyzing the data, it was apparent that Newman and Cooper's (1993) research typologies were not useful in interpreting the data for trends over time. It was useful to see how some research publications extended and refined findings, but the typologies did not reflect the overall research career paths for the researchers. Therefore, we reanalyzed the data looking for an interpretation that was useful and helpful in addressing this research question. We developed a description for each researcher of the type(s) of research they conducted through their research career path.

Alexander's research began with a clinical population—juvenile delinquents—and began to build a model of treatment. He conducted exploratory and theoretical research to develop a model of therapy and necessary parts of the model. He integrated clinical research (process, outcome, and process-outcome) with exploratory and theoretical research to refine and extend the model, variables of the model, and measurements of behaviors addressed by the model.

Gottman began with human nonclinical populations and conducted mostly exploratory research, seeking to understand the phenomena, distinguish parts of the model, or refine relationships between parts of the model; and theoretical research, defining, refining, and building the model. Clinical research, including process, outcome, and process-outcome research, is nearly absent in his research career thus far.

Liddle began with theoretical research, presenting, building, and refining his ideas about MFT training and supervision. He conducted research that explored and defined
the process of MFT training and supervision. When he shifted to research using MDFT, he began conducting clinical research with the population of troubled adolescents with substance abuse problems. He conducted theoretical research, using his ideas about family therapy to build his model of therapy, and tested and refined the model with process, outcome, and process-outcome research.

Additional trends and patterns involved looking at the percentage of publications that were research related. An initial observation was that a relatively small percentage of Liddle’s publications (23%) were devoted to primary research compared to Alexander’s (56%) and Gottman’s (54%). On the other hand, a large percentage of Liddle’s work involved applying his research findings to the field of MFT.

The researchers contributed their research findings to literature in the field other than referenced journals. Gottman was more likely to do this in book chapters (35) and books (8), whereas both Alexander (8 chapters, 0 books) and Liddle (8 chapters, 1 book) were less likely to do so.

Although their research typologies were not useful in this study, Newman and Cooper (1993) found that exploratory research was the most common. This was similar to what we found. Exploratory research was an important part of Gottman, Liddle, and Alexander’s research. Additionally, Newman and Cooper predicted a trend that future research would support, specifically that exploratory research would precede refinement research, followed by extension research. This idea did not appear to be supported in the current project. Rather, it seemed that refinement and extension research went hand in hand and had a recursive relationship. For example, Gottman might identify an important
variable and develop a new and innovative method to quantify it, or use a new methodology and through the new method discover a new variable or new relationships among variables.

Question 6. What Were the Research Questions?

How Did They Change Over Time?

A general finding among all three researchers was that the research questions were often difficult to find and/or interpret in the published works. The data often had to be inferred from the research publication title and the purpose of publication. Over time, however, it seemed to become easier to find and extrapolate the research questions. Another similarity among the three researchers was that their research questions seemed appropriate for the topics they were researching, for the specific focus of each particular project, and for the type of research they were conducting.

There were notable differences among the researchers as well in the research questions. First, it appeared that Alexander’s research questions were change-based. It seemed that he was more interested in identifying the process of the therapeutic model to increase its efficacy. Gottman’s research questions were aimed at establishing specific relationships among variables and to establish predictability in order to strengthen his model describing the dynamic being studied. Liddle first seemed to ask research questions that would help formulate the basic ideas of integration of his model of MFT training and supervision. Although his research questions changed over time in terms of content, his style or type of research question remained constant. This included “who,
what, and how” questions about different aspects of training and supervision. When he shifted focus to MDFT, his questions focused on building, strengthening, and establishing efficacy of the therapeutic model by again approaching the research with questions such as, “What are the client and therapist factors associated with a particular outcome?” It appears from the research questions that Liddle was more concerned with identifying and understanding his research topic through a curious stance than drawing specific directional conclusions.

Question 7. Did the Researcher Follow Up On Research Ideas He Generated?

