INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA

UMI®
800-521-0600

THE FLORIDA STATE UNIVERSITY

COLLEGE OF EDUCATION

A DESCRIPTIVE STUDY OF FAMILY PHYSICIAN ATTITUDES AND EXPERIENCES AND THEIR COLLABORATION WITH PSYCHOLOGISTS

by

CLYDE WAYNE ANDERSON

A dissertation submitted to the
Department of Human Services and Studies
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

Degree Awarded:
Fall Semester, 1999

The members of the Committee approve the dissertation of Clyde Wayne Anderson on August 2, 1999.

Stephen A. Rollin
Professor Directing Dissertation

Barbara Licht
Outside Committee Member

Donald Kelly
Committee Member

Gary Peterson
Committee Member

Approved:

R. William English, Chair, Department
Of Human Services and Studies

This is dedicated to my wife, Joan,
and my son, Evan, who have been
steadfast in their love and support.

ACKNOWLEDGMENTS

I would like to thank Dr. Rollin, Chairman of my Doctoral Committee, and the other members, Drs. Kelly, Licht, and Peterson for their kind attention to this research project and for their support. My thanks also go to Dr. Rotan, the faculty and residents of the Family Practice Residency Program at Tallahassee Memorial Health Care. Their assistance was invaluable in completing this research project.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

The current study examined several factors theorized by Drotar (1993) and Rollin (1994) that appeared to influence the level of collaborative activity initiated by family physicians with psychologists. The goal of this exploratory and descriptive study was to describe the relationship between the dependent variable, level of physician collaborative activity with psychologists, and the independent variables, 1) attitudes and beliefs about collaboration, 2) the quality of the physicians' collaborative experiences, 3) the level of experience with psychological and behavioral issues during training, 4) the quality of that experience, and 5) the level of environmental or practice support for collaboration. Data was provided by 295 Florida family physicians who returned a researcher constructed mail out questionnaire. Descriptive analyses, including multiple regression, were used to investigate these aforementioned relationships. It was found that physician attitudes and beliefs about collaboration were consistently and significantly related to collaborative

activity (ΔR^2=.082; $p<.05$). The quality of collaborative experiences, level of experience with psychological and behavioral issues during training, and the quality of that experience in training were significantly, but less robustly, associated with physicians' collaborative activity with psychologists. The regression model accounted for a statistically significant proportion of variability in the dependent variable (adjusted R^2= .180; $p<.001$). Additional qualitative analysis was conducted to examine physician answers to questions regarding barriers to collaborative activity with psychologists. HMOs, managed care, cost, and limitations placed on mental health benefits were identified as impediments to physician-psychologist collaboration. Responding physicians also identified patient resistance and a negative societal view of persons who seek psychological help as impediments to collaborative activities. Finally, it appeared that differences in practice standards and expectations acted as an impediment to collaboration. For example, many respondents identified as problematic the poor or non-existent feedback from psychologists when referrals were made.

CHAPTER 1

INTRODUCTION

This study examined the evidence relating to the issue of collaboration between psychologists and family practice physicians. Evidence was presented which suggested that such collaboration can be beneficial to patients and that physicians and psychologists are therefore compelled to investigate factors affecting such collaboration. The current research investigated an important component in the likelihood of psychologist/physician collaboration, those factors which influence (predict) the level of individual physician collaboration with psychologists.

Ethical/Professional Considerations

The Hippocratic Oath taken by physicians as well as the codes of ethics for both The American Medical Association (AMA) and the American Psychological Association (APA) require that both professions seek to maximize the positive effects of their interaction on patients/clients. The Hippocratic Oath states "I will follow that system of regimen which, according to my

ability and judgement, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous." The AMA Principles of Medical Ethics States that "A physician shall continue to study, apply and advance scientific knowledge, make relevant information available to patients, colleagues, and the public, obtain consultation, and use the talents of other health professionals when indicated." (AMA, 1996). In 1949, the World Medical Association adopted a code of ethics that addressed the issue of financial motives and limits of competence. In a paraphrase by Ng and Po (1997), "A doctor must practice his profession uninfluenced by motives of profit...A doctor owes to his patient complete loyalty and all the resources of his science. Whenever an examination or treatment is beyond his capacity he should summon another doctor who has the necessary ability." The APA Ethical Principles of Psychologists and Code of Conduct (APA , 1992) states "Psychologists provide services...only within the boundaries of their competence" (p. 1599) and that "When indicated and professionally appropriate, psychologists cooperate with other professionals in order to serve their patients or clients effectively and appropriately"

(p. 1601). Clearly both professional groups, physicians and psychologists, acknowledge the need to seek assistance from other professionals when it is in the best interest of the patient/client. In fact, they are mandated to do so.

Psychology's Relationship with Medicine

In addition to the above philosophical and ethical considerations, recent historical developments and trends in health care have led to increasing interaction between psychologists and the medical milieu. These factors include the medical roots of psychiatry, increasing involvement of psychology in medicine, managed care and employee assistance programs, and the increasing emphasis on wellness and prevention, especially in family medicine. The confluence of these trends makes the current milieu an ideal and timely setting for examination of the collaboration of psychologists and family physicians.

Roots of Psychiatry and the Mind-Body Connection

Psychology and medicine were influenced by the early practices of physicians such as Franz Anton Mesmer, Joseph Breuer and Sigmund Freud (Stone, 1997). Mesmer, Breuer, and Freud explored the influence of the

psychologically based treatments of hypnosis and suggestion on somatic symptoms. Mesmer believed that patients could be "cured" of somatic complaints through the influence of therapeutically applied magnetism. In fact, the curative effects of Mesmer's magnetic therapies were primarily due to the suggestion of the "therapist" and belief of the patient that the therapy would be effective. A student of Mesmer, the Marquis de Puysegur, was able to cure patients by suggestion after inducing a state of hypnosis or "artificial somnambulism". These developments laid the groundwork for modern hypnotherapy (Fancher, 1990). Freud was attracted to the work of Breuer who was able to reduce somatic complaints in patients by inducing recall of troubling memories under hypnosis and the subsequent cathartic expression of emotion surrounding the memory. Freud found that the somatic symptoms of "hysteria" could be reduced through the exposure and analysis of troubling unconscious psychological phenomena such as sexual desire for a parent (Fancher, 1990; Stone, 1997). These pioneers laid the groundwork for modern psychiatry and helped forward understanding of the connection between the mind and somatic phenomena.

Roots of Psychologists and Psychology in Medicine

In the domains of research and practice, several post World War II occurrences increased the level of collaboration between medical and psychological professionals (Matarazzo, 1980; Thompson, 1991). The increased demand for physical and psychological care for veterans following World War II had the effect of encouraging collaboration between psychologists and medical doctors. Often, the maladies of the veterans, especially those subjected to trauma, were not clearly physical and, it was suspected, were contributed to by psychological factors (Merydith, 1997). The United States Veterans' Administration (VA) found that its psychiatrists were overwhelmed and too few in number to deal with the influx of WWII veterans in need of psychotherapeutic services. Consequently, clinical psychologists, who had previously filled primarily assessment, testing and evaluation roles, were pressed into training and service as psychotherapists (Humphreys, 1996; Resnick, 1997). Hence, historically, the first large scale practice of psychotherapy was in an acute medical setting with clients who frequently exhibited multiple somatic problems. Concurrently, non-

military expenditures for health, including mental health, care were increasing dramatically in the United States. In 1965, health care was made a Social Security benefit and Congress provided grants to cover the costs to local governments of indigent health care. This resulted in an increase in both demand for more and different health services and more money to pay for them. The reorganization and socialization of the British medical system after World War II had a similar effect there (Porter, 1996).

The Biopsychosocial Model, Wellness and Prevention

The control of infectious disease in industrial countries over the last 50 years has contributed to the focus on such issues as cardiovascular health, cancer, and other health conditions that may be more ameliorated by psychosocial and behavioral factors (Blanchard, 1982; Klippel and DeJoy, 1984, Matarazzo, 1980). Partially as a result of the confluence of the above historical events, an holistic view of caring for the physically ill has emerged, primarily in the second half of the twentieth century. In the years since 1965, several authors (Ford, 1985; Pomerleau, 1979; Thompson, 1991; Thorsen and Eagleston, 1985) have documented the

emergence of a new "biopsychosocial" conceptualization of many physical problems and have advocated supplanting of the strictly "biomedical" model. Accordingly, they note the link between behavior and health and suggest that psychologists can provide valuable service to medically ill and medically at risk patients. During the late 1970's and early 1980's cognitive, social learning, and behavioral interventions gained popularity in medical settings. For example, Thorsen and Eagleston (1985) cite studies in the late 1970's involving behavioral interventions for weight loss, smoking cessation, and sleep problems.

Congruent with the increased emphasis on the interaction of biological, psychological, and social factors in medicine and health, the last 20 years have been characterized by an increased focus on a holistic view of health (Kase, 1992). Within the holistic paradigm, health professionals have concentrated on promoting continuing "wellness" and prevention of disease in addition to post-morbid treatment (Kase, 1992). The holistic wellness and prevention focused view has been bolstered by evidence in medical and psychological literature which connects the occurrence

of stress related psychological phenomena with physical illness and somatic complaints. For example, Raiha, Kemppainen, Kaprio, Koskenvuo, and Sourander (1998) found that, in addition to genetic factors, smoking and psychological stress were associated with incidence of peptic ulcers. Some researchers have found links between personality types and the occurrence of heart disease. For example, Grossarth-Maticek and Eysenck (1996) reviewed studies which suggested that certain personality types were more prone to cancer and heart disease. They recommended behavioral and psychotherapeutic treatments for prevention of cancer and heart disease in individuals who were at risk for cancer and heart disease.

A demonstration of the importance of the link between psychological mediators and physical disease can be found in the literature regarding the Type A personality and coronary heart disease. The Type A personality has been associated with life stress, tension, depression, pursuit of achievement, dominance, aggressiveness, anger, impatience, and hostility (Dimsdale, Thomas, and Hutter, 1978; Ray and Bozek, 1980; Siegel, Matthews, and Leitch, 1981). The Type A

personality has subsequently been associated with increased risk for coronary heart disease (Eysenck, 1991; Sprafka Folsom, Burke, and Hahn, 1990) and cancer (Grossarth-Maticek and Eysenck, 1996). Therefore, preventative interventions aimed at ameliorating Type A personality traits may be effective in reducing incidence of heart disease and cancer.

In addition to personality types, the medical and psychological literature provided evidence that physiological illness is often influenced or exacerbated by psychological or psychosocial factors (Melamed, 1995; Nichols, 1985). For example, Leidy and Traver (1995) found that psychosocial factors were significantly related to overall performance of patients with chronic obstructive pulmonary disease (COPD) and that "physiologic, symptomatic, and psychosocial factors should be considered in attempts to understand the functional performance of people with COPD" (p. 543). Leino and Hanninen (1995) examined the relationship between psychosocial factors and disorders of the head, neck, and back. Findings suggested that psychosocial factors were significant predictors of musculoskeletal head and neck disorders. In a recent article in the APA

Monitor (Azar, 1998), research was cited in which psychologists and medical doctors collaborated to provide scientific evidence of the effects of stress (a psychological variable) and the function of the immune system.

The focus on the connection between social, behavioral, and psychological phenomena and physical health (the biopsychosocial model) has brought about an increasing emphasis on addressing social, behavioral, and psychological factors affecting physical health and longevity (Budd, 1992). The following discussion of Employee Assistance Programs and Managed Care reflected an institutional recognition of these phenomena and their influence on health care services.

Employee Assistance Programs and Managed Care

In the late 1960's and early 1970's increases in social welfare programs and increasing concern for alcohol use and abuse gave rise to job focused Employee Assistance Programs (EAP) (Brody, 1988). In the 1980's dramatically rising health care costs gave rise to managed health care (Barlow, 1996). Both of these developments represented opportunities for psychologists in collaboration with physicians.

Steel (1995) discussed "worker assistance programs" (WAP's). Steele (1995) differentiated between WAP's and "employee assistance programs", or EAP's, but the following characterization fit EAP's as well. "WAP (and EAP) is used as a generic term to describe those programs where employees ... with personal problems can access diagnostic and referral services that are formally recognized in the work place" (p. 442). WAPs focused on enhancing job performance and referral of employees could be made by a supervisor. In contrast, EAPs were not necessarily connected to performance but were a (typically very limited) service or benefit available to employees. Employers anticipated a secondary benefit of enhancing employee productivity through maintenance of mental health. Limited psychological and/or counseling services through an EAP were typically provided free of charge with the aim of preventing serious psychological problems in employees. The emphasis was on providing easy confidential access to mental health services with a primary goal of prevention of more serious problems. Employees typically accessed EAP's through self referral (Steele, 1995).

EAPs began as programs to reduce alcohol use among workers. Employers were motivated to support or sponsor such programs by the advent of Workers' Compensation laws in the early 1900's. Workers Compensation laws made employers responsible for employees' medical bills and some lost wages due to on-the-job injuries. Many early EAP programs either began as or evolved into employee initiated Alcoholics Anonymous (AA) programs which were informally based in the workplace (Brody, 1988; Steele, 1995; Steele and Trice, 1995). From 1972 to 1980 the focus on alcohol problems diminished and services in many EAPs was broadened to include more general mental health interventions (Brody, 1988; Steele & Trice, 1995). Still, the continuing motivation of employers in providing EAP services to employees was reduction of personnel costs through prevention of illness and injury. In many cases, prevention efforts through EAPs were shown to be cost effective to sponsoring companies (Brody, 1988; Busch, 1981). Consequently, the number of EAPs has grown dramatically. It was estimated that EAPs were available to nearly half of all full time employees (Blum, Martin, and Roman, 1992; as cited in Steele, 1995). While some argued that EAP programs had a

negative effect on providers of mental health services in the form of restricted services and limitations on the exercise of professional judgement (e.g. Tiffany, Tiffany, Sinnett, and Sinnett, 1992), EAPs may represent a current and timely opportunity to psychologists.

The rising concern over the cost of health care in the United States has forced policy makers to consider alternatives in medical treatment that go beyond the increasingly expensive biomedical model. Sheridan and Radmacher (1992) noted that subscription to the biomedical model and the increasing reliance on "hard" science and technology in treatment of disease was leading to increased cost and decreased overall effectiveness of the health care delivery system. They noted that the dramatic increases in medical knowledge and technology in the areas of cardiac surgery and cancer treatment had increased the cost of treatment but had not reduced the incidence of cancer or heart disease. This argument was supported by data from the National Center for Health Statistics (1988, as cited in, Sheridan and Radmacher, 1992). These data showed an increase in the percentage of the gross national product spent on health care from less than four percent in 1940

to over eleven percent in 1986. This is more than any other industrialized nation.

Managed care has been one response to increasing health care costs. Managed care is a general term which refers to a broad spectrum of measures aimed at cost control in medicine. These include such mechanisms as Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), and the review of utilization of healthcare services by payers such as insurance companies and Medicare. Criticisms of managed care are numerous but most focus on the intrusion of a third party, usually a third party payer, into the client/patient-psychologist/doctor relationship (Halm, Causino, and Blumenthal, 1997; Rodwin, 1995). However, primary care physicians, including family physicians, have been designated as "gate keepers" for the managed care system by virtue of their generalist orientation. For this reason, family physicians may be in an advantageous position in a managed care environment because patients must access the medical health care milieu through the general practitioner (Simon, Dranove, and White, 1998). Providers of mental health services, including psychologists, who are interested in providing

services to clients in medical settings may be well advised to investigate forming collaborative relationships with family physicians. The advisability of this approach was supported by a British study that found that fundholding general practice physicians (gatekeepers in the British health care system) sought out relationships with mental health service providers more often than other physicians (Corney, 1996).

The Case for Research in Physician/ Psychologist Collaboration

Professional and ethical concerns which recognized the limitations of professional competency and the need for collaboration were consistent with a body of literature which suggested that 1) physician and psychologist training was limited to different but closely related domains and, because of these inherent limitations, 2) close collaboration between psychologists, other behavioral sciences practitioners (e. g. mental health counselors and family therapists), and medical professionals was often in the best interest of patients.

Physician and Psychologist Training

Both physicians and psychologists bring unique skills and training to potential collaborative relationships. The skills and training of family physicians and psychologists are different and yet complementary in many ways. A discussion of their respective contributions follows.

Physicians' Contribution

Consistent with the biomedical model which predominates the physical medicine community, physicians have traditionally been well trained primarily in a model that focuses on and emphasizes the biological or physical aspects of illness (Carr, 1994, 1995; Ellison and Kopp, 1985; Gabinet, Patterson, and Friedson, 1984; Lee, 1988; Stokes, Alexander, Lewis, and Fischetti, 1987). Physicians are trained in a disease centered or biological model of diagnosing and treating somatic problems and complaints. In this biomedical model, physicians focus on identifying and treating physical and biological causes of illness. Treatment focuses on use of physical or pharmacological instrumentalities to eliminate physical or biological pathogens and to rehabilitate or repair damage done by disease or injury. For example, family practice residents devote

approximately 95% of their time to focusing on medical/clinical issues as opposed to behavioral or psychosocial issues (Rotan, 1998). The focus of medical education is basic science (chemistry and biology), anatomy, and medical clinical skills (Fields, Toffler, Elliot, and Chappelle, 1998). Ellison and Kopp (1985) noted that physicians were well trained and gained much experience in (medical) clinical issues and settings. Clinical activities centered around identifying physical and biological causes for illness and treating disease etiology pharmacologically.

Family Practice Specialty

Physicians choosing to pursue the family practice or family medicine specialty receive instruction and clinical experience which is oriented toward prevention, wellness, and a holistic view of medicine and disease. Family medicine has maintained an holistic and preventative emphasis in its approach to physical illness (McDaniel, 1995; Pace, Cheney, Mullins, and Olson, 1995). Residencies for family medicine (as well as general pediatrics and general internal medicine) require that behavioral sciences be a part of their curriculum and that they have a behavioral sciences

faculty member if they are to receive federal financial support for their training programs (Hadick, 1997).

The American Academy of Family Physicians (AAFP) "maintains full responsibility for determining the philosophy, content and scope of family practice, and for establishing the definition of 'family practice' and 'family physician' (AAFP, 1998, p.1). The definition of "family practice" established by AAFP reflected the holistic approach to medicine established for family practice physicians. Family Practice was defined as:

> ...the medical specialty which provides continuing comprehensive health care for the individual and family. It is the specialty in breadth which integrates the biological, clinical (medical)and behavioral sciences. The scope of family practice encompasses all ages, both sexes, each organ system, and every disease entity" (AAFP, 1998, p. 1).

By virtue of the broad focus and inclusion of behavioral considerations, the way that family practice physicians defined themselves lent credence to the idea

of collaboration with psychologists. Further, family physicians provided "primary care". Bray (1996) cited the American Academy of Family Physicians' (AAFP, 1994) definition of primary care as...

> "a form of medical care delivery that emphasizes first-contact and assumes ongoing responsibility for the patient in both health maintenance (prevention) and therapy of illness. It is personal care involving a unique interaction and communication between the patient and the physician. It is comprehensive in scope and includes the overall coordination of the care of the patient's health problems, be they biological, behavioral, or social. The appropriate use of consultants and community resources is an important part of effective primary care" (Bray, 1996, p. 32).

Consistent with this definition, family physicians have a large part in decisions about the course and content of care for many patients. Especially in the managed care environment, family physicians are

gatekeepers of access to health services. Increasingly, they are responsible for making decisions about what health care services and providers will be accessed (Pace, et al, 1995; Pray, 1991; Stephens, 1989).

A defining aspect of family medicine is its emphasis on preventative aspects of health care as well as the treatment of illness after it has occurred. In addition to acute medical care for ill and injured patients, family physicians focus professionally on issues of wellness and prevention of illness. Recent articles in American Family Physician, the professional journal of AAFP, reflected an emphasis on prevention and wellness issues. For example, Cohn (1998) provided a comprehensive examination of factors to be considered by family physicians in helping patients to reduce the likelihood of congestive heart failure. According to Cohn (1998), two major factors predisposing patients to heart failure were coronary artery disease and cardiomyopathy. Interventions to prevent these conditions were primarily behavioral (smoking cessation, weight reduction, lowering blood pressure, and alcohol abstention) rather than pharmacological. Likewise, in another American Family Physician article, Heath and

Mongia (1998) included smoking cessation, exercise, and a "healthy lifestyle" as essential for management of chronic bronchitis and McVilvain, Bobo, Leed-Kelly, and Sitorius (1998) addressed psychosocial issues in smoking cessation for "recovering alcoholics". These articles reflected the wide range of medical concerns addressed by family physicians as well as an inclusion of concern for wellness and psychologically mitigated behavioral factors in illness prevention and management.

Psychologists' Contribution

Psychologists' training provides only minimal training in biology or physiological factors in mental or physical illness. APA Guidelines and Principles for Accreditation of Programs in Professional Psychology required only one course with biological emphasis and that was required to focus on the biological bases of behavior, not physical illness (APA, 1996a). The APA outlined curricula guidelines which focused on the theoretical and empirically validated foundations of human behavior including cognitive/learned bases, social bases, biological bases of behavior. Doctoral level education in psychology also focused on development of knowledge and skills necessary to diagnose and treat

psychopathology and less acute psychological problems. These skills included performing psychological assessment and evaluation using psychological tests and clinical observation (APA, 1996a).

Counseling Psychology

Emphasis in counseling psychology training programs includes development of communication and interviewing skills as well as an understanding of the psychosocial bases of behavior. Counseling programs also focus on client contact in assessment and intervention as well as psychoeducation as an intervention useful in medical and other clinical settings. The APA (1981) described counseling psychology services as services:

> "...that apply principles, methods, and procedures for facilitating effective functioning during the life-span developmental process...These services are intended to help persons acquire or alter personal-social skills, improve adaptability to changing life demands, enhance environmental coping skills, and develop a variety of problem solving and decision making capabilities. Counseling psychological services are used by

> individuals, couples, and families of all age groups to cope with problems connected with education, career choice, work, sex, marriage, family, other social relations, health, aging, and handicaps of a social or physical nature" (p. 654).

Therefore, counseling psychologists provide services which facilitate "effective functioning" in a broad variety of domains including health. This broad holistic approach to intervention is compatible with the approaches to medicine and health reflected in above definitions of "family practice" and "primary care" from the AAFP.

Collaboration and Integration: Improving Outcomes

The medical and psychological literature provided evidence that there was a high incidence of patients with significant psychological problems who presented themselves in medical settings including general medical hospitals (Nichols, 1985), pediatrics (American Academy of Pediatrics, AAP, 1978), and family practice settings (Barlow, Lerner, and Esler, 1996; Rehm, 1996). When these patients were appropriately referred to and

treated by behavioral interventions including psychotherapy, positive outcomes were consistently obtained. Psychological problems of those first identified in family practice settings and treated successfully as a result of behavioral intervention included depression (Spiers and Jewell, 1995; Sturm and Wells, 1995), anxiety and panic (Enright and Blue, 1989), and somatization (Wickramasekera, 1989a, 1989b).

Diagnosis and treatment of depression in family practice patients may represent an opportunity for productive multi-disciplinary collaboration with psychologists. Patients frequently present in family practice clinics complaining of somatic problems when depression is properly the primary diagnosis. However, according to Rehm (1996) when depression associated with somatic problems appeared in family practice, it was frequently not diagnosed or was mis-diagnosed. Rehm (1996) suggested that, because of the frequent presentation of depressed patients in family practice settings, it was the ideal place to apply a multi-disciplinary model to the diagnosis and treatment of depression.

There was evidence found in the literature that outcomes for patients in medical settings improved when health professionals from several disciplines cooperated or collaborated in patient care (Barlow, 1996; Wersh, Stambrook, Tritt, & Thomas, 1988). Wersh, et al (1988) found that, on average, parents reported positive improvement in children who were treated by a physician/psychologist team for a variety physical and psychosocial problems. Surveyed parents also said that they would recommend the collaborative services to others (Wersh, et al, 1998). Positive outcome from collaborative interventions appeared to be especially evident when patient complaints have a strong psychological or psychosocial component in comparison to the physical cause of complaint (Wickramasekera, 1989a, 1989b). For example, Hellman, Budd, Borysenko, McClelland and Benson (1990) reported that patients with psychosomatic complaints experienced fewer somatic complaints and visited physicians less often when psychological concerns were addressed in addition to physical concerns. Similar results of collaborative treatment were reported by Kohl, McNeese, and Kaven (1986) in a gerontological setting with uncooperative

patients. Bernstein, Sheridan and Patterson (1991) reported on three case studies of asthmatic patients who had co-morbid occurrence of panic disorder. These patients showed significant improvement when a multidisciplinary approach involving physicians and psychologists was used in treatment. Other authors found favorable results in interdisciplinary approaches to the treatment of childhood encopresis (Reimers, 1996), enuresis (Houts, Berman, and Abramson, 1994), and simple childhood asthma (Weingarten, 1985).

Evidence was cited above supporting the collaborative treatment of existing illness. There was also evidence of the effectiveness of collaborative efforts between behavioral scientists and physicians in the domain of disease prevention (e.g.. Langeluddecke,1986; Schaffer and Wexler; 1995). Prevention efforts with high risk individuals by the multi-disciplinary team was significantly more effective than physician treatment alone.

There was also evidence that the lack of integration of care and lack of cooperation between medical and behavioral professionals resulted in "...fragmented care, poor patient outcome and misuse of

health care services" (Pace, et al, 1995, p. 126). Connelly, Smith, Philbrick, and Kaiser (1991) found that some patients in primary care settings perceived that their health was poor even though they were "diagnosed" as being physically healthy. These persons tended to overuse health care resources because their somatic complaints often involved complex behavioral and/or mental health issues. Similarly, Mullins, Keller, and Chaney (1994) observed that physical rehabilitation patients often misused healthcare resources and received inappropriate care due to lack of attention to systemic integrative concerns in their treatment. Consequently, effective coordination of care with psychologists or other behavioral and medical scientists was advocated to reduce the patients' inappropriate over-reliance on the physician and medical interventions thereby reducing misuse and cost of medical treatment (Connelly, et al, 1991; Mullins, et al, 1994; Pace et al, 1995).

We see, then, that several factors influence the need for interaction between physicians and psychologists. The ethical commitments of medical and psychological practitioners are compelling reasons to be aware of limitations in competency and the need to seek

other professional assistance when appropriate. Historical events have provided some common roots for medicine and psychology which recognize the links between psychosocial issues and health. Additionally, there was significant evidence that this collaboration was often in the best interest of the patient/client. This confluence of factors has several implications:

1. It means recognizing the limitations of training and ability in both disciplines and seeking to employ the expertise of other professionals when collaboration with other professionals may offer improved outcomes for clients/patients.
2. It means seeking training which provides knowledge about the capabilities of other disciplines which may facilitate better outcomes in patients/clients.
3. It means that both physicians and psychologists are compelled to seek out and offer to clients methods of seeking wellness that may be beyond their area of primary competence and interest. For the physician as well as the psychologist, this may mean seeking alternative healing strategies.

Proximity as a Factor in Effective Collaboration

It has been suggested that the availability or proximity of psychologists to physicians plays an important role in determining the effectiveness of collaboration. Bray and Rogers (1995) suggested that proximity was a key factor in the effectiveness of physician-psychologist collaboration in the treatment of alcohol and drug abuse. They noted that one physician participant stated that "across the street is too far" (p. 136) if referral and consultation was to be effective. They found regular close contact to be important factors in on going effective collaboration. Likewise, in his work to integrate care for somatizers, Wickramasekera found that reducing the physical and psychological distance between the physician and the psychologist or psychological clinic was an important factor in the success of collaboration (Wickramasekera, 1989a; Wickramasekera, Davies, and Davies, 1996). He also noted that a close working relationship between physician and psychologist was essential.

Physicians as Decision Makers and Gatekeepers

Altmier (1991) noted that the predominant model for medical decision making remained (perhaps appropriately so) physician led. Other authors agreed that medical

personnel were the final authority in both training of physicians and in patient care in the medical world (Stokes, Alexander, Lewis, and Fischetti, 1987). McDaniel (1995) observed that one factor compelling psychologists to advocate a collaborative model was that physicians offered psychologists "a blessing for the patient of the psychological treatment" (p. 117). The literature, then, suggested that psychologists wishing to work in medical settings would be working in a physician dominated realm.

In summary, there is a compelling argument for collaboration between family physicians and psychologists working in health care settings. This argument is based on the ethics statements of both professions and differential training issues raised above. There is also theoretical supposition and evidence to the effect that collaboration or practice in close physical proximity is the most effective. Physicians and especially family practice physicians are decision makers and gate keepers for access to many health services. In view of these factors, it may make sense to examine the attitudes of physicians toward

collaborative activity with psychologists and the factors affecting those attitudes.

Definitions, Explanatory Models, and Questions for Research

The literature suggested that there was some agreement as to definitions of collaborative activities jointly engaged in by physicians and psychologists. For this research, definitions of collaboration that were consistent with the literature were discussed. Also discussed were factors hypothesized in the literature to affect physician collaborative activity with psychologists.

Definition of Collaboration

Pace, et al. (1995) and Schroeder (1997) cited an often referred to chapter by Roberts and White (1982) which offered several models for identification of various methods of collaboration between physicians and psychologists. They referred to three models under which physicians and psychologists may collaborate. These models were 1) Direct Consultation, 2) Informal Consultation, and 3) Collaborative Consultation (Pace,

et al., 1995). This conceptualization of physician-psychologist collaboration was consistent with that offered by Drotar (1995).

Direct Consultation

This model of collaborative activity is focused on a particular question posed to the psychologist by the physician (or visa versa). For example, the physician may want the psychologist to help answer the question "Is Patient Jones suffering from anxiety?" or "Do you feel that Patient Smith is a candidate for anti-depressant medication?" In the direct consultation model, the psychologist is asked to see the patient but the physician maintains primary authority and responsibility for the patient's care and treatment (Pace, et al., 1995; Roberts and White, 1982; and Schroeder, 1997). For the purposes of the current research, the psychologist may continue to see the patient for psychotherapy that is not coordinated with the physician's care. The initial referral is for a specific question with no expectation on the part of the physician that treatment by the psychologist will continue beyond the initial consultation.

Informal Consultation

The informal consultation model contemplates that the psychologist does not see the patient but provides information requested by the physician. The information is provided through case conferences, "grand rounds", didactic presentations, or informal means such as "hallway" consultations (Pace, et al., 1995; Roberts and White, 1982; and Schroeder, 1997).

Collaborative Consultation

In the collaborative consultation model, health care providers from multiple disciplines work together in a coordinated and integrated system of caring for patients. Professionals from different disciplines share responsibility for decision making and treatment of patients. Additionally, psychologists and physicians coordinate treatment and share information as to the activities in and progress of treatment in their respective treatment domains. The hallmark of collaborative consultation is the shared responsibility for decision making (Pace, et al., 1995; Roberts and White, 1982; and Schroeder, 1997).

The above literature suggested that the majority of physician/psychologist collaboration was consistent with

one or more of these models. For the purposes of the present research, collaborative activity was defined as activity identified above as direct consultation, informal consultation, or collaborative consultation.

Explanatory Models, and Questions for Research

The literature revealed that psychologists have little understanding of what factors affect or predict physician attitudes toward or willingness to engage in various kinds of collaboration. Further, it appeared that there was little recent investigation into factors predicting or influencing physicians' collaborative activity with psychologists. More typically psychologists took the approach of identifying a piece of "turf" or domain that was dearly held by physicians and went after it "tooth and nail." The current debate over prescription privileges is an example of this strategy (See, for example, DeLeon and Wiggins, 1996; DeNelsky, 1996). Klien (1996) argued that psychologists, as a community, were simply not organized or trained in a way that made broad prescription privileges practical. In contrast, pharmacology was part and parcel of relatively standardized physician training. While, in the long run, psychologists may

obtain limited prescription privileges, it appears to make more sense to focus on the skills and knowledge that the psychological training system imparts very effectively; that is research, assessment, and psycho-social interventions. In addition, we can focus on forming collaborations with physicians to obtain access to their expertise in pharmacology. In order to increase opportunities for collaboration, it may be important to increase understanding of the factors which influence the level of physician collaborative activity with psychologists.

Some authors have investigated the nature and characteristics of psychology and behavioral medicine interaction with physicians (e. g. Bray and Rogers, 1995; Meyer, Fink and Carey, 1988; Rosenthal, Shiffer, and Panebianco, 1990). Others have done research that included investigation of physician attitudes toward behavioral issues and practitioners (e.g. Markham, and Diamond, 1997). However, no reliably reproducible research was identified which examined the relationship between the attitudes and experiences of physicians and their patterns of consultation with and referral to psychologists.

Rollin (1994) enumerated six areas or activities which need to be undertaken in order "to increase the probability of co-joint interventions between psychologists and (family practice) physicians" (p. 74). These activities were:

"1. Increase exposure during training to the work of each speciality and how the two specialities complement each other;
2. Clear articulation of roles, boundaries and procedures in the treatment of patients;
3. Consistent and timely communication about interventions being used and patient progress;
4. Collaborative research between physicians and psychologists;
5. Opening up professional associations to affiliations between both parties to increase understanding and cooperation; and increase mutual respect of each other's unique contribution to the treatment of patients" (p. 74).

There was no research which addressed the validity of this model and the relationship between the hypothesized variables. Of these six areas, two appeared to offer an opportunity to explore the relationship between physician activities or knowledge and their attitudes and behavior toward the psychologist and psychological referrals. These two are numbers 1 and 4 above.

Drotar (1993, 1995) also offered a model for influencing the frequency and efficacy of collaborative efforts between physicians and psychologists. It was hypothesized that "three sets of factors...influence initial decisions to collaborate as well as the outcomes of these activities" (Drotar, 1993, p. 164). These factors were:

> "1. Participant's beliefs about the need for and expectations of collaborative activities: the belief that collaboration is necessary, effective, or accessible...
> 2. Participant's knowledge of, skills, and prior experience in collaborative activities: Problem

identification, making effective requests and use of information, communication and interpersonal skills

3. Setting based barriers and supports: Accessibility, time pressures, multiple responsibilities, funding patterns, reimbursability patterns, and administrative organization" (Drotar, 1993, p. 164).

Drotar (1993, 1995) also suggested outcomes which were said to be influenced by the above variables. These outcomes are 1. Physician utilization of psychological services, 2. Collaborative research and teaching, and 3. Mutual consultation. There was no research which addressed the validity of this model and the relationship between the hypothesized variables. For the purposes of the present study, we focused on collaborative activities involving patient care. These were defined above as direct consultation, informal consultation, and collaborative consultation.

Therefore, based on these models, the following research questions were formulated.

1. What is the relationship between a physician's attitudes/beliefs about collaboration (perceived need, effectiveness, and accessibility) and the level of collaborative activities with psychologists?

2. What is the relationship between the quality of a physician's collaborative experiences with psychologists (as measured by amount and promptness of feedback and general satisfaction) and the physician's level of collaborative activities with psychologists?

3. What is the relationship between the physician's level of experience in research with psychologists and a physician's level of collaborative activities with psychologists?

4. What is the relationship between environmental or practice support (colleague attitudes and organizational support) for collaboration and the physician's level of collaborative activities with psychologists?

5. What is the relationship between the amount and quality of exposure during training to psychology and psychologists and the physician's level of collaborative activities with psychologists?

Conclusion

In summary, a compelling argument has been made for collaboration between family physicians and psychologists working in health care settings. This argument was based on the ethics statements of both professions and differential training issues raised above. There was also theoretical supposition and evidence to the effect that collaboration or practice in close physical proximity was the most effective. Physicians, especially family practice physicians, are decision makers and gate keepers for access to many health services. Additionally, there was a historical relationship between the art of physical healing and that of psychological healing. The literature suggested that behavioral interventions can be effective in advancing the cause of healing in medical applications and settings. There was also evidence that the lack of collaborative, integrated care can be expensive and detrimental to patients. It was apparent that the training of both physicians and psychologists has been limited to specific but complimentary domains. Both focus on preventative, holistic aspects of health and wellness. This focus is auspicious in its timing. Managed care and EAP programs are forcing physicians and

psychologists to look for more effective ways of treating patients and clients. Finally, physicians, especially family physicians, direct much of the care in the medical milieu. For these reasons, it makes sense for psychologists to look into factors which may improve the likelihood of collaboration.

Pursuant to investigation of physician attitudes, two models of physician collaborative behavior are discussed. From these models, hypotheses about relationships between physician attitudes and experiences were formed and research questions were proposed.

CHAPTER 2

LITERATURE REVIEW

Since Hippocrates, the science of physical healing has focused on the biological and physiological aspects of illness and healing. This has come to be called the "biological model" in medicine. This model has proliferated to the degree that medical specialties now often focus on physiology of such limited body parts and systems as the urogenital system (urology) and the skin (dermatologist). Since the advent of psychology and the discovery that human behavior can be affected through psychological interventions such as positive and negative reinforcement, hypnosis, and insight therapy, there have been various attempts to reestablish the influence of behavioral science as an integral part of the community of the healing arts. Concurrently, social and environmental influences on individuals have come to be recognized as contributing to illness and recovery therefrom. The theoretical approach to health and illness which includes integration of biological, behavioral or psychological, and social influences has

come to be known as the "biopsychosocial model". Consistent with the biopsychosocial model and under the rubric of "behavioral medicine", there was empirical evidence presented which supported the potential effectiveness of psychological interventions in helping ill patients. Further, the medical community has recognized the importance of behavioral science in medical education as evidenced by the inclusion of behavioral medicine faculty and instruction in medical education.