These researchers were somewhat likely to follow up on research ideas they generated but not as much as one might expect. None of the three were overwhelmingly likely to do this. Another similarity for this research question is that all three researchers extended recommendations for future research in publications that did not contain primary research as well as in research-oriented publications. Additionally, they were all likely to issue recommendations for research in general: calls for more process or outcome research, better research, more researchers, improved methods, and so forth.

Differences that emerged among the researchers’ work had to do with the specific nature of the recommendation(s) for future research. Liddle tended to make more recommendations to the field of MFT. Alexander was more likely to make recommendations for trainers and clinicians, and for more process-outcome research.
Gottman was unique in that he tended to give recommendations alongside “sneak previews” for his upcoming research publications.

Limitations

There are limitations to this study that must be considered. First, because this study was exploratory, the data must be described and interpreted with caution. Because we included only three eminent MFT researchers, the results cannot be generalized.

It was not the focus of this study to examine gender as a variable. However, it must be considered that the data obtained are limited to male researchers. In addition, we used only one research database (PsychINFO) to obtain the research sample for this project. Because of this, there most likely were important publications that were missed. For example, Alexander, Pugh, and Parsons (1998) published a book on functional family therapy. However, this important book was not on PsychINFO’s publication list.

Another limitation inherent within the design of the study was due to focusing more on the process of the research over time rather than aiming for a complete understanding of the content. Because of this, it is possible that there was additional information that was missed.

The citation counts obtained by the SSCI also must be considered with some caution. There were an additional 1,223 total citations that were not included in the count for John Gottman because it was not clear which citations were for him and which were for another author (“Gottman, J”) who published articles in the same year, but for urban development journals. The lack of clarity in addition to the fact that some names were
misspelled necessitates a word of warning that there appeared to be several errors in the Social Sciences Citation Index and results must be considered with caution.

An additional limitation is that there was only one coder. Although there was a reliability check by an additional coder, the data were generally inferred by one coder. Other coders may have found other or additional data.

Implications and Recommendations

Given the limitations in generalizability, it still seems appropriate to address the implications of the research for future researchers, research training, clinicians, and future research, as well as to make recommendations based on the trends and patterns that did emerge.

Future Researchers

In light of the findings of this research project, recommendations can be made for future researchers. First, it is important to know how to write grants and use the funds wisely. Second, it appears useful to be able to maximize the utility of one’s research samples. The fact that each of the three eminent researchers had a sustained research topic area for which they continue to develop models for understanding and testing their theories illustrates the importance of having one area that is a research specialty area. As Gottman’s research career path illustrates, one can begin a successful research career by seeking greater understanding of an area of interest that is of personal relevance.
Research Training

Chapter I discussed the problem addressed by this research. We currently do not have a model that works to train researchers or that inspires them to do research. One of the implications of this research is that by identifying patterns or trends in the research of successful and eminent MFT researchers, we are also identifying patterns of research that contribute to success. We are identifying and constructing a model that can assist upcoming MFTs who want to do research to do it better, increase the awareness of MFTs who are not sure they want to do research of its benefits, and encourage MFTs who are only interested in clinical practice to be better clinicians by helping them understand the value of doing process-outcome research and increasing their ability to do so. Perhaps this model also will help strengthen MFT research in general as well as encourage MFT research as a possible career path.

Another arena for possible research training is the professional development component of MFT training programs. In these classes, upcoming MFTs could be encouraged to choose a mentor more effectively, one whose research interests are similar to his or her own. This mentor could also help students understand the grant-writing process and encourage more robust research design. Furthermore, classes in professional development could attend to other research-related factors such as writing research questions, research design, grant-writing, how to get the most out of your sample, and most importantly, how not to be afraid of statistics.
Developing Career Paths in Clinical Research

One theme that seemed to emerge and support the existing literature was the value of integrating theory, research, and practice. These three eminent researchers have all succeeded at doing theory-based and theory-building research. Additionally, they also are involved in clinical work. Although Gottman did not conduct much clinical research, he consistently made recommendations for therapy, and, in fact, has published a book (Gottman, 1999) and chapter (Gottman & Gottman, 1999) that present his model for therapy. The book contains appendices full of assessments, measures, and interventions based upon years of theory-based research.