There appeared to be limited evidence that medically ill and injured patients can benefit from integration of behavioral/ psychological interventions into their medical care. The medical and psychological communities may be able to systematically improve patient outcomes by close collaboration including joint integrated practice. The family medicine (family practice, general practice) specialty, where physicians traditionally take a more holistic view of illness than many of their colleagues, may be a logical place to begin exploring the idea of a systematic sharing of professional expertise for the benefit of sick and injured patients (Rollin, 1994).

In order to examine the questions posed above, the literature relevant to the questions was reviewed. Literature was reviewed in the domains of current atmosphere and opportunities for psychologists in the medical milieu, relevant psychological theory, a brief history of psychology in family medicine, current status of the relationship and collaboration, and barriers to collaboration.

Current Status of Psychology in Physical Medicine

The literature suggested that psychologists have been involved in several domains within physical medicine. These included research, medical education, and patient care (Sweet, Rozenski, and Tovian, 1991). These domains often overlap so it was difficult to identify how many or what proportions of psychologists were involved in each domain or doing a particular job (Matarazzo, 1987). For example, those doing research were often also involved in patient care and/or medical education. However, some demographics were available from the American Psychological Association (APA). For example, there were 1845 APA members on the faculty in medical schools, 5064 were affiliated with hospitals,

and 2848 were connected with various clinic (including medical) settings (APA, 1996b).

As in recent history, education of physicians continues to be a focus of activity for psychologists in medical settings. If you included those psychologists involved with medical residencies, it was estimated that there were over 3000 psychologists engaged in helping to educate medical doctors (Abeles, 1997). Along with the growth of psychologists on medical school faculties, "...increasing numbers of psychologists... (have) joined the staffs of general medical hospitals..." (Matarazzo, 1980, p. 807). Additionally, residencies for family medicine, general pediatrics, and general internal medicine continue to require that behavioral sciences be a part of their curriculum and that they have a behavioral sciences faculty member if they are to receive federal financial support for their training programs (Hadick, 1997).

Recent research involving psychologists in medical settings was diverse. The literature revealed that psychologists have directed or participated in research having to do with both patient treatment and care (Agras, 1982; Blanchard, 1982) as well as research

looking at health care provider practices and attitudes (Thompson, 1991). For example, in the last two decades, psychologists have conducted research into patient illness and treatment issues such as group treatment of hypertension (Basler, Brinkmier, Buser, Haehn, and Molders-Kober, 1982), asthma and panic disorder (Bernstien, Sheridan, and Patterson, 1991), weight control (Black, Coe, Friesen, and Wurzmann, 1984), pain management (Cott, Anchel, Goldberg, Fabich, and Parkinson, 1990), psychosomatic complaints (Hellman, et al, 1990), and anxiety in surgery patients (Salmon, 1993).

Psychologists also frequently have done research which addresses the practices and attitudes of other health care professionals. For example, Eastman, and McPherson (1982) examined the attitudes, perceptions, and expectations of general practitioners regarding participation of psychologists and other professionals in patient care. They found that physicians were favorably disposed toward referral to or collaboration with psychologists but over half said that they would not want a psychologist actively participating in their practice.

As mentioned above, psychologists have been and continue to be involved in treatment of patients in medical settings and research regarding outcomes of treatment. Evidence was presented that inter-disciplinary collaborative treatment can have a positive effect on patient and client outcomes. The literature also supported the hypothesis that behavioral/psychological interventions, including those instituted by psychologists, were effective in treating patients in medical settings. For example, physicians applying cognitive-behavioral management techniques were successful in increasing depressed patients' compliance with medical treatment (Robinson, et al., 1995). Sturm and Wells (1995) suggested that appropriate treatment for depression included mental health and counseling interventions in addition to pharmacological treatment. In their study, they found that appropriate treatment increased the initial cost of treatment but, over time, resulted in better value (cost-effectiveness) because of improved long term patient outcomes over traditional biomedical treatment. Other authors (Spiers and Jewel, 1995) reported on patients being treated for depression who received counseling as a part of treatment. They

reported that 87% of patients were treated in six or fewer 45 minute counseling sessions and that patients reduced use of psychotropic drugs and did not reappear in the practice with complaints. They also reported that the counseling service was reported to be valuable to both patients and doctors. Other authors have documented the effectiveness of psychologists' working with physicians in behavioral interventions for cardiac disease (Allan and Scheidt, 1996), childhood asthma (Bernstien, et al, 1991), psychosomatic illness (Hellman, et al., 1990), prevention of post chemotherapy treatment nausea (Morrow, Asbury, Hammon, and Dobkin, 1992), encopresis (Reimeres, 1996), and enuresis (Houts, et al, 1994). The literature also revealed that behavioral interventions in medical settings have been effective in disease prevention efforts such as reducing risk for coronary heart disease (Langeluddecke, 1986).

A recent seminal article in Consumer Reports (1995) provided information which shed light on the current position of psychology and mental health in the health care system. In this descriptive survey-based research article, several combinations of modalities and providers of mental health services were compared for

subject-reported effectiveness. One comparison was made between mental health services provided by family physicians and those provided by psychologists, social workers, and psychiatrists. It was reported that subjects were more satisfied with interventions by psychologists, social workers, and psychiatrists. Consistent with the biomedical model, family physicians relied much more heavily on psychotropic medicines (83%). This treatment was frequently administered "without the benefit of much counseling" (Consumer Reports, 1995, p. 736). In contrast, "mental-health specialists" using psychotherapy or psychotherapy and pharmaceuticals were more effective than family physicians. This was consistent with the biopsychosocial model. The report (Consumer Reports, 1995) also suggested that family physicians were unlikely to refer patients with mental health problems to a mental-health specialist. Only one in four such patients received a referral.

The increasing recognition of the biopsychosocial view of human illness and injury was also reflected in the participation of behavioral scientists in the field of national and international epidemiology and health

policy. Over the past fifteen years, there has been an integration of behavioral science and scientists into the traditionally epidemiological and biomedical functions of the Centers for Disease Control and Prevention (CDC). Involvement of behavioral sciences personnel, including psychologists, in CDC activities includes,

> "...a) collecting surveillance data to identify the extent of health problems and behaviors; b) identifying and measuring behavioral factors that cause, or place individuals at risk for disease; c) designing, implementing and testing interventions that seek to modify risk factors and causes; and d) implementing and disseminating information about those intervention programs that have been successful in preventing and controlling diseases and injuries" (Mercy, Rosenberg Powell, Broome, and Toper, 1993; as cited in Roberts, Banspach, and Peacock, 1997, p. 144).

Opportunities for Psychology

The literature, then, revealed that historical, societal, and economic forces have conspired to increase

possibilities for behavioral scientists, including psychologists, to become involved in health care delivery and policy making. All of these influences have increased the opportunities for psychologists and physicians to collaborate in the areas of training, patient treatment and, research.

Research

In the area of medical research into behavioral aspects of illness, psychologists were noted to be "...unique among the health care professions in adopting a model of training that requires competency in both research methodology and clinical practice" (Malec, 1991, p. 269, citing Strickland, 1988). Malec (1991) noted that, by virtue of this training, psychologists bring unique skills as researchers to medical settings. He also pointed to the value of the psychologist's longer term view of health and recovery research in a medical culture that tends to focus on immediate response to treatment and improvement.

Physician and Medical Personnel Training

Psychologists and physicians have a relatively brief history of collaboration in several domains of medical training. In a survey done in 1955, Matarazzo

and Daniel (1957) found that 346 psychologist were on the faculty of 78 accredited medical schools in the United States. Straus (1959) noted that in 1957 the Council on Medical Education and Hospitals of the American Medical Association revised its standards for medical education to include human behavior as "basic knowledge" in medical education. Just two decades later, in 1976 Lubin, Nathan, and Matarazzo (1978) found that there were over 2300 psychologists held academic appointments in 115 accredited medical schools and residencies.

In the area of medical staff education and training Klippel and DeJoy (1984) suggested that psychologists could provide interpersonal skills training for health care providers. Although general medicine (family practice, internal medicine, and pediatrics) have behavioral sciences training requirements in their residency programs, Klippel and DeJoy (1984) noted that these skills are often, in fact, de-emphasized in medical training. The current status of the domain of medical training will be more closely examined later.

Patient Care

Congruent with the emerging biopsychosocial model, several authors (for example, Altmaier, 1991; Cummings, 1992; Klippel and DeJoy, 1984) suggested that psychologists might interface with physicians in healthcare settings by providing direct services to ill or at risk patients. They suggested that this might be through accepting referrals of physicians' patients who were in need of "specialized counseling during the course of their (medical) treatment" (Klippel and DeJoy, 1984, p. 223). Additionally, through accounts of his 40+ years of work in Veteran's Administration hospitals, Cummings (1992) suggested that psychologists could assist seriously ill patients and their families to deal with issues of death and dying, noncompliance with treatment, and denial of patient behavioral contributions to illness. Altmier (1991) also noted that work with noncompliant patients may be an important part of the service that psychologists could offer in medical settings. More specifically, other authors (Cummings, 1992; Pomerleau, 1979; Thompson, 1991; Thorsen and Eagleston, 1985) suggested that psychologists could provide valuable service to medically ill and medically at risk patients by helping

them modify their behavior in order to improve their health or prognosis. Pomerleau (1979) extended this idea to include specific behavioral techniques such as biofeedback as well as behavior analysis for use in helping patients modify health related behavior.

In summary, the literature revealed that, in spite of the historic bias toward the biological or biomedical model in medicine, there was a long history of connection between "behavioral sciences" practitioners and the healing of ill and injured persons. In the last half of the twentieth century there has been an increasing trend toward recognition of the link between psychosocial factors and illness as well as recognition of interventions in the behavioral/psychosocial domain. This trend was reflected in the incorporation of behavioral sciences into medical training and the emergence of the biopsychosocial model of treating the ill and injured. These trends have opened new opportunities for psychologists to work in medical settings by providing research and patient care expertise.

Theoretical Perspective - Health Psychology

In 1978 the APA approved formation of the Division of Health Psychology (Division 38) (Matarazzo, 1982). The definition of health psychology adopted by Division 38 summarized the thinking of psychologists as to their place in the medical milieu:

> "Health Psychology is the aggregate of the specific education, scientific, and professional contributions of the discipline of psychology to the promotion and maintenance of health, the prevention and treatment of illness, the identification of etiological and diagnostic correlates of health, illness, and related dysfunction, and to the analysis and improvement of the health care system and health policy formation" (Matarazzo, 1982, p. 4).

Membership in Division 38 grew steadily since its formation to a total membership of 3,356 as of 1995. For comparison, counseling psychology (Division 17) had 3,415 members and clinical psychology (Division 12) had 6,787 (APA, 1996b). So, the formation and growth of Division 38 were further indications of the increasing

interest in health on the part of psychologists and the increasing influence of these psychologists in the psychological community.

Adherence to the biomedical model has been characterized by health psychologists as a major impediment to improving health care outcomes (Radmacher, 1992; Sheridan and Radmacher, 1992; Snyder, 1989). Under the rubric of "health psychology" there are a number of philosophical and theoretical approaches to conceptualizing, diagnosing and treating illness. These include the behavioral approach, the cognitive-behavioral approach, the psychosocial approach, and the systems approach. It is useful to briefly discuss each of these conceptualizations in the way of defining the domain of health psychology and behavioral and psychological interventions in medical settings.

Behavioral Approach

The behavioral approach in health psychology is based on the behaviorism of Skinner and Watson. It gains applicability in health psychology through the belief that a person's behavior can affect that person's health. The behaviorism of Skinner (1938) espoused the idea that all behavior could be changed

through environmental responses to the behavior including positive and negative reinforcement and punishment. Health psychologists have applied these principles to the modification of behavior that affects health (Sheridan and Radmacher, 1992). For example, smoking cigarettes and overeating are behaviors (habits) that, according to health psychology theory, can be altered or eliminate through use of behavior modification; positive and negative reinforcement, and punishment (Snyder, 1989). The behavioral approach also advocates including objective measurement of behavior (for example, recording calorie intake, keeping food or smoking logs, etc.) to guide interventions and measure progress.

Another example of behavioral interventions that may be valuable in treating reactive conditions such as asthma was the combination of relaxation training and systematic desensitization (Sheridan and Radmacher, 1992). In this technique, the response of relaxation could be conditioned to replace anxiety or another maladaptive response (such as the obese person eating) to a particular stimulus. For example, when a patient feels an asthma attack coming on, the reaction is often

fear and anxiety which exacerbates the attack. Alexander (1977) reported success in teaching (or conditioning) relaxation, instead of anxiety, as a response to an asthma attack.

Cognitive-Behavioral Approach

The cognitive-behavioral view of health psychology espouses the idea that our thinking and/or our mental state can affect our behavior including our health (Radmacher, 1992). For example, Radmacher (1992) cites studies (Beecher, 1959; Hardy, Wolff, and Goodell, 1952) that document patients' subjective experience of different levels of pain in near identical injuries depending on the patients' understanding of the cause or seriousness of the injury. Likewise, Sidorov and Pankov (1997) reported on the effectiveness of positive (thinking) therapy in reducing anxiety and somatic complaints in hospice patients. The intervention in this case was aimed at reframing the patients' thinking about their situation and the positive use of the time left to them. Sheridan and Radmacher (1992) pointed out that a patient's belief that a medical condition or behavior will change or not change may affect the patient's outcome. For example, the person who believes that he

or she will always be fat is more likely to stay over weight and the person who believes that he or she will always smoke cigarettes is more likely to continue to smoke. By affecting our health related behavior, our thoughts can affect our health.

Psychosocial Approach

The psychosocial approach suggests that the individual's mental state and social environment have an impact on health. For example, evidence was noted that anxiety and increased stress could exacerbate symptoms and even contribute to formation of asthma (Bernstein, et al., 1991) and heart disease (Allan and Scheidt, 1996). Related to the systems approach to health psychology (which will be discussed in the next section) was the effect of social environment and support on individual health. The supportiveness of family and their level of understanding of health issues could affect the person seeking to maintain or to regain health. For example, parental support and direction, or lack thereof, could dramatically affect the prognosis of children with chronic asthma (Alexander, 1977). Barrett, Dadds, and Rapee (1996) found that interventions combining cognitive-behavioral therapy

(CBT) with family interventions were at least as effective and often more effective than CBT alone. Similarly, Brecht, Dracup, Moser, and Riegel (1994) reported that the quality of the marriage relationship was related to how well cardiac patients recovered following cardiac surgery or heart attack regardless of the biomedical intervention involved. Incidentally, the vehicle by which the influence of the marriage relationship occurred was through its effect on the patient's thinking about the surgery or illness, in agreement with the cognitive conceptualization mentioned above.

Systems Approach

The systems approach to health psychology views the individual's health as a self-regulatory system which seeks to maintain physiological and psychological homeostasis through interaction of the systems within and outside of the body (Snyder, 1989). In this perspective, health is conceptualized as an ongoing process of balance which is acted on or influenced by many forces, both internal and external. The systems approach takes into account all of the factors affecting health which are postulated in the behavioral,

cognitive, and psychosocial approaches and treats them as variables in an interactive system which regulates the individual's health. Other variables affecting health are taken into account in the systems approach including biological factors such as genetics, trauma, physical and chemical agents, and infectious agents. All of these variables act to either help maintain ("regulatory forces"), or upset ("disregulatory forces"), the homeostasis of the body and its systems and subsystems. Snyder (1989) stated that:

> "For example, the cause of pneumonia is not solely the successful invasion of bacteria...but also entails social and behavioral conditions that result in contact with the bacteria and alter resistance to the bacteria (rest, diet, etc.)...The cause of heart attacks is not solely clogged arteries... but also smoking, high fat diets, and stress..as well as genetic predisposition to heart attack..." (p. 101).

The practice of health psychology focuses on managing those cognitive, behavioral, and social factors

which act to disrupt the process of health. In the case of encouraging wellness, health psychology seeks to maximize those behaviors, cognition, and social interactions which maximize equalizing forces on health. This is done through cognitive, behavioral, family systems interventions which are established in their respective domains (Alcorn, 1991; Radmacher, 1992; Sheridan and Radmacher, 1992; Snyder, 1989).

History of Psychology in Family Practice

General Practice medical writers in the early twentieth century reflected the idea that treating the patient as a whole person had a therapeutic effect. Porter (1996) identifies a number of prominent physicians who helped to incorporate the "patient as a person" movement into the practice of family medicine. These writers noted that, in the practice of medicine, patient satisfaction and clinical improvement were positively associated with the level of attention and personal concern shown by the physician (Houston, 1936; Robinson, 1939). Peabody (1928) noted that this approach was especially important with patients who presented somatic symptoms without any apparent organic

or physical cause (psychosomatic illness). He suggested that the success of diagnosis and treatment of patients with psychosomatic symptoms depended almost completely on the ability of the physician to establish a close, positive, therapeutic relationship with the patient.

Recognizing the tradition of salience of psychological factors in treating patients in family practice, evidence of involvement of psychology in family medicine, mainly in medical education, can be found over the last four decades (Ransom, 1992). Numerous authors have documented the historical importance of psychologists in providing medical education to family practice residents (Blascovich, 1982; Ireton and Hilliard, 1983; McDaniel, 1995; Mebane, 1978; Orenstein, 1977; Ransom, 1992; Stokes, Strand, and Jaffe, 1984; Weinman and Medlik, 1985). This involvement of psychology and other behavioral sciences disciplines has helped to maintain the holistic emphasis in family medicine (Blanchard, 1982). Others have documented the difficulties inherent in training family practice physicians in behavioral aspects of practice. These included pressure on residents including time demands, lack of administrative support for behavioral

sciences, priorities other than behavioral sciences, and the difficulty of translating psychological theory into practice (Stokes, et al, 1987). These difficulties were reflective of the still dominant biological model of illness in medicine (Sheridan and Radmacher, 1992).

Historically, there has been some discussion of collaboration between psychologists and family practice physicians in domains other than physician education. For example, as early as 1969, Pope and Lisansky (1969) wrote about forming collegial relationships with psychologists in order to identify and treat family medicine patients with mental disorders. Generally, however, there has been little discussion, especially in the community of family practice physicians, focusing on issues of collaboration with psychologists.

Current Status of Psychology in Family Practice

Ransom (1992), a psychologist, suggested that family medicine was an inclusive discipline which has historically welcomed participation of professionals from a variety of disciplines, including psychology. The literature also provided evidence that, when collaboration did occur, family practice physicians

viewed participation of psychologists and behavioral medicine favorably (Bray and Rogers, 1995; Eastman and McPherson, 1982; Gelles, 1991).

The favorable view of psychologists in medicine appeared to be present in medical education where psychologists continue to play a significant role. In medical education, especially in family practice, there appeared to be a clear and discernable history and pattern of participation of psychology and psychologists. In the domain of patient care, patterns of collaboration between psychologists and family practice doctors were less clear, especially in the United States. However, some intercourse was identified.

Medical Education: Teaching and Training Roles

Weinman and Medlik (1985) noted that the family practice was an ideal place for the work (skill sharing) of psychologists because the emphasis was on wellness, not illness. This congruity of purpose was reflected in the presence of psychologists participating in the education of family practice physicians. Historically, most of these psychologists provided education in the area of clinical practice (direct patient care) and not

in separate behavioral sciences departments or programs (Stokes, et al, 1984).

The literature revealed several roles and emphases in which psychologists may engage in the training of residents. Both Gelles (1991) and Mebane (1978) suggested that helping family practice residents recognize psychological or behavioral problems was an important task of psychologists training family practice residents. Gelles (1991) reported that residents and residency staff maintained favorable attitudes toward behavioral sciences training in this area and felt that the contributions of psychologists to physician knowledge were valuable. It was noted that virtually no attention was given to the appropriate treatment of psychological disorders and only one author (Mebane, 1978) reported any training of residents as to appropriate referral or treatment of psychological problems.

In recent history authors have suggested various training roles within the established family practice. For example, Ornstein (1977) argued that the physician could become a therapeutic instrument by developing basic patient-centered skills for use with patients

thereby increasing the effectiveness of the medical intervention. He further suggested that psychologists could best assist family practice physicians by aiding in the doctors' professional personal growth and by providing training for physicians in basic counseling skills including empathic listening and understanding. Psychologists may work with doctors to help increase physicians' "introspective self-awareness" thereby increasing the doctor's ability to relate well to the patient. Weinman and Medlik (1985) also noted that psychologists were able to consult with physicians to improve intra-practice relationships and communication, thereby increasing staff effectiveness. Improving physician and staff skills and knowledge in these domains, it was hypothesized, would improve practice management and patient care quality. Weinman and Medlik (1985) also suggested that the psychologist may be able to train practicing family physicians in the use of basic behavioral and cognitive interventions to change patient behavior. Even though there was this mention in the literature regarding these training roles, it was not clear from the literature, or from APA membership

activity information, the extent of actual involvement of psychologists in these activities.

Patient Care

Rollin (1994) documented the potential usefulness to patients of collaboration between family practice doctors and psychologists and identified issues which must be addressed in order for family physicians and psychologists to practice together. The literature revealed involvement of psychologists in the direct treatment of patients in family practice settings. This involvement can be examined along two dimensions; 1) the specific illness or conditions and 2) the effectiveness of the intervention.

Illnesses or Conditions Treated by Psychologists

The literature revealed a variety of conditions in which psychologists have been involved in working with family practice. We find a broad range of conditions treated jointly by family practice physicians and psychologists. For example, depression has a high incidence of presentation in primary care clinics (Rehm, 1996). Rehm (1996) argued that psychologists could improve the rate of accurate diagnosis of depression in

family practice as well as aid in treatment. Scott and Freeman (1992) documented specific methods of treating depression in family practice including cognitive behavioral therapy by a psychologist. Some authors (Sibbald, Addington-Hall, Brenneman, and Obe, 1996; Spiers and Jewell, 1995) reported on the work of counselors in family practice settings in the treatment of a variety of problems including anxiety/stress, interpersonal problems, and depression. Basler, et al. (1982) reported on group treatment by a psychologist of hypertension in obese patients in family practice and Weingarten (1985) documented treatment of childhood asthma by psychologists.

Effectiveness of Psychological Interventions

There were studies which questioned the efficacy of psychologists' interventions in family practice. For example, one study produced results which questioned the cost (but not clinical) effectiveness of treatment administered by psychologists for depression (Scott and Freeman, 1992). These authors suggested that the additional cost of patient visits for cognitive-behavioral (CBT) therapy with the psychologists were not warranted when compared to drug treatment by the general

practice physician alone or socially oriented interventions by a social worker. CBT was found to be effective, just too costly. However, the study was criticized for its lack of definition and control of CBT and because it overlooked the possible long term benefits of CBT over drug or social worker intervention (Scott, Moon, Blacker, and Thomas, 1994).

Other literature suggested that treatment and prevention interventions by psychologists in family practice can be effective. For example, Sturm and Wells (1995) found that counseling interventions by psychologists increased the cost and clinical effectiveness of treatment for depression. When clinical effects were considered, psychological interventions increased the value or cost effectiveness of patient treatment. Other authors have reported positive clinical effectiveness of treatment by psychologists of hypertension (Basler, et al., 1982) and childhood asthma (Weingarten, 1985) in family practice. In a pilot project for treatment of patients with drug and alcohol abuse problems, Bray and Rogers (1995) reported that psychologists and family practice physicians successfully collaborated to provide

treatment for a variety of physical and mental illnesses. They suggested that this model could be effective on a wide spread basis.

Prospects for Collaboration of Psychologists and Family Practice Doctors

The literature revealed that family or general practice medicine, in particular, has a tradition of inclusion of behavioral sciences in the education of physicians and in treatment of patients. Family practice medicine has taken the lead, primarily in the training of physicians, in the inclusion of psychologists in the medical milieu. When they occur, family practice physicians appeared to view collaboration with psychologists favorably.

Even though the stage would appear to be set through historical, theoretical, clinical, and economic factors as well as a common holistic approach, there was little evidence that family practice physicians and psychologists were practicing together or collaborating extensively. There was also little information available to assess the extent of joint practice. For example, the APA does not report the involvement of psychologists in specific medical settings (see for

example, APA, 1996b). Likewise, the American College of Family Practice Physicians does not maintain records of their members who practice with psychologists (Hadick, 1997). Despite extensive searches in Medline and PsychInfo data bases, no definitive current literature was identified providing this information. Clues as to the reasons for the apparent lack of collaboration between family practice physicians and psychologists may be found in the attitudes of family practice doctors toward collaboration. The British psychological literature provided a small and possibly out of date glimpse into the attitudes of family practice physicians in Britain and the extent of their collaboration with psychologists. For example, from a sample of thirty general practitioners, Eastman and McPherson (1982) found that the physicians were "sympathetic" to the desire of psychologists to practice with them and that half wanted to practice with a psychologist. Thomas and Corney (1992) surveyed 261 general practice offices and found that only 15% had a formal association of some type with a psychologist.

Barriers to Collaboration

There appeared to be little empirical or even descriptive survey research specifically examining the attitudes of family practice physicians toward practice with psychologists. Consequently, the deductions and suggestions of writers in the field may have provided the best source of possible keys in explaining this apparent lack of collaboration. Several possibilities were reflected in the literature. These included 1) lack of knowledge or understanding on the part of the medical community of the skills and capabilities of psychologists, 2)"turf" or protectiveness concerns on the part of the biomedical community, 3) different language and classification systems used by psychology and medicine, 4) financial issues, and 5) a basically different view of the ill person.

Lack of Knowledge of Psychology

As the above discussion of the history of medicine points out, there has been a delineation between the domains of behavioral medicine and psychology and that of biological medicine. Consequently, psychology as a discipline may not be fully understood by medical practitioners and policy makers (i.e. legislatures). Recently, that distinction was still reflected in the

fact that psychology was statutorily generally not recognized as being in the domain of health care. Litwin, Boswell, and Kraft (1991) noted:

> "The fact that psychology has historically experienced a recognition problem (i.e. not specifically named in federal and state health care statutes) has been clearly evident and has led to a limited scope of practice...Until recently, policy makers have been unfamiliar with the broad scope of training and expertise that psychology has to offer the health care industry" (pp. 322-323).

It was suggested that one reason for the lack of inclusion of psychologists in medical settings may be a lack of awareness of the gate keepers (physicians, legislators, and third party payers) as to the capabilities and training of psychologists. This lack of awareness may be reflected in the report of the Chief Executive Officer of the APA in its annual report:

> "In February (1997) APA launched a multimillion dollar, multi year public education campaign designed to educate various publics about the value of psychological services and the unique skills and training of psychologists...It's strategic approach, based on consumer research, positions it to have an impact on the health care and science research marketplaces at a time when the interests of consumers and providers must be carefully safeguarded" (Fowler, 1997, p. 764).

This statement appeared to confirm that there was a concern on the part of the psychological community about a general lack of understanding of the capabilities of psychology and psychologists. Specifically, it spoke to the desire of psychology to increase its impact in the area of health care.

"Turf" Concerns-Protectiveness of the Medical Community

The health care system, especially in the United States, is a "physician-led" system. One possible reality of attempting to gain entry into that system is that physicians will relinquish pieces of that territory grudgingly. There are two implications to this reality.

First, psychologists must make their potential activity in the system relevant to physicians (Altmaier, 1991). Second, psychologists may need to quit demanding a "seat at the table" and begin asking those already there (i.e., physicians) what we might do that is helpful to them (Klippel and DeJoy, 1984).

There are other groups with established turf in the existing health care milieu. These include nurses, social workers, health educators, dieticians, chiropractors, and others. Kaplan (1991) noted that, "There are opportunities to offer counseling services in health care. The challenge for counseling psychologists is to demonstrate their unique training and their unique effectiveness" (p. 379). In other words, psychologists may need to demonstrate that their contributions can be unique and that, in order to participate, we do not need to take "turf" away from other practitioners.

Different Language and Classification Systems

Physicians and psychologists use different terms to describe and conceptualize illness. This is reflected in the differences in the classification system used in the two domains. In psychology, the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition

(DSM-IV, American Psychiatric Association, 1994) is used to classify and diagnose mental disorders. The DSM IV uses diagnostic criteria for mental illness that are often subjective and based on phenomena that are not strictly observable or measurable. For example, the criteria for "Major Depressive Episode" includes "depressed mood...(e.g. feels sad or empty)...feels worthless...diminished ability to think..." (p. 327). All of these things are subjective and definitely not physiological criteria. In contrast, an example of the language and media used by physical medicine in classification of disease language is contained in The International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10, World Health Organization, 1992). The ICD-10 uses diagnostic criteria that are more often physiological, biological, and measurable. In discussion of the need to implement a biopsychosocial model in clinical medical practice, Honzak (1992) referred to the need to establish a common language in which to define competencies and conceptualize patient problems if collaboration between physicians and psychologists is to be successful.

Related to the issue of different language is the issue of different levels of expertise in research. Ellison and Kopp (1985) suggested that psychologists and physicians seeking to do research together may have a background and language problem to solve in order to effectively collaborate. They noted that physicians were not generally grounded in research skills and language and psychologists do not speak the clinical biomedical language of physicians.

Financial Concerns

In view of the lack of understanding and the increasingly restricted allocation of financial resources available to the health care system because of managed care, understandable concerns may arise among family physicians that psychologists in "their territory" may be a threat (McDaniel, 1995). For example, family practice doctors typically treat depression with long term courses of antidepressant medication (Rosholm, Gram, Damsbo, and Hallas, 1997) and long term follow up with office visits. The literature revealed evidence that behavioral interventions reduced the number of visits to the family practice doctor's office (Spiers and Jewel, 1995) and reduced the use of

antidepressive medication (Sturm and Wells, 1995). To the extent that these effects of behavioral intervention may reduce the physician's income, there may be financial concerns.

Different Views of the Ill Person

Radmacher (1992) identified the biomedical model as "the dominant paradigm of medical science today" (p. 21). In this model, physicians focus on biochemical treatments of illness and short term, immediate improvement in the patient's physical condition. For example, the family practice physician is likely to prescribe an antibiotic and tell a patient with a severe infection to call or come back into the office if it is not better in two or three days. The psychologist might be interested in the patient's emotional state, family situation, or stress levels which might influence recovery or reoccurrence of the infection (Altmaier, 1991). These issues are not easily resolved.

Survey Research in Assessing Physician Variables

The research questions proposed in Chapter 1 required measurement of certain characteristics or traits associated with physicians. These were

attitudes/beliefs about collaboration , quality of collaborative experiences with psychologists, level of experience in research with psychologists, environmental and practice support for collaboration, the amount and quality of exposure to psychological and behavioral issues during training, and actual level of collaborative activity.

De Vaus (1986) in Surveys in Social Research stated that "...explanations (theories) need to be tested against the facts" (p. 11). It is important that social research be based in theory and that theories or explanations should be tested with research. The present research endeavored to test the relationships suggested in the two models enumerated above (Drotar, 1993, 1995; Rollin, 1994). De Vaus (1986) described survey research as an appropriate method for investigating such relationships.

Survey research has been used in a variety of settings to assess physician variables. The use of surveys has been applied to assess physician/resident beliefs regarding roles of psychologists in residency programs (Gelles, 1991), and physician attitudes and perspectives regarding psychologists and psychology in

medicine (Haley, et al, 1993; Liese, 1986; Nethercut and Piccione, 1984). In the domain of collaboration between physicians and psychologists or other mental health professionals, surveys have been used in assessing the extent of existing relationships (Thomas and Corney, 1992) as well as physician views of consultation with psychologists (Meyer, et al, 1988). One standardized instrument was identified that has been used sparingly since 1984. That instrument was the Physician Belief Scale (PBS, Ashworth, Williamson, and Montano, 1984). The PBS is a 32 item questionnaire which assesses physician attitudes and beliefs about psychosocial aspects of caring for patients and was demonstrated to measure one construct in this domain.

Design of Survey Research

Fowler (1988) made the observation that the design of survey research involved a precarious balance of spending "...more money, time, or other resources" (p. 15) and the quest for more complete and valid data. This meant that the design and execution of survey research involved the effort to maximize the quality and quantity of data within the resource constraints of both the researchers and subjects involved (Fowler, 1988).

Fowler (1988), de Vaus (1986), and Dillman (1978) provided guidelines for conducting survey research. These guidelines focused on establishing goals or concepts, designing the research to meet those goals, and pre-testing instruments and procedures before conducting actual data gathering.

An issue that was not made clear in the literature was the appropriate length of a survey used in medical settings. Neither Dillman (1978) or Fowler (1988) suggested specific criteria for length. However, both suggest that pre-testing was an appropriate way to determine a survey length that balanced completeness with the brevity necessary to insure adequate return rates. When length of mail surveys conducted in medical settings was reported, it ranged from 15 items (Nethercut and Piccione, 1984) to 32 (Markham and Diamond, 1997). One study (Haley, Salzberg, and Barrett, 1993) did not state the number of items but stated that "The instrument was intentionally designed to be brief, requiring only 5 to 10 minutes of completion, in order to maximize compliance" (p. 492).

Conclusion

Evidence was identified above of a long relationship between the art of physical healing and that of psychological healing. Psychology has established a theoretical basis for interventions aimed at improving the health of ill persons as well as helping them stay well (prevention). Especially in the domain of health psychology and behavioral medicine, a new model, the biopsychosocial model, was being advocated as a more satisfactory replacement for the traditional biomedical model prominent in physical medicine. There was also evidence in the literature that behavioral interventions based on psychological theory and the biopsychosocial model have been effective in improving outcomes for the physically ill. Family practice medicine has a tradition of inclusion of other health related disciplines, especially in training of family practice physicians.

In spite of these links and successes, there appeared to be a lack of collaboration between psychologists and physicians. This was true in general medicine as well as family practice. The literature suggested that this may be explained by issues involving

lack of knowledge or understanding on the part of the medical community of the skills and capabilities of psychologists, medical and psychological community "turf" or protectiveness concerns, different language and classification systems, financial concerns, and different views of the ill person.

It is suggested in the current study that research by psychologists in the medical community, particularly in family practice, may be productive in encouraging future collaboration. The current research inquired as to those factors which may predict physicians' collaborative behavior with psychologists.

CHAPTER 3

METHODOLOGY

In an effort to identify those factors affecting or predicting collaborative behavior of family physicians with psychologists, the following research questions were asked:

1. What is the relationship between a physician's attitudes/beliefs about collaboration (perceived need, effectiveness, and accessibility) and the level of collaborative activities with psychologists?
2. What is the relationship between the quality of a physician's collaborative experiences with psychologists (as measured by amount and promptness of psychologist feedback and general satisfaction) and the physician's level of collaborative activities with psychologists?
3. What is the relationship between the physician's level of experience in research with psychologists and a physician's level of collaborative activities with psychologists?
4. What is the relationship between environmental or practice support (colleague attitudes and organizational

support) for collaboration and the physician's level of collaborative activities with psychologists?

5. What is the relationship between the amount and quality of exposure to psychology during training (as measured by perceived exposure) to the physician's level of collaborative activities with psychologists?

In this section, the design of the study is described as are the procedure used to identify and obtain participants and collect data. The instrumentation developed to gather data used to address research questions and the procedures used to collect data are also described

Design of the Study

The research was exploratory and descriptive. It examined factors potentially influencing the practices of family practice physicians in their level of collaboration with psychologists. The descriptive portion of the research was a single-group, single-observation design (Smith and Glass, 1987) examining a "snap shot" of family physician experiences and practices and their relationship to predictors. This design was executed through use of a researcher designed

questionnaire mailed to and completed by a sample of Florida family practice physicians.

Characteristics Measured and Described

The physician characteristics measured and used for description in the current study were:

Physician's Attitudes/Beliefs about Collaboration

Physician attitudes and beliefs about collaboration with psychologists were defined as the physicians' perceptions as to need, effectiveness, and accessibility of such collaboration. Physicians' attitudes/beliefs about collaboration were included in research question 1 above.

Quality of a Physician's Collaborative Experiences

The quality of a physician's collaborative experiences with psychologists has been linked in the theoretical literature (e.g. Drotar, 1993) as a predictor of physician collaborative activity. This variable was incorporated in research question 2 above. Other authors have linked the timeliness and quality of feedback from psychologists as a key determinant of satisfaction with referrals.

Physician's Level of Experience in Research with Psychologists

Physician's level of experience in research with psychologists was included on research question 3 above. Physician's level of experience in research with psychologists has not been clearly defined in the literature. However, Both Drotar (1993) and Rollin (1994) suggested that this variable was related to the level of collaborative activity of family physicians.

Environmental or Practice Support for Collaboration

The level of environmental or practice support for collaboration with psychologists was included on research question 4 above. Drotar (1993) hypothesized that environmental factors and influences could be important in determining the level of psychology related collaborative activity engaged in by physicians. An important factor in the environment may be the degree of support of colleagues and coworkers for collaboration with psychologists.

Amount of and quality of exposure during training to psychology

Amount of exposure to psychology during training and the quality of that exposure were hypothesized by

Drotar (1993) to affect the level of collaborative activity by physicians with psychologists. Drotar suggested that the quality of such exposure can be "positive" or "unsuccessful" (negative) and that the quality of the experience would influence collaborative behavior. Rollin (1994) also suggested that increased positive exposure to psychology during training would influence physician collaborative behavior in the positive direction.

Level of Collaborative Activities with Psychologists

The dependent variable for research questions 1 through 5 was the level of professional interaction (direct consultation, informal consultation, or collaborative consultation) with psychologists. As with all variables in this research, this variable was measured by self report. Physicians were be asked to report how many that the physician engaged in over the past year. As defined above, collaborative activity included 1) Direct Consultation, 2) Informal Consultation, and 3) Collaborative Consultation (Pace, et al., 1995). Employment of the level of actual collaborative activities with psychologists as the dependent variable in this research was consistent with

paradigms suggested by both Drotar (1993, 1995) and Rollin (1994).