Another recommendation that can be made in light of these findings is that if clinicians have effective treatment models, they should publish them. For these researchers, especially Alexander, their treatment models were fundamental to their research career paths. Publishing research related to one’s treatment model not only increases a clinician’s exposure to the research world, but also makes it available to other researchers and clinicians. Through research, the clinician can improve the quality and strength of the model, thus benefiting clients and the field of MFT.

A related recommendation is that clinicians begin developing ways to test the effectiveness of their treatment models and/or interventions, and begin testing them on other populations. This also will increase the integrity of one’s clinical work as well as one’s research and hopefully expose other researchers and clinicians to not only the treatment model itself but also measures that in and of themselves could be important research, assessment, and/or diagnostic tools. In the AAMFT strategic plan (2001), the
scientist-practitioner model is discussed. In this model, researchers and clinicians work together to do just this.

Further Research

As with any research project, an important question to ask is, where do we go from here? The literature review for this project briefly discussed internal factors involved with a successful career path in research. Colleagues involved in the current project are already proposing to address internal factors through interviews with these three successful MFT researchers. In addition, as identified by the current literature review, there are other possible external factors, for example, mentor and mentee influence, collaboration, working environment factors, university attended, and research experience in one’s undergraduate experience not reflected in research publications that need to be examined. In particular, mentoring needs to be addressed. There were a few publications that mentioned mentors or other influential people during career paths. For example, Liddle (1980) referred to the helpfulness of theory seminars and mentoring and supervision by Salvador Minuchin, Jay Haley, Peggy Papp, and Marianne Walters during a 2-year post-doc externship at the Philadelphia Child Guidance Clinic from 1975 to 1977 and stated that the experience was instrumental in the development of the training philosophy he described in that particular paper.

In light of the limitations inherent to using only PsychINFO as a data source, another area for future research seems appropriate. It may be interesting to expand the data set by including professional presentation papers, posters, trainings, as well as other projects possibly found on a curriculum vita for analysis.
Another research project that would be interesting involves having successful MFT researchers write autobiographical research histories. The purpose of this would be to have the researcher himself or herself discuss why he or she made the shifts in research career that were observed in the publications or perhaps are not apparent in the publications themselves. It also will be fruitful to look more closely at funding. How do successful researchers go about acquiring or renewing funds, dispersing them, and making them last? Finally, it would also be of some interest to find out from these successful researchers, particularly Gottman, how to maximize data analyses from one research sample, as it appears that he was so successful in doing so with his research samples.

Conclusion

In summary, by examining the publications of James Alexander, John Gottman, and Howard Liddle, this research has begun to identify part of a possible pathway to success in MFT research. The results of this content analysis indicate that having a clear, sustained research topic focus, being able to develop one’s model as well as its parts and contribute it to other’s publications, accessing and maximizing the use of funding, and being able to analyze data from one sample in multiple ways are important to successful MFT research.

Whether one is mainly a clinician, mainly a researcher, or anywhere in between, having a clear and effective model for successful research and robust design will contribute to a successful career path. More importantly, if one’s research is good and
one’s design is good, it will extend beyond success for the researcher, and the treatments and knowledge can benefit the field and clients of marriage and family therapy.
REFERENCES


APPENDICES
Appendix A. Measures: Coding Sheet

and Chronological Lists
Coding Sheet

Reference: ____________________________________________________________
________________________________________________________

Principal Investigator: ________________________________________________

Purpose of publication: ______________________________________________

Research oriented: yes no

Type of research:
- outcome yes no
- process yes no
- outcome/process yes no
- exploratory yes no
- refinement yes no
- extension yes no

Sample size and makeup: ______________________________________________

Research Questions:


Model Development: yes no

Funding / Source: yes no

Divergence w/ future research statement yes no

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Appendix B. Publication Lists in Chronological Order


Liddle, H. A., & Saba, G. W. (1982). Teaching family therapy at the introductory level: A conceptual model emphasizing a pattern which connects training and therapy. *Journal of Marital and Family Therapy, 8*(1), 63-72.