Instrumentation

A twenty five question self-report survey questionnaire was developed by the researcher and used to collect the data presented in the current study. Day (1980) successfully used a four step process for design of an instructional module for counselor education. This process involved four steps: "1. Conceptualization of the module, 2. Construction of the module, 3. Student review of the module, and 4. Expert review of the module" (p. 44). This model was adapted to the construction of the survey instrument used in the current research. Based on Day (1980) and suggestions made by Dillman (1978), the steps for construction of the survey questionnaire used in the current research were 1. Conceptualization, 2. Construction, 3. Expert review, and 4. Trial testing. Fowler (1988) suggested a similar approach. Following is a discussion of each of these processes.

Conceptualization

Rollin (1994) and Drotar (1993) suggested factors which influenced the likelihood that a physician will

seek consultation with a psychologist. These factors were elucidated in the literature referenced above. The conceptualization of the survey used for the present study focused on illuminating these factors and examining the relationship between these factors and actual collaborative practices.

A second consideration in the conceptualization of this survey instrument was the need for the survey to be brief (10-15 minutes at maximum) due to the nature of the data gathering process and potential subjects. There were no existing instruments available which met the criteria of brevity and addressing the constructs of interest.

The surveys reported in the above literature were not adequately described or available for use in the current research (Gelles, 1991, Haley, et al, 1993; Liese, 1986; Nethercut and Piccione, 1984; Thomas and Corney, 1992; Meyer, et al, 1988). The standardized PBS was available but did not measure the constructs of interest in this research (Ashworth, Williamson, and Montano, 1984). However, the response mechanism of the PBS was appropriate for the purposes of the current study. Each of the 32 PBS items provided for a 5 point

Likert type response from agree (1) to (5) disagree (Ashworth, Williamson, and Montano, 1984). This response scheme was used for the survey instrument in the current study for those items which addressed attitudinal or qualitative constructs, Physician's attitudes/beliefs about collaboration; Quality of a physician's collaborative experiences; Environmental or practice support for collaboration; and Quality of exposure during training to psychology.

In contrast, some of the variables (Amount of exposure during training to psychology, level [number] of collaborative activities with psychologists, and research experience) were quantitative and were asked directly.

Construction

The survey instrument designed for the current study included items which inquired as to the levels of the independent variables in this study: Physician's attitudes/beliefs about collaboration; Quality of a physician's collaborative experiences; Physician's level of experience in research with psychologists; Environmental or practice support for collaboration; Amount of exposure during training to psychology;

Quality of exposure during training to psychology; and level of collaborative activities with psychologists, the dependent variable. Dillman (1978) suggested that close-ended questions with ordered answers are "ideally suited for determining such things as intensity of feeling, degree of involvement, and frequency of participation" (p. 89). Consequently, these items were scored on a five point Likert type scale with the descriptors on the scale varying from "Strongly Agree" to "Strongly Disagree." This type of response was provided as an example of an appropriate response format by Dillman (1978). Following are the survey questionnaire item or question numbers which correspond with each listed construct. The individual items or questions can be seen in the survey questionnaire shown in Appendix A.

- Physician's attitudes/beliefs about collaboration (perceived need, effectiveness, and accessibility): Questions 1,2,3,and 4.
- Quality of a physician's collaborative experiences (amount and promptness of psychologist feedback and general satisfaction): Questions 7 and 8.

- Level of experience in research with psychologists: Questions 11 and 12.
- Environmental or practice support for collaboration: Questions 5 and 6.
- Amount of exposure to psychology during training: Question 13.
- Quality of exposure to psychology during training: questions 14 and 15.
- Level of collaborative activities with psychologists: Questions 18, 19, 20, and 22.

Demographic questions

The survey questionnaire included a series of demographic questions including physician age, years in practice, and date of medical school graduation. Additionally, each participant was asked to describe the type of practice in which they primarily engaged.

Additional Inquiry

Two questions or items were included on the survey questionnaire in addition to the items enumerated above. These questions, 24 and 25, were designed to provide data for the qualitative analysis discussed below. Other items were added for the collection of data to enhance or enlighten the planned analyses and provide guidance

for future research. These questions were numbered 9, 10, 16, and 17. Other questions were added as a result of expert review and were thought by reviewers to have potential value in illuminating the data. Each of the questions added to the questionnaire in addition to those directly a part of the analysis were closely related to either the descriptive analysis and/or the qualitative analysis.

Physical Appearance

The physical appearance of the survey was guided by Dillman's (1978) Total Design Method (TDM) of survey construction. TDM provided specific instructions as to the physical appearance and arrangement of the survey instrument. The foci of TDM were maximizing the efficiency and accuracy of data collection. Some modifications were necessary to conform to the requirements of the population of interest. Expert review and trial testing resulted in modifications to enhance readability and conform with language used in family practice settings.

Expert Review

Consistent with Dillman (1978), several experts in psychology and family medicine reviewed the survey in

its proposed form in order to solicit their suggestions. These experts were members of the researcher's doctoral committee; Leo Rotan, Ph.D., a psychologist and Behavioral Sciences Faculty Member, Family Practice Residency Program, Tallahassee, FL.; and Alma Littles, M.D., Clinical Director of the Family Practice Residency Program, Tallahassee, FL. These experts were asked to evaluate the degree to which the instrument and data collection protocol were likely to accomplish study objectives. They were also asked to make suggestions to enhance the effectiveness of the research. Following this review, suggestions of the experts were incorporated into the survey and research protocol.

Trial testing

Consistent with TDM, the pre-test group was chosen to represent a cross section of potential survey respondents. To strike a balance between a obtaining a representative pre-test group and convenience and cost considerations, 12 pre-testers were selected from family practice physicians in Tallahassee, Florida and surrounding communities. They were told, via letter (see Appendix G), the purpose of the research and asked to comment on the research protocol and complete a

survey instrument. In addition to practicing family practice physicians, 7 doctors who were family practice residents completed survey questionnaires and provided suggestions regarding the instrument and research protocol.

Procedure

To balance the desire for sufficient data with cost and feasibility considerations, the researcher focused on obtaining a sample of the population of currently practicing Florida family physicians rather than a national or international population of physicians. The sample was obtained in the form of a mailing list from AAFP and data was collected via a mail out survey mailed to 500 Florida physicians who returned 295 completed surveys (a return rate of 59 percent).

Determining Sample Size

A currently accepted standard for determining sample size is the formula developed by Cohen (1988). Cohen based his analysis on the interaction of sample size, desired power, and desired effect size. In choosing decision parameters and sample size, Cohen (1988, 1992) discussed the importance of balancing:

1. α, the probability of a type I error

2. β, the probability of a type II error (1- power) and
3. Power, the probability of rejecting the null hypothesis.

According to Cohen (1988), the choice of these parameters depends on the characteristics and goals of the research and should be established by the researcher prior to beginning data collection.

For the current descriptive research, an α of .05, and power of .80 were desired. Using Cohen's (1992) taxonomy, a "Medium" (.15) effect size for detection of R and (.30) for determining significance of a product-moment r were desired. Although this study was intended to be descriptive and not inferential, these guidelines were applied to establish a goal for sample size. The "Medium" effect size was chosen because the relationships being examined and described in this research should be robust enough to produce at least a .15 effect size. In an article on power in behavioral research, Cohen (1992) provided recommended minimum sample sizes give a desired α, power, and effect size.

According to Cohen (1992), a sample of 102 family physicians would satisfy the above criteria.

Data Collection

The population of interest was family practice physicians currently in practice in Florida. The AAFP is a professional organization representing practicing, retired, resident, and student family practice physicians. It was estimated that the AAFP represents 90% of all practicing family practice physicians in the United States (Schmitling, 1998). AAFP membership in the "Active" category in Florida was 2,040 (AAFP, 1998). This suggested that there were approximately 2,267 family physicians practicing in Florida.

While 102 was the minimum acceptable number of participants, the researcher's goal was to obtain 230, roughly 10% of the practicing family physicians in Florida. Dillman (1978) reported 40% to 95% return rates for mail out surveys using his method. A return rate in the lower end of the response rate continuum, 46%, would produce the 230 desired number of responses. Hence, to obtain 230 returned surveys in the current research, 500 were mailed.

A mailing list including names and addresses of 500 randomly selected family practice physicians actively practicing in Florida was obtained from the AAFP on a computer diskette in the form of an ASCI text electronic file. To insure random selection, the AAFP selected the names on the mailing list using a random number based computer program. The format of the information from AAFP was converted to a Microsoft Excel spreadsheet file suitable for merging with Microsoft Word documents for mailing.

Mailing of Survey Questionnaires

In the current research, the process described by Dillman (1978) for the designing, mailing and collecting of mail survey questionnaires was used to insure return of the completed questionnaires. This approach called for careful design of the questionnaire, cover letters, and attendant materials. To pique the interest of those receiving the surveys, the importance of each individual's response and the overall importance of the research were emphasized. The Dillman (1978) approach also required follow up mailings to those survey recipients who did not return questionnaires promptly.

In the current research, an initial mailing and two follow up mailings were done. The first mailing consisted of 500 packets. Each packet included:

1. A cover letter.
2. The survey questionnaire.
3. An addressed and stamped return envelope.

The cover letter was adapted for the purposes of the present research from examples provided in Dillman (1978). Each cover letter was addressed to an individual family physician on the mailing list. The second mailing consisted of a post card to recipients of the first mailing who had not returned a completed questionnaire after one week. The third mailing was identical to the first except that the cover letter was modified to reflect the fact that it followed the previous mailings. It was sent to all original recipients who had not returned a completed questionnaire after three weeks. Copies of the first cover letter, post card, and second cover letter can be found in Appendix B, C, and D respectively.

Participants

Participants in this study were 295 Florida family practice physicians who returned completed survey

questionnaires. The ages of the participants ranged from 30 to 78 years of age with a mean age of 47.8 years. Their years in practice ranged from 1 to 50 and averaged 16.6. Regarding primary practice settings, 59.7 percent of the participants were in "Private Practice", 12.2 percent were in "Other" practice settings such as military clinics or hospital emergency departments, and 11.2 percent were in "Hospital Sponsored Outpatient Clinics." The remainder were divided between "Residency" (6.6 percent), "HMO/PPO Sponsored Outpatient Clinic" (6.3 percent), "Hospital Based" (2.1 percent), and "Medical School" (1.7 percent). A summary of Primary Practice Settings and proportions of participants in each can be found in Table 1. Valid percent shown in Table 1 is the percentage of the number of total non-missing responses in each category. It is presented to show the percentage of total respondents who answered this question in each category in addition to percent, which is the percentage of total participants, including those who did not answer this question, in each category.

Table 1

Primary Practice Setting

Setting	Frequency	Percent	Valid Percent[1]
Private Practice	172	58.3	59.7
Hospital Based	6	2.0	2.1
Hospital Sponsored Outpatient Clinic	33	11.2	11.5
HMO/PPO Sponsored Outpatient Clinic	18	6.1	6.3
Medical School	5	1.7	1.7
Residency	19	6.4	6.6
Other	35	11.9	12.2
Total	288	97.6	100.0
Missing	7	2.4	
Total	295	100.0	

[1]Valid percent is percent with missing removed.

Exploratory Descriptive Analysis

Items or questions corresponding with their respective independent variable or the dependent variable were enumerated above. In order to construct the independent variables and the dependent variable of interest, scores on items corresponding to the variables were combined additively for the analysis. This provided interval data for all six independent variables and one dependent variable which was appropriate for the planned correlation and regression analysis (Tate, 1996). The variables were derived using the conceptual analysis process described above. They were designed to represent the constructs of interest in the current research. Variables were named and labeled for use in SPSS. Names of variables used in the descriptive analyses, their labels, and corresponding survey question numbers are shown in Table 2 with their corresponding constructs of interest.

The statistical descriptive analysis took place in several steps. First, a case analysis was done to identify possible outliers that had a potential disruptive effect on the analysis. Next, because the researcher was interested in the relationships between

Table 2

Constructs, Variable Labels, and Names

Construct of Interest	Survey Question #'s	α[1]	IV/ DV[2]	Variable Label	Variable Name
Physician's attitudes/beliefs about collaboration	1,2,3,4	.71	IV	Physician Attitudes and Beliefs	attitude
Quality of a physician's collaborative experiences	7,8	.76	IV	Quality of Collaboration	quality
Level of experience in research with psychologists	11,12	.48	IV	Level of Research with Psychologists	research
Environmental or practice support for collaboration	5,6	.77	IV	Environmental Support for Collaboration	envirspt
Amount of exposure to psychology during training	13a,13b	.68	IV	Exposure to Psychology During Training	exposure
Quality of exposure to psychology during training	14,15	.79	IV	Quality of Exposure to Psychology	exposqua
Level of collaborative activities with psychologists	18,9,20, 22	.74	DV	Reported Collaborative Activity	totcoll

[1]Scale alpha reliability.
[2]Independent Variable/Dependent Variable

the independent variables as a group and the dependent variable, Multiple regression was used as suggested by Tabachnick and Fidell (1996). To address the research questions, the relationship between individual independent variables and the dependent variable was analyzed using the results of two separate multiple regression analyses. One analysis was done prior to transformation ($\log_{10}$) of the independent variable and one was done following transformation. The transformation was done to address positive skewedness in the dependent variable and resulting possible failure to meet the regression assumptions of normality and homoscedasticity. In addition to multiple regression, cross-tabs matching and comparison was done for the purposes of description of relationships between participant characteristics, practice setting, and levels of collaborative activity. All statistical analysis was accomplished using The Statistical Package for the Social Sciences (SPSS) for Windows: Release 8 (SPSS, Inc., 1997). The α=.05 for all tests. This value for α is a traditionally accepted standard for tests of statistical significance.

Before analysis was begun, the scoring for those variables measured on a Likert type scale, physician attitudes and beliefs about collaboration (attitude), quality of a physician's collaborative experiences (quality), environmental or practice support for collaboration (envirspt), and quality of exposure to psychology during training (exposqua), was reversed (1 to 5, 2 to 4, 3 to 3, 4 to 2, and 5 to 1)in order to facilitate viewing and discussion of the analysis. This reversal made increased levels of the constructs consistent with increased values of the variables. Without this transformation, the counter-intuitive situation of increasing levels of the constructs being associated with lower variable values existed.

Upon initial inspection of the data, it was discovered that the variable level of experience in research with psychologists (research) displayed an extremely skewed distribution (Skewedness, 6.146; Kurtosis 46.252) and that 250 out of 283 responses were 0. Consequently, the variable, research, was deemed to contribute little to the understanding of the

independent variable and was eliminated from further analysis.

Listwise elimination was employed for multiple regression analyses. Cases were eliminated if all questions included in the analysis were not answered This resulted in an n of 227.

Case Analysis

Tate (1996) recommended the process of individual case inspection and analysis to identify potential outliers which may be disruptive to the analysis. The purpose of this procedure was to identify divergent data which was the result of factors unrelated to the constructs of interest and which created excessively divergent individual data points. Examples of factors which may have created outlying data points in the current research included misinterpretation of survey questions by respondents, or error such as the researcher misreading raw data or data input error.

Once the data was collected, it was examined for possible outliers using SPSS (1997) box plots as recommended by Tate (1996). Upon observation of the box plots, it was determined that there were three outliers

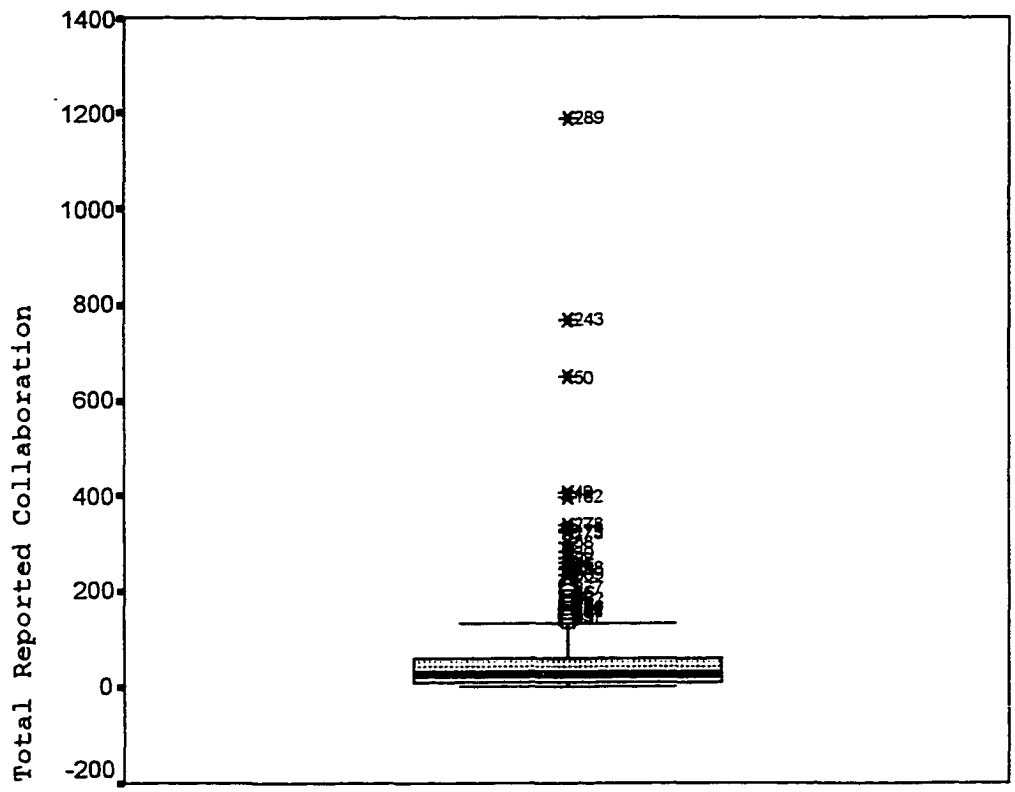


Figure 1. SPSS 1997 Box Plot showing Reported Total Collaboration Outliers

in the dependent variable(totcoll) with potentially disruptive effects on the analysis. This box plot is reproduced from SPSS (1997) in Figure 1. In the box plot, these potential outliers appeared significantly separated from the nearest cluster of data points. These outliers were also over 3 standard deviations from the mean which was the default standard for identifying outliers in the SPSS (1997) linear regression application.

A sensitivity analysis was then done by examining multiple regression outcomes both with and without the outliers. This analysis, suggested by Tabachnick and Fidell (1996) and Tate (1996), recommended executing the planned analysis with and without the outliers to subjectively determine if outliers adversely affect the analysis. It was found that, with the three outliers, the mean and standard deviation of level of collaborative activities with psychologists were 66.76 and 123.25 respectively. In contrast, the mean and standard deviation of level of collaborative activities with psychologists (totcoll) without the outliers were 55.93 and 75.70 respectively. Relatively large

differences in adjusted R^2 were also observed in analyses with and without the outliers. With outliers, adjusted R^2 for the initial regression model was .036 without the outliers, R^2 was .093.

These discrepancies caused by only three respondents were great enough to warrant further examination of the individual surveys containing the outliers to determine if there was an explanation for the extremely high measures of the level of collaborative activities with psychologists. It was found that, based on qualitative information provided by the outlying participants, they appeared to have misunderstood survey questions included in the dependent variable. Accordingly, it was felt that these observations represented a disruptive influence and that it was appropriate to eliminate those surveys from the data set for statistical description and analysis.

Assumptions and Variable Transformations

Tate (1996) summarized the need to address assumptions of regression analysis before initiating that procedure. To address the regression assumption of constant variance, the plot of standardized predicted

values for the dependent variable, level of collaborative activities with psychologists, with studentized residual values was examined using the scatter plot provided by SPSS (1997). It appeared that there was a departure from constant variation in the residuals, suggesting a lack of constant variability (homoscedasticity) in the dependent variable, an assumption necessary for regression analyses. This appeared to be the result of the positively skewed distribution of the dependent variable. The scatter plot of residuals versus predicted values is displayed in Figure 2. The histogram of standardized residual values and frequencies was examined to check for normality. The histogram displayed a skewed non-normal appearing distribution of residuals. The histogram appears in Figure 3. However, due to the possible violation of the constant variance assumption and the skewed distribution of the dependent variable, a logarithmic transformation ($\log_{10}$) was performed on the dependent variable to improve the normality of the distribution, as suggested by Tabachnick and Fidell (1996). The scatter plot of residuals versus predicted

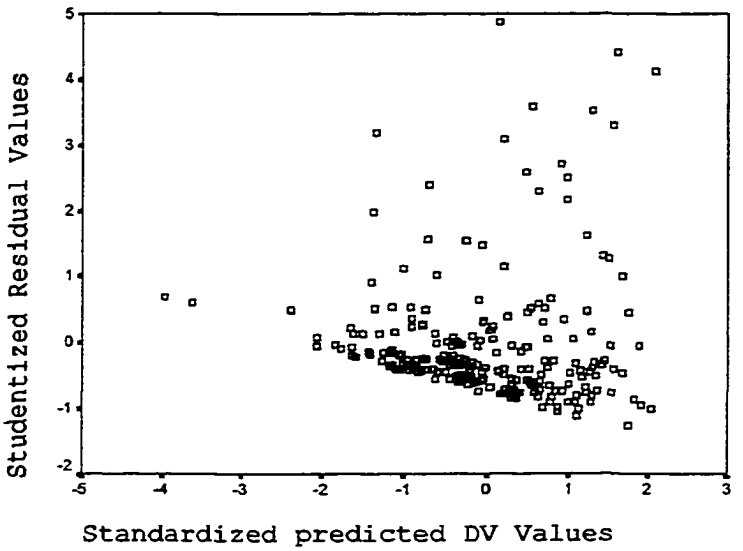


Figure 2. SPSS (1997) Scatter Plot of Standardized Predicted Dependent Variable (DV) Values vs Studentized Residual Values Before Transformation of the DV

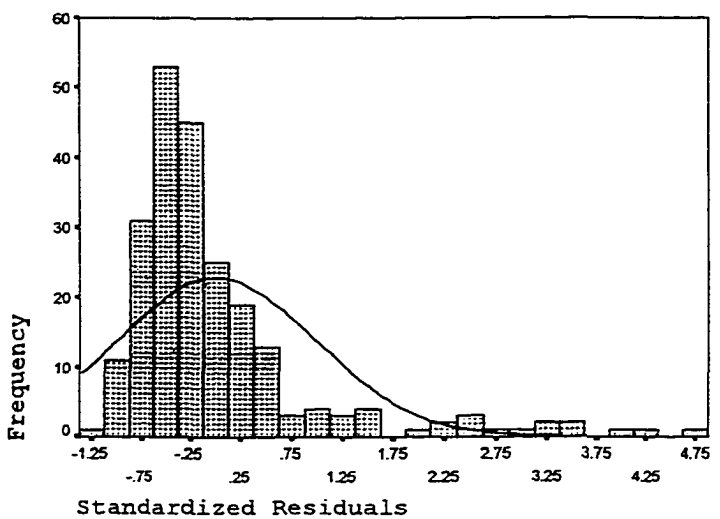


Figure 3. SPSS (1997) Histogram of Standardized Residual Values Before Transformation of the Dependent Variable

values after transformation is displayed in Figure 4. It appeared to reflect homoscedasticity in the residuals. A histogram of residual frequencies after transformation was presented in Figure 5. It appeared to reflect a roughly normal distribution.

Statistical Description of the Relationship Between the Independent Variables and the Dependent Variable

As stated in the research questions above, the current research was concerned with the relationship between certain constructs of interest related to the amount of collaborative activity engaged in by family physicians with psychologists. These constructs and their related variables were enumerated in Table 2. In order to assess the direction and magnitude of the relationships in the sample, a descriptive statistical analysis was undertaken. The researcher first examined the descriptive statistics for each variable, second, the bivariate correlations between all variables, and, third, two exploratory multiple regression analyses were executed for the independent variables with the dependent variable.

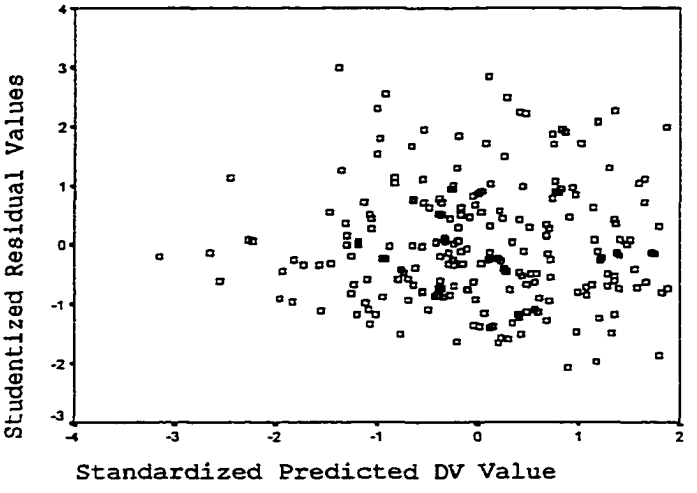


Figure 4. SPSS (1997) Scatter Plot of Standardized Predicted Dependent Variable (DV) Values vs Studentized Residual Values After Transformation of the DV

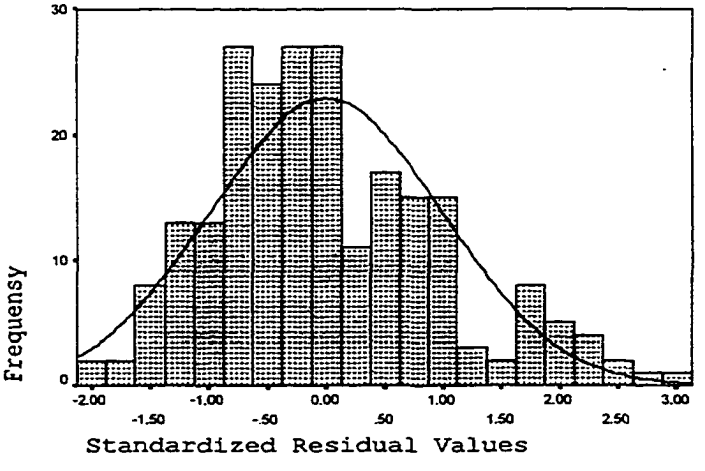


Figure 5. SPSS (1997) Histogram of Standardized Residual Values After Transformation of the Dependent Variable

CHAPTER 4

RESULTS

The analysis used in the current research was a combination of descriptive statistical analyses and qualitative analysis. This analysis was consistent with other similar survey research done in the domain of medical professional relationships and was suggested for examination of relationships such as those hypothesized in the current study (Tabachnick and Fidell, 1996; Tate, 1996).

Descriptive Statistics

Descriptive statistics, maximum, minimum, mean, median, and standard deviation, for each variable can be found in Table 3. The wide range and variability of responses for level of collaborative activities with psychologists suggested significant variability in collaborative experience with psychologists but with a distribution skewed toward lower values. A similar situation appeared to exist for amount of exposure to

Table 3

Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
totcoll[1]	55.93	75.70	0	410
attitude	16.23	2.43	4	17
quality	6.73	1.80	2	10
envirspt	8.07	1.48	2	10
exposure	18.37	12.25	0	100
exposqua	7.88	1.48	2	10

[1]Values before transformation

psychology during training. Table 4 shows that the direction of the relationship between the dependent variable, level of collaborative activities with psychologists, and independent variables physician attitudes and beliefs about collaboration, environmental or practice support for collaboration, and quality of exposure to psychology during training was in the expected direction with bivariate correlations of .285, .198, and .191 respectively. All three were statistically significant, $p<.01$. While not appropriate for inference, this level of significance may suggest that these relationships were not likely to occur by chance. Table 4 displays both bivariate correlations and part correlations. In the sample obtained for the current research, level of collaborative activities with psychologists was related in a potentially meaningful, yet modest, way to physician attitudes and beliefs about collaboration and the quality of exposure to psychology during training.

Multiple Regression Analysis

As noted above, two regression analyses were done. The first was before transformation of the dependent variable to improve normality and homoscedasticity. The second was performed after transformation.

Table 4

Correlations and Part Correlations[1]

Biv.Corr./ Pairwise N	totcoll	attitude	quality	envirspt	exposure	exposqua
totcoll	1.000	.224**	-.084	-.005	.077	.136*
attitude	.285**/ 257	1.000				
quality	.046/ 257	.436**/ 275	1.000			
envirspt	.198**/ 254	.619**/ 286	.322**/ 274	1.000		
exposure	.085/ 241	.041/ 271	.013/ 258	-.086/ 268	1.000	
exposqua	.191**/ 254	.256**/ 284	.222**/ 270	.302**/ 281	.175**/ 269	1.000

[1]Part correlations, the unique common variability between the variables, are above the diagonal.
** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Cases eliminated pairwise for bivariate correlations and listwise for part correlations. Listwise N=227.

Multiple Regression Before Dependent Variable Transformation

The regression analysis was to assess the magnitude of the overall relationship, in the current sample, between predictors (independent variables) and the dependent variable and to examine the unique contribution of each predictor to variability of the dependent variable. The resulting model R^2 of .113, which represented the proportion of variability in the level of collaborative activities with psychologists accounted for by the model and, therefore, the strength of the overall relationship between level of collaborative activities with psychologists and the predictor variables, was statistically significant at the .05 level ($F=5.642$, $F[.05; 5, 221]=2.21$, $p<.0001$). Adjusted R^2 compensates for the positive bias in R^2. Adjusted R^2 for the model was .093. This represented a statistically significant, though modest, relationship between the predictor variables, attitude, quality, envirspt, exposure, and exposqua, as a group and the dependent variable.

Examination of the effects of individual predictors on the dependent variable was included in the multiple

regression analysis. The relationships between the dependent variable and independent variables, physician's attitudes and beliefs about collaboration (attitude) and quality of exposure to psychology during training (exposqua), were statistically significant at the .05 level. The effect of physician attitudes and beliefs about collaboration on the level of collaborative activities with psychologists was a positive .284 unit increase in level of collaborative activities with psychologists for every standardized unit increase in physician attitudes and beliefs about collaboration. This suggested that the more favorable the participants reported their attitudes and beliefs to be toward collaboration, the more collaborative activity they reported. Likewise, quality of exposure to psychology during training was related to level of collaborative activities with psychologists in a ratio of 1/.147 standardized units. Each predictor made a distinctive contribution to the amount of variability explained by the regression model. The proportion of unique variability explained by each predictor is reflected in the ΔR^2 statistic. The ΔR^2 for

statistically significant predictors, attitude and exposqua, were .050 and .018 respectively.

In summary, the predictors (independent variables) physician attitudes and beliefs about collaboration and quality of exposure to psychology during training appeared to have a statistically significant relationship with the dependent variable, level of collaborative activities with psychologists, in the multivariate model derived above. Each relationship was in the expected direction; that is in the direction predicted by models from which the research questions for the current research were derived (Drotar,1993; Rollin, 1994). A summary of the multiple regression results may be found in Table 5.

Multiple Regression After Dependent Variable Transformation

The resulting model R^2 of .198, which represented the proportion of variability in level of collaborative activities with psychologists accounted for by the model and, therefore, the strength of the overall relationship between level of collaborative activities with psychologists and the predictor variables, was statistically significant at the .05 level (F=10.917,

Table 5

Multiple Regression Summary Before Transformation of the Dependent variable[1]

	β	Standardized β	ΔR^2
attitude	8.842	.284*	.050*
quality	-3.936	-.094	.007
envirspt	-.366	-.006	.000
exposure	.481	.078	.006
exposqua	7.534	.147*	.018*
(constant)	128.535		

[1]Dependent Variable: totcoll
*Statistically Significant p<.05.

F[.05; 5, 221]=2.21, p<.0001). The adjusted R^2 for the model was .180. This represented a statistically significant relationship between the predictor variables as a group and the level of collaborative activities with psychologists.

Examination of the effects of individual predictors on the dependent variable was included in the multiple regression analysis. Physician's attitudes/beliefs about collaboration (attitude), quality of collaboration (quality), and exposure to psychologists during training (exposure) were related to level of collaborative activities with psychologists to a statistically significant degree at the .05 level. The effect of physician attitudes and beliefs about collaboration on the level of collaborative activities with psychologists was a .363 unit increase in level of collaborative activities with psychologists for every standardized unit increase in physician attitudes and beliefs about collaboration. This suggested that the more favorable the participants reported their attitudes and beliefs to be toward collaboration, the more collaborative activity they reported. Likewise, quality of physicians' collaborative experiences, and amount of

exposure to psychology during training were related to level of collaborative activities with psychologists in a ratio of 1/-.138 and 1/.167 respectively. Each predictor made a distinctive contribution to the amount of variability explained by the regression model. The proportion of unique variability explained by each predictor is reflected in the ΔR^2 statistic. The ΔR^2 for statistically significant predictors, physician attitudes and beliefs about collaboration, quality of physicians' collaborative experiences and amount of exposure to psychology during training, were .082, .015, and .027 respectively.

Contrary to the theorized relationship (Drotar, 1993), the independent variable, quality of physicians' collaborative experiences, was negatively correlated with the level of collaborative activity with psychologists (part correlation of -.124; β=-.138). It appeared that the relationship was opposite of that expected. Before transformation, the relationship was also in a negative direction but was not statistically significant (part correlation of -.08; β=-.094). This relationship was amplified in the regression analysis after transformation.

A summary of the multiple regression results may be found in Table 6. The predictors (independent variables) physician attitudes and beliefs about collaboration, quality of physicians' collaborative experiences, and amount of exposure to psychology during training had a statistically significant relationship with the dependent variable, level of collaborative activities with psychologists, in the multivariate model derived above after transformation of the dependent variable. The relationship of physician attitudes and beliefs about collaboration and amount of exposure to psychology during training were in the expected direction; that is in the direction predicted by models from which the research questions for the current research were derived (Drotar,1993; Rollin, 1994). A brief analysis of and comment on the precision of this regression model in predicting level of collaborative activities with psychologists is presented in Appendix H.

Additional Analyses

Additional variables were inquired about in the survey questionnaire. These were thought by the researcher and expert reviewers to be potentially related to physician collaborative activity with

Table 6

Multiple Regression Summary (After Transformation of the Dependent variable)[1]

	β	Standardized β	ΔR^2
attitude	.056	.363*	.082*
quality	-.029	-.138*	.015*
envirspt	.023	.079	.004
exposure	.005	.167*	.027*
exposqua	.022	.088	.006
(constant)	-.457		

[1]Dependent Variable: totcoll
*Statistically Significant p<.05.

psychologists. The factors were physician age, years in practice, and practice setting. In keeping with the descriptive and exploratory nature of the current study, univariate regression analyses were performed for level of collaborative activities with psychologists on both age and years in practice using the transformed dependent variable. Crosstabs analysis was performed to investigate the potential relationship between practice setting and level of collaborative activities with psychologists.

Univariate Regression Analyses of Age and Years in Practice as Predictors of Level of Collaborative Activities with Psychologists (totcoll)

In the analyses above, a group of variables were identified as being theoretically related to the level of family physicians' collaborative activity with psychologists (Drotar, 1993; Rollin, 1994). The analysis examined and described the relationships between those independent variables and the level of collaborative activities with psychologists. While not a part of the theoretical group of variables, other factors were thought by the researcher and expert

reviewers to be potentially related to physician collaborative activity with psychologists. These factors were physician age and years in practice. Due to the relatively recent emphasis on the biopsychosocial model (Honzak, 1992), it was felt that, younger and more recently educated physicians may engage in more collaboration with psychologists. Consequently, univariate regression analyses were performed to examine the relationship between age of the family physicians in the sample and level of collaborative activities with psychologists. Statistics produced by sample data in the respective univariate regression analyses for age and years in practice appear in Table 7. This analysis produced a regression coefficient (β) of -1.472, a standardized β of -.206, an R^2 of .043 and an adjusted R^2 of .039 which was statistically significant at the .05 level (F=11.241, *F[.05; 1, 254]=3.84*, p=.001). Even though age appeared statistically related to level of collaborative activities with psychologists, it may not have practical significance in the prediction of collaborative activity. In this sample, age accounted for very little variability in the dependent variable.

Table 7

Separate Univariate Regression Statistics for Age and Years in Practice with totcoll

Independent Variable	β	Standardized β	R^2	Adjusted R^2
Age	-1.472	-.206	.043*	.039
Years in Practice	-1.151	-.172	.030*	.026

*Significant at p=.05

It does suggest that there was a relationship between age and collaborative activity; that is that level of collaborative activities with psychologists may decline with age.

An additional univariate regression was performed to examine the relationship between the family physicians' years in practice in the sample and level of collaborative activities with psychologists. This analysis produced a regression coefficient (β) of -1.151, a standardized β of -.172, an R^2 of .030 and an adjusted R^2 of .026 which was statistically significant at the .05 level ($F=7.748$, $F[.05; 1, 254]=3.84$, $p=.006$). This suggested that there was a relationship between years in practice and collaborative activity; that is that level of collaborative activities with psychologists may decline as total years in practice increase. Not surprisingly, age and years in practice were practically co-linear, having a mutual bivariate *r* of .91.

To summarize the descriptive analysis thus far, five independent variables, physician attitudes and beliefs about collaboration, quality of physicians' collaborative experiences, environmental or practice support for collaboration, amount of exposure to

psychology during training, and quality of exposure to psychology during training, theorized (Drotar, 1993; Rollin, 1994) to be associated with total collaborative activity of family practice physicians, were examined in relationship with level of collaborative activities with psychologists. To examine this relationship, Pearson product-moment coefficients (*r*) between all independent variables and the dependent variable were examined. Part correlations of the independent variables with the dependent variable were also examined to assess the degree of their individual and unique relationship. It was found that, in the sample, physician attitudes and beliefs about collaboration explained the highest proportion of variance in level of collaborative activities with psychologists. Next, a model which provided a tentative description of the relationship between the group of predictors or independent variables and the dependent variable, level of collaborative activity, was derived from the current data using multiple regression. Based on this model, it was suggested that, in the sample, there was a statistically significant overall relationship between the predictors, as a group, and the dependent variable (adjusted R^2=.093

and .180, before and after transformation of the dependent variable respectively). It was also suggested that the model was descriptively useful but was not appropriate for inference because 1) assumptions of regression were not met without transformation of the dependent variable and 2) because of the limited, non-random, self-selected sample. Consistent with the part correlations, two individual predictors, physician attitudes and beliefs about collaboration, and quality of exposure to psychology during training,had a statistically significant relationship with the dependent variable before transformation. After transformation, physician attitudes and beliefs about collaboration, quality of physicians' collaborative experiences, and amount of exposure to psychology during training had a statistically significant relationship with the dependent variable. Finally, the relationship between age and level of collaborative activities with psychologists and the relationship between years in practice and level of collaborative activities with psychologists were analyzed using univariate regression. Both were found to have a statistically significant relationship to level of collaborative activities with

psychologists suggesting that, as age or years in practice increased, level of collaborative activities with psychologists declined.

Additional univariate analyses for independent variables that appeared statistically significant in the above multiple regression analysis were performed but were not reported here. These univariate analyses can be found in Appendix E. Also found in Appendix E is a discussion of the practical significance of the independent variables that reached statistical significance in this multiple regression analysis.

Cross Tabs Analysis

To examine the relationship between reported practice setting and collaborative activity, a crosstabs examination was conducted to evaluate the relationship or association between a subject physician's practice setting (setting) and levels of reported collaborative activity. For the purposes of this analysis, the variable level of collaborative activities with psychologists (totcoll) was divided into three categories: 1=low, 2=medium, and 3=high levels of collaborative activity. These categories were defined to provide approximately equal numbers of subjects in each

category. Practice setting was defined in the demographics section of the survey questionnaire as: 1=Private Practice, 2=Hospital Based, 3=Hospital Sponsored Outpatient Clinic, 4=HMO/PPO Sponsored Outpatient Clinic, 5=Medical School, 6=Residency, and 7=Other.

The crosstabs analysis consisted of examining the resulting table. It appeared that low, medium, and high collaborators were dispersed across all practice settings. It was noted that, as a group, the physicians practicing in HMO/PPO sponsored clinics had the highest percentage (60%) in the high category. HMO/PPO physicians in the sample made up 10.5 percent of the high collaborators and only composed only 6 percent of the study participants. Consequently, it appeared that, in this sample, HMO/PPO physicians tended to collaborate in the high level more frequently than other categories. The results of a detailed Crosstabulation of these two variables is shown in Table 8.

Item Level Analysis

In addition to the examination of the relationships among theoretical constructs such as physician attitudes and beliefs about collaboration, research, quality of

Table 8

Practice Setting * Collaboration Level Categories Crosstabulation

Practice Setting		Collaboration levels			Total
		Low	Medium	High	
Private Practice	Count	51	47	52	150
	% within Practice Setting	34.0%	31.3%	34.7%	100.0%
	% within Collab. levels	63.8%	56.0%	60.5%	60.0%
Hospital Based	Count	4	1	0	5
	% within Practice Setting	80.0%	20.0%		100.0%
	% within Collab. levels	5.0%	1.2%		2.0%
Hosp Sponsored Outpatient Clinic	Count	6	15	10	31
	% within Practice Setting	19.4%	48.4%	32.3%	100.0%
	% within Collab. levels	7.5%	17.9%	11.6%	12.4%
HMO/PPO Outpatient Clinic	Count	1	5	9	15
	% within Practice Setting	6.7%	33.3%	60.0%	100.0%
	% within Collab. levels	1.3%	6.0%	10.5%	6.0%
Medical School	Count	0	2	1	3
	% within Practice Setting		66.7%	33.3%	100.0%
	% within Collab. levels		2.4%	1.2%	1.2%
Residency	Count	3	7	6	16
	% within Practice Setting	18.8%	43.8%	37.5%	100.0%
	% within Collab. levels	3.8%	8.3%	7.0%	6.4%
Other	Count	15	7	8	30
	% within Practice Setting	50.0%	23.3%	26.7%	100.0%
	% within Collab. levels	18.8%	8.3%	9.3%	12.0%
Total	Count	80	84	86	250
	% within Practice Setting	32.0%	33.6%	34.4%	100.0%
	% within Collab. levels	100.0%	100.0%	100.0%	100.0%

exposure to psychology during training, and level of collaborative activities with psychologists, the researcher examined responses to individual questions or items relevant to these constructs. This analysis can be found in Appendix F.

Qualitative Analysis

In addition to the largely quantitative descriptive analysis above, the current study gathered significant qualitative information in the form of process descriptions and open ended answers from participating physicians. With the lack of inference in the current study, it was felt that qualitative data and descriptions may add significantly to the study. Smith and Glass (1987) describe qualitative data analysis and provide guidance in gathering and viewing qualitative data. A qualitative analysis was done as part of the survey process. This analysis focused on two domains; 1) observation and description of the process and interaction with physicians and 2) observation and description of categories, patterns, and trends within the data.

Interaction with Physicians

In the pilot portion of the research, the

researcher made contact with family physicians familiar to the researcher through personal relationship or through introduction by colleagues. It was found that the family physicians who were asked to participate in trial testing of the instrument were difficult to contact and follow up with. Direct contact was rare. Most often, contact was made through a person in the physician's office who acted as a liaison between the researcher and the physician. Consequently, it was difficult to discuss the survey questionnaire form or research protocol directly with the actively practicing family physician trial test subject. Trial test instruments had to be mailed or delivered without direct contact between the researcher and the trial test subject.

To obtain trial test data, a letter was developed to accompany the trial test instruments. The letter requested the completion and return of the instrument in addition to a request for comments regarding the instrument. The letter explained the reason for the survey and its status as a research instrument in trial testing. The physician was asked to complete the trial questionnaire and return it to the researcher with

comments on the instrument and the research protocol. A copy of the entire letter can be found in Appendix G.

This letter and a trial copy of the survey questionnaire were delivered to each trial test subject. A total of twelve completed trial test questionnaires were obtained after extensive contact to encourage trial subjects to complete and return the questionnaires. Unfortunately, the trial test resulted in few specific comments from subjects. However, several changes were made to scales or questions on the questionnaire as a result of the trial test responses. For example, the questions that focused on the length of time physicians had been involved in research were changed to ask for responses in terms of months rather than years. Question number 21 which requested "During the last 12 months, estimate the number of patients that you have suggested go to a psychologist but have not made a referral or requested consultation" was added because some trial testers stated that they often simply suggested that patients seek the care of a psychologist rather than making a formal referral. By differentiating between referral/collaboration and the suggestion that a patient see a psychologist it was hoped that the

additional question would prevent confusion as to the scope of questions about referral or collaboration.

Because few of the trail test participants provided comments, family practice residents at a family practice residency training program were visited, asked to complete the survey questionnaire, and asked for their comments. Since these residents were not officially licensed family practice physicians, they were not considered by the researcher to be trial testers. However, because they were more accessible to the researcher, they provided valuable comments which resulted in changes in wording on both the questionnaire, the questionnaire cover page, and the mailing cover letter. These changes were aimed at making the questionnaire more readable and more congruent with the perspective of the physician.

In summary, the process of enlisting trial participants and obtaining completed trial questionnaires and comments was arduous. Because physicians appeared very busy and somewhat insulated from contact with persons other than colleagues and patients, it was difficult to obtain even a few completed trial test instruments. These observations

were consistent with the barriers to psychologist-physician collaboration mentioned in Chapter 2 above. Time pressures, lack of common view of research, and distrust or apathy because of "turf" issues may have contributed to the effort required to complete trial testing.

Qualitative Responses to Open-Ended Survey Questions

The question (number 24) was asked in the current research questionnaire, "What factors do you feel impede or inhibit your making referrals to, requesting consultations from or collaborating with psychologists?" Space was provided (approximately 1/3 of a letter size page) to write answers to this question. Out of 295 total participants, 267 answered this question with some response. Based on subjective examination of the responses, the researcher identified eleven categories for the answers provided by participants. Some participants provided responses that fit into multiple categories. The categories were:

- Managed care/HMO's
- Patient resistance

- Lack of feedback from psychologists
- Low level of physician knowledge of psychologists
- Psychologists not effective
- Bad experience with psychologist(s)
- Lack of availability of psychologists
- Cost of psychological services or the patient's limited financial resources
- Lack/limitations of insurance coverage
- Other factors
- None/nothing impedes or inhibits

The category, Managed care/HMO, included all responses that identified managed care, HMOs or a managed care cost containment mechanism (limited sessions or limited providers of psychological services, for example) specifically. Some examples of comments in this category follow:

- "Managed care/HMO referral panels-limited in number of choices and give poor quality."
- "HMO limitations on referrals."
- "HMO's-make patient self referrals only. Very difficult to formally generate a referral even for children."
- "HMO's!"
- "...Many HMO's had systems whereby the patient, not the doctor, had to initiate the mental health referral. (Consequently) I did not know who the pts (patients) would see and feedback was almost non-existent."

Of the 267 participants who answered, 60 (22.5 percent) identified HMO/managed care as an impediment to collaboration with psychologists.

The category "patient resistance" included comments which noted that patients refused to go to psychologists for some reason. Responses referring to patient lack of understanding or the stigma of seeking mental health services were also included in this category. Some examples of responses in this category follow:

- "I freely recommend psychology consultations to patients but so many resist. Unfortunately,

despite all I say and do, some people still have discomfort with the social 'stigma' of seeing a mental health professional."

- "Patients' reluctance to acknowledge the need for counseling and prevailing attitude of society regarding 'mental' disorders."
- "Patient's resistance to go."
- "Patient's attitude, patient's attitude, patient's attitude, etc."
- "Patients may deny need."

There were 40 (15.0 percent) of the 267 who included mention of patient reluctance or resistance as a reason for not collaborating with psychologists.

The category "lack of feedback from psychologists" included those responses that included mention of this issue. Examples of such responses included:

- "Psychologists practice in their own little world. Never do they send written evaluations (with 1 exception) **like is routinely done between physicians** (bold type added)."
- "Feedback from psychologists has generally been non-existent."
- "...We seldom hear back from psychologists."

- "Little feedback from psychologists. Most of what I hear about a patient's progress I hear from the patient, not the psychologist."

Of 267 physicians who answered, 44 (16.5 percent) mentioned lack of feedback as an impediment to collaboration. Respondents often mentioned the standard of written feedback to a referring physician in medical referrals. Some speculated that the need for confidentiality of psychological records was a possible reason for this lack of response. There was considerable overlap in this category with comments and responses below in "Lack of availability."

The category "Low level of physician knowledge of psychologists" included comments which reflected a lack of knowledge of psychologists' skills and training or a lack of personal contact or relationship. These comments included the following:

- "Not too sure of what the psychologist is versus psychiatry."
- "Not much of (an) emphasis had been given either in medical school or during residency that patients could be referred to psychologists"

- "...There is little interaction between them and us doctors since usually I do not see or know them."
- "Not knowing who the psychologists are, typically because counseling referrals go to a system..."

There were 9 participants who made mention of this factor as an impediment to collaboration.

The next category, "Psychologists not effective" included responses generally critical of the work or effectiveness of psychologists. A sample of these comments follows:

- "In my experience, most psychologists effect no positive results through patient interaction. No issues are ever solved; it merely consists of a very expensive "talk session" which can be done more cheaply via the clergy, support groups or a bartender. Because I don't see measurable results, I have, over the years, slowly given up on referral to psychologists."
- "Financial expense for no tangible benefit."

Mercifully, only 4 responding physicians cited lack of effectiveness as an impediment to collaboration.

The next category, "Bad experience with psychologist(s)" was used to designate those responses

referring to a specific bad experience or consistent series of bad experiences with a referral to a psychologist. These responses included the following:

- "(An) admitted suicidal patient was sent by me via police to local psych center - Patient was released within hours."
- "Too often the psychologist is sending patients back to me with a recommendation to start a patient on antidepressants through a message from the patient - A very inappropriate way of communicating with the physician."
- "...I get better reception, better or closer patient contact with patients and more apparent 'care' to patients from the masters degree people."

Of 267 who responded, 9 gave responses in this category. Most appear to overlap with other categories but were included here when appropriate.

Responses in the category "Lack of availability" included those mentioning long waits for appointments, difficulty making contact, or geographical lack of availability. Following are examples of these responses:

- "Volume of patients seen is large; only one staff psychologist available..."
- "Not knowing psychologists who are willing or want to take urgent referrals. I know few psychologists who have made a point of expressing their availability to see patients with immediate needs. When I refer to mental health professionals, the patient needs to be seen ASAP."
- "I practice in a rural area with a town population of 2500 - Psychologists are in high demand and less accessible. One recurrent concern of mine is that I can hardly ever get a psychologist to talk to me on the phone. Even if I referred the patient, they cite confidentiality. All other medical disciplines and allied health communicate. Psych needs to too."

There were 58 (21.9 percent) of the 267 respondents who included comments in this category.

The next category, "Cost of psychological services or the patient's limited financial resources," included those responses which mentioned the cost of psychological services and/or the limited personal

resources of patients. A sample of these responses follows:

- "Primarily funding...Self-pay patients are reluctant to pay fees to non-MDs."
- "Some patients can't afford it."
- "Cost. Patients pay a significantly larger amount of out-of-pocket for mental health care than other medical care."
- "Cost...If that consultation is not covered by insurance, patients are not willing to pay."

In the group of respondents for the current research, 30 (11.3 percent) included comments regarding the cost of psychological services and related issues as impediments to referral or to other collaboration with psychologists. These comments frequently contained references to insurance limitations or managed care as well as cost.

Related to cost, was the challenge of "Lack/limitations of insurance coverage." These factors in combination were often mentioned. This category included acknowledgment of those respondents who identified insurance issues as a referral barrier. The comments included the following:

- "Lack of coverage."
- "Insurance coverage."
- "...At times the patient doesn't have insurance and they can't pay the psychologist."
- "Insurance: 1) No psychologists on panels, 2) insurance companies only authorize up to 6 visits which is useless when there is a complicated history, i.e. abuse, etc. and I see the tremendous number of patients with major issues needing treatment long term and not just a quick fix for adjustment disorder."

In this category, 65 (24.4 percent) of the respondents included remarks. After the "Other" category insurance issues were included in the largest proportion of answers.

The "Other" category captured all expressed collaboration impediments not included in those categories already discussed. These comments included the following:

- "Response time from school psychologist sometimes slow."

- "Being semi-retired, I care for an older established patient base. I have less need for referrals and consultation."
- "When requesting info at a local mental health clinic about med's prescribed to my patients or records... stonewalling, uncooperative, arrogant attitude."
- "I feel more comfortable with a psychiatrist for several reasons and also legally."

Of 267 respondents, 65 (24.4 percent) identified a variety of other factors that did not fit any of the above categories.

Finally, 38 (14.3 percent) of the respondents stated that there were no factors, or "None," impeding their collaborative activity with psychologists.

HMO/PPO Physicians

Because respondents who identified themselves as primarily practicing in HMO/PPO sponsored outpatient clinics were closely related to one category of impediments, their answers were examined as a group. It appeared from examination that they identified impediments in a pattern similar to others, including 2

who identified managed care as an impediment to referral. Their responses in this area were:

- "Guidelines for referral set up by HMO..."
- "HMO penetration and their approval."
- "None. Excellent mental health benefits for my patients with (named a mental health services provider). $25 co-pay X 8 visits. No referral needed, then referral for more."
- "...$20 mental health co-pay."

In general, it appeared that responses tended to fall into two larger general categories, relationship concerns and financial concerns. First, it was apparent that patient financial issues dominated the concerns of the family practice physicians in the sample. Cost of psychological services was mentioned by 11.3 percent. Insurance concerns such as lack of coverage for patients was identified by 24.3 percent and HMO/managed care issues were recognized and included by 22.5 percent. Issues of relationship (or lack thereof) appeared to be a second general category of stated collaboration barriers. Lack of psychologist availability and lack of feedback were identified as barriers by 21.9 and 16.5 percent of the responding physicians respectively.

Concerns reflecting lack of knowledge of psychologists and bad experiences with psychologists were included in 3.6 percent and 3.4 percent of responses respectively. Hence, financial and relationship issues appeared important to many physicians in determining their levels of collaboration with psychologists.

Trends within Data

An examination of the data examined thus far suggested that, on the whole, the family physicians surveyed in the current study viewed collaboration and interaction with psychologists favorably and have had generally positive experiences with psychologists. It also appeared that, in the current sample, the attitudes and beliefs of physicians about collaboration with psychologists had a significant connection with physicians' actual level of such collaborative activity. Further, it was observed that financial and relationship oriented issues and concerns appeared to predominate the subject physicians' stated impediments to collaborative activity.

CHAPTER 5

DISCUSSION

The current study was an exploratory study because of the notable lack of research in the area of factors affecting physician referral to psychologists. The study was descriptive and qualitative in its analysis. It examined the factors that were hypothesized by Drotar (1993) and Rollin (1994) to be related to the level of collaboration between family practice physicians and psychologists. The descriptive portion of the research was a single-group, single-observation design (Smith and Glass, 1987) examining a "snap shot" of family physician experiences and practices and their relationship to predictors. It was hoped that this information would enlighten the practice of psychology and family medicine, and guide future research.

One major objective of the present study was to examine the degree to which constructs proposed by Rollin (1994) and Drotar (1993) were related to the level of collaborative behavior in family practice physicians. Based on theorization by these authors and

with the support of the literature, the research questions were formulated.

Part of the answers to these questions may be found in the results enumerated above. The results of the current research suggested that, in the sample, there existed relationships between the theorized constructs represented by the independent variables and the dependent variable. Before transformation, bivariate correlations between the independent variables physician's attitudes/beliefs about collaboration (attitude), quality of a physician's collaborative experiences (quality), environmental or practice support for collaboration (envirspt), amount of exposure to psychology during training (exposure), and quality of exposure to psychology during training (exposqua) and reported collaborative activity with psychologists (totcoll) were .285, .046, .198, .085, and .191 respectively.

It was determined that, in the sample, some of the independent variables explained small amounts of variability in level of collaborative activities with psychologists. For example, squared part or semi-partial correlation statistics (sr^2), the statistics

reflecting the proportion of variability in the dependent variable uniquely accounted for by an independent variable, were calculated and ranged from .050 to effectively 0. Those with sr^2>.01 were physician attitudes and beliefs about collaboration (attitude) (.050) and quality of exposure to psychology during training (exposqua) (.018) before transformation of the dependent variable. After transformation of the dependent variable, independent variables with sr^2>.01 were physician attitudes and beliefs about collaboration (.082), quality of physicians' collaborative experiences (.015), and amount of exposure to psychology during training (.027). After transformation, these accounted for about 12.4 percent of the variability in the dependent variable, totcoll, based on the additive total of the individual sr^2.

The relationship between the dependent variable and individual independent variables was mixed. Of all the independent variables, physician attitudes and beliefs about collaboration appeared most strongly related to the dependent variable. This was consistent in the analysis before and after transformation of the dependent variable. However, the relationships between

the dependent variable and the independent variables quality of exposure to psychology during training, quality of physicians' collaborative experiences, and amount of exposure to psychology during training were statistically significant either before or after transformation but not in both analyses. Hence, although there appeared to be a relationship between level of collaborative activities with psychologists and quality of exposure to psychology during training, quality of physicians' collaborative experiences, and amount of exposure to psychology during training, it was not consistently robust. The practical significance of these relationships is expanded upon in Appendix E.

The descriptive analysis provided some unexpected results. These included the negative valence and lack of apparent significance of the correlation between quality of physicians' collaborative experiences and level of collaborative activities with psychologists. Quality of physicians' collaborative experiences included question number 7, "I find that psychologists provide prompt and appropriate feedback after I consult with or refer to them" which had a non-significant, slightly negative bivariate correlation with level of

collaborative activities with psychologists (-.037). This appeared contradictory to both the theorized relationship (Drotar, 1993; Rollin, 1994)and the qualitative findings of the current study. Both the theorized relationships and the qualitative findings suggested that lack of feedback was problematic for physicians in their relationship with psychologists. Consequently, physicians may find the lack of feedback salient and problematic. If close, long term referral relationships are to be formed and maintained with physicians, prompt and appropriate feedback from psychologists will be necessary in those relationships.

Age and years in practice were also examined as univariate predictors of the level of collaborative activities with psychologists. Each accounted for a small amount of variability in the dependent variable (R^2 for age and years in practice = .043 and .030 respectively). However, these univariate analyses did not account for or remove variability attributable to any other independent variables.

Multiple regression analyses before and after transformation revealed a significant relationship between level of collaborative activities with

psychologists and the independent variables, physician's attitudes/beliefs about collaboration, quality of a physician's collaborative experiences, amount of exposure to psychology during training, environmental or practice support for collaboration, and quality of exposure to psychology during training, as a group. Adjusted R^2 before and after transformation were .093 and .180 respectively.

In the qualitative portion of the study, participating physicians were asked, 'What factors do you feel impede or inhibit your making referrals to, requesting consultations from, or collaborating with psychologists?' In response to this question, family physicians focused on factors in two primary categories. First, physicians focused on financial issues that affected the patient's ability to pay for the services of a psychologist, even if a referral was made by the family physician. These included HMO's, managed care in general, and limitations in or lack of insurance benefits for psychological services. This was congruent with concerns expressed in recent psychology professional publications. Second, physicians focused on issues of relationship which appeared to impact the

collaborative activity of the physicians. These included a lack of psychologist availability and lack of feedback following a referral. Several respondents expressed a sense of professional discourtesy in psychologists lack of cooperation in these areas.

Limitations

Limitations of survey research in general were noted by de Vaus (1986). These limitations focused on the lack of ecological validity of surveys. That is, surveys inquire as to thinking or behaviors out of context. Responses are produced by memory rather than by actually observing behaviors of the subjects in vivo. Surveys were also criticized by de Vaus (1986) because they are too structured and statistically oriented, further limiting ecological validity.

The validity of this study was also limited because of the attenuated form of inquiry. The survey was necessarily brief with few items assessing each variable. Further, the instrument was one constructed for this research and has not been validated nor reliability established.

The single observation, descriptive, qualitative design limited the study. Inference to the population

and conclusions as to causality were not possible. Conclusions were limited to descriptions of relationships between characteristics and activity patterns as reported by participants.

The present research was limited due to the self-report feature of the data collection method. The respondents from the potential sample were self selected by virtue of their decision to complete and return the survey. Those survey recipients who did not participate selected themselves out of the sample. Consequently, the participants may differ from non-respondents in some significant way thereby limiting generalizability of the study. The self report was also subject to response sets including social desirability and/or carelessness (Smith and Glass, 1987). Generally, some respondents may have wished to be perceived as more or less cooperative with psychologists than they actually were. Further, as the subjects were likely to complete the instrument in a busy, distracting office setting, they may have been hasty or careless in completing the instrument.

The positive statements about collaboration contained in the letters which accompanied the surveys raised concerns about pressure for social desirability

in responses. If read by respondents, these statements may have influenced attitudes thereby decreasing the validity of the responses.

Finally, the nature of the dependent variable in the regression contributed to a lack of precision in the descriptions of relationships between the variables. The skewed, non-normal initial distribution violated the assumptions necessary for multiple regression and negatively impacted the precision of the model's description of relationships and prediction of dependent variable values. Even with the transformation of the dependent variable, a less than satisfactory description of the relationships between variables was provided because of the problem of initial dependent variable distribution. A more complete discussion of model precision is provided in Appendix H.

Implications for Education and Training

The data included in the current study provided insight into the need to make changes in or supplement the training of physicians and psychologists. Following are some observations.

Psychology

The data provided by physicians in the current study focused on the need for increased understanding by psychologists of the physical medicine practice milieu. Specifically, psychologists wishing to form and maintain collaborative relationships with physicians must be aware of the need to consistently provide feedback to the physician regarding patients referred to the psychologist. Psychology training programs may consider including curricular elements that help students learn how to appropriately respond to a physician in a referral or other collaborative relationship.

Specific elements in training that may facilitate effective collaboration with physicians include:

- Use of medically related case examples in training and supervision.
- Practice in receiving referrals from and providing consultations to physicians in practicum and internship experiences.
- Visits to medical settings and discussions with physicians.
- Encourage psychology students to form and nurture formal and informal relationships with physicians.

- Inclusion of physicians as part of full time or adjunct faculty in psychology programs for instruction and consultation. This may also facilitate joint research which was virtually non-existent in the physicians responding in the current research.

Family Medicine

Respondents in the current study said that, on average, about 11 percent of their residency training and 8 percent of their medical school training was explicitly focused on psychological or behavioral issues. Further, the majority (75-80 percent) said that psychological and behavioral components of their training were helpful and enjoyable. Consequently, based on the current study, reduction of emphases on psychological and behavioral issues in medical training does not appear advisable.

The literature suggested that physicians were often not prepared to identify and or diagnose psychological or psychiatric conditions (Rehm, 1996). Rehm (1996) further suggested that, because of the frequent presentation of depressed patients in family practice settings, it was the ideal place to apply a multi-

disciplinary model to the diagnosis and treatment of depression. Drotar (1993) and Blount (1998) identified time pressures as a problem for physicians and a barrier to collaboration. Further, physicians in the current study reported that from 0 to 80 percent(mean 15.83 percent) of their patients primarily suffer from a psychological or psychiatric diagnosis. Given the combination of time pressure and the larger numbers of patients with complex, time consuming psychological problems, it would appear prudent and helpful to physicians to increase their ability to collaborate with psychologists. Consequently, medical school and residency training should include the following:

- Increased emphasis on recognition of psychological and behavioral components of patient complaints, including the potential for Axis I (DSM IV) diagnoses.
- Increased orientation as to the basic elements of psychological training. For example, informing physicians that psychologists are trained to diagnose, assess, and treat psychiatric conditions such as depression as well as somatic problems such as hypertension.

Implications for the Practice of Psychology

Based on the current data, it was apparent that many family practice physicians frequently have professional interaction with psychologists. It was also clear that many family physicians found psychologists helpful and instrumental in caring for many of their patients. In addition to the data analyzed above, the mailings to family physicians done in this research prompted several unsolicited responses that suggested interest among family physicians in physician-psychologist professional collaboration. The literature reviewed for this study revealed that collaborative treatment of patients in medical settings was effective in improving patient outcomes, increasing the effectiveness of treatment, and reducing overuse of medical resources (e.g. Connelly, et al, 1991; Mullins, et al, 1991; Pace, et al, 1995). For the psychologist that seeks to work with family practice physicians, there is cause to be optimistic.

However, barriers to initiating and maintaining ongoing collaborative relationships with family physicians were identified. One class of barriers was

the financial constraints imposed by managed care and the fact that many individuals who need or want the services of a psychologist can not afford them. In their qualitative responses, physicians noted the lack of parity, on the part of managed care entities, between the willingness to pay for medical treatment versus psychological treatment. These are issues that psychologists and medical professionals are addressing at the systemic level (see Fowler, 1997, for example). They are important limiting issues.

Based on the responses of the physicians in this study, there was a second class of barrier that may be under the direct influence of individual psychologists. These were the relationship centered barriers including lack of feedback and lack of availability. These concerns of physicians appeared to be a reflection of the 'cultural' difference between the professional traditions and practices of psychology in contrast to modern medical practice. For example, the practice of psychology has focused on treatment via the sacred 50 minute hour. Psychologists', especially counseling psychologists', training focuses on preparing the psychotherapist for uninterrupted sessions of work with

clients. It is near dogma that the therapy session is not to be interrupted.

In contrast, physicians in outpatient practice focus on accomplishing treatment goals in an 8-10 minute office visit. This visit invariably consists of a brief examination, questions, and the writing of a prescription. Family physicians encounter patients who are in need of psychological attention in this fast moving setting and they are typically not prepared to deal with a patient who has an acute psychological problem needing time consuming attention. Hence, psychologists need to be more readily available and responsive to physicians. Respondent physicians suggested that psychologists need to be available for consultation or referral on short notice. This was consistent with Bray and Rogers (1995) who suggested that proximity and responsiveness was a key factor in the effectiveness of physician-psychologist collaboration.

Medical professionals also have well established protocols for referral of patients between specialties. Typically, a written referral is sent to the physician receiving the referral. The receiving physician sees the

patient and promptly informs the referring physician of the outcome of the examination or treatment. Physicians expect this type of response and feel that it is a breech of professional courtesy if some form of feedback is not received after a patient is referred. In contrast, psychologists are required by ethical guidelines to be jealous guardians of the client's confidentiality. One possibly important implication of the findings in this research was that psychologists who wish to form collaborative relationships with physicians need to accommodate, within sound practice and ethical guidelines, some of the expectations held by physicians for professional interaction. This can be done without compromising ethical standards. For example, Corey, Corey, and Callanan (1993) suggested including notification and discussion of obligations to those other than the client/patient (i.e. a referring physician) as part of ongoing informed consent. Discussing the need to provide feedback to the physician at the beginning of the relationship may facilitate appropriate communication with physicians without sacrificing the patient's confidentiality privilege.

In view of the descriptive findings in the current research, psychologists must focus on affecting the attitudes and beliefs of individual physicians regarding collaboration and the quality of collaborative experiences. This will require effort to become involved in professional activities with physicians including research and publishing psychologically focused research in medical literature as suggested by Rollin (1994). Affecting attitudes about collaboration and the quality of collaborative experiences also means providing information and services in a timely manner, including timely and appropriate feedback when referrals are made to psychologists. It will also be important to provide effective interventions in order to maintain the physician's positive attitudes and beliefs regarding collaboration with psychologists.

Implications for Practice of Family Medicine

As noted above, there was substantial evidence that collaborative treatment can improve patient outcomes and facilitate efficient use of medical resources. Further, both physicians and psychologists are compelled by ethical considerations to interact with other

disciplines when appropriate for patient/client welfare. However, there are clearly barriers to collaboration.

There are three considerations for the practice of family medicine that, if applied, may reduce barriers to collaborations. First, medical professionals who increase their interaction with behavioral and psychological professionals are likely to improve the overall care for their patients. Second, this may involve or require actively seeking out collaborative opportunities for patients who are in need of psychological services. Third, effective collaboration may require pro-active efforts on the part of physicians to work with and reciprocally educate psychologists and themselves about possible areas of interaction.

Clearly, it is not entirely up to psychologists to initiate active collaboration. Just as physicians may seek out other medical specialists with whom they are comfortable seeking collaboration, they may consider including psychologists in their referral population.

Implications for Future Research

In the current descriptive study, a significant overall relationship was identified between the independent variables and the dependent variable.

However, this study was limited by the use of a researcher constructed self-report instrument, reliance on self-selected questionnaire respondents for data, and a relatively restricted sample of family physicians. Consequently, it may be fruitful for future researchers to investigate the relationships between these variables in a larger, more far reaching sample.

Future researchers may also desire to focus on more clearly defining the variables tentatively identified in this study. For example, it may be fruitful to investigate the components of a physician's professional experience which are related to attitudes and beliefs regarding collaboration with psychologists.

Other potential research questions that were raised in the current research included:

1. What is the relationship between the length of a collaborative relationship and satisfaction with that relationship?
2. Is there a relationship between physician gender and collaborative activity?
3. Is there a relationship between practice location and collaborative activity?

Finally, future researchers may consider omitting data concerning estimated future collaboration (i.e. survey question number 22) from computation of level of collaborative activities with psychologists. It was included as part of level of collaborative activities with psychologists in the current study because it was felt by the researcher that intended future collaborative activity was an important consideration. However, that question did not appear to add to the analysis. The bivariate correlation between question 22 and question 18 was .878. This near collinear relationship suggested that leaving out the question about future intentions would be more conceptually consistent and would not detract from the analysis.

Conclusion

The current research was aimed at assessing the relationship between independent variables, 1) physicians' attitudes/beliefs about collaboration, 2) quality of a physician's collaborative experiences, 3) level of experience in research with psychologists, 4) environmental or practice support for collaboration, 5) amount of exposure to psychology during training, and 6) quality of exposure to psychology during training,

with the dependent variable, the family physician's reported collaborative activities with psychologists. This inquiry was important because there was evidence that collaboration between psychologists and family physicians can improve patient outcomes (Consumer Reports, 1995; Hellman, et al, 1990; Langeluddecke, 1986; Robinson, et al., 1995; Spiers and Jewel, 1995; Sturm and Wells, 1995) and reduce overuse or misuse of the medical care system (Connelly, et al, 1991; Hellman, et al, 1990; Mullins, et al, 1994; Pace et al, 1995).

In the current exploratory research, it was found that there was a statistically significant overall relationship between the hypothesized independent variables and the dependent variable. It was also found that, in the current sample, there was a consistent statistically significant relationship between physician attitudes and beliefs about collaboration and level of collaborative activities with psychologists. Other variables displayed a statistically significant but less robust relationship with the level of collaborative activities with psychologists. Depending on whether the analysis was done before or after transformation of the dependent variables, quality of physicians'

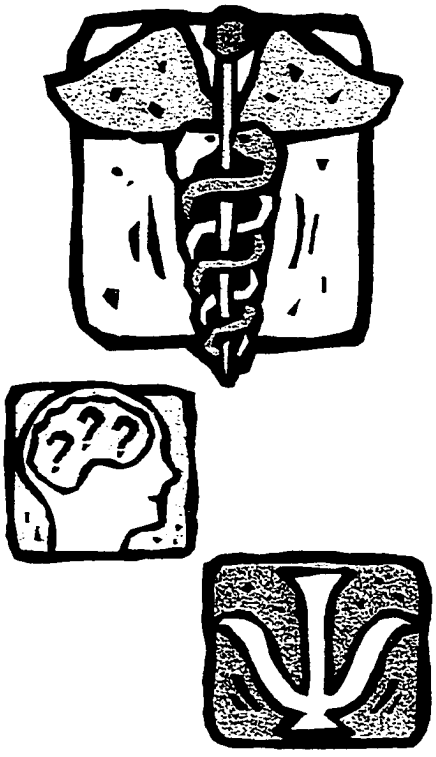
collaborative experiences, amount of exposure to psychology during training, and quality of exposure to psychology during training, were also significantly related to level of collaborative activities with psychologists. Taken as a whole, this may suggest that, for purposes of future research and practice, medical and psychological professionals may desire to focus on efforts to increase opportunities for personal and professional interaction. Psychologists must be active in activities aimed at improving physician attitudes and beliefs about psychology in addition to those things which will ensure high quality and satisfaction in those interactions. Psychologists should also engage in activities that will increase exposure of family physicians to behavioral and psychological issues during training.

Age and years in practice were useful in providing information about the relationship between the variables but appeared not practically significant, particularly in comparison to the independent variable physician attitudes and beliefs about collaboration. Physician attitudes and beliefs about collaboration accounted for 5 percent of the variability in the level of

collaborative activities with psychologists before transformation of the dependent variable and 8.2 percent after transformation. This was with the variability shared with other independent variables removed.

In summary, the practical significance of the current research is that of an exploratory study. In this regard, contributions of this research included:

1. Psychologists who want to collaborate with physicians must be willing to accommodate the demands of the medical milieu such as the need to provide feedback to the physician after receiving a referral.
2. To build long term relationships with physicians, intentional effort is required. This means working to develop and nurture relationships and letting physicians know how psychologists can be helpful.
3. Psychologists should take action in relationships to develop or improve physician attitudes through demonstrating efficacy of behavioral interventions. Effective interventions and prompt, relevant feedback to physicians will be important in efforts to foster relationships.



Family Physician Attitudes and Experiences and Their Collaboration with

INFORMED CONSENT:
This survey is part of a research project entitled A descriptive study of family physician attitudes and experiences and their collaboration with psychologists. It is part of the researcher's doctoral dissertation requirement at Florida State University and examines the attitudes and experiences of family practice physicians and their collaborative interaction with psychologists.

Please answer all of the questions. It will take 10-15 minutes. **By participating in this survey, certain benefits may accrue to you.** You may increase your awareness of your practice and profession. Further, you will be adding to the body of knowledge related to the professional interaction between physicians and psychologists. There is minimal risk to you if you participate. Individual survey participants will not be identified or tracked in any way. Your answers will be included in group, not individual, results.

By completing and returning this survey, you freely and voluntarily consent to participate in this research project.

If you have questions, you have the right to contact the researcher to have them answered. The researcher is Wayne Anderson, 3424 Monitor Lane, Tallahassee, FL 32312, (850) 386-8561. Completed surveys should be returned to this address. Group (not individual) results will be sent to you upon your request.

DEMOGRAPHIC INFORMATION

PLEASE ANSWER EACH QUESTION

What is your age?

_____

What year did you graduate from medical school?

_____

Not including residency, how many years have you been practicing medicine?

_____

PLEASE CIRCLE ONE CHOICE

You primarily practice in what setting?

1. PRIVATE PRACTICE
2. HOSPITAL BASED
3. HOSPITAL SPONSORED OUTPATIENT CLINIC
4. HMO/PPO SPONSORED OUTPATIENT CLINIC
5. MEDICAL SCHOOL
6. RESIDENCY
7. OTHER (Please describe below)

Please note that the following questions refer to your thoughts about and activities with psychologists, not medical doctors (e.g. psychiatrists).

PLEASE CIRCLE ONE CHOICE FOR EACH QUESTION

1. Some of my patients can only be effectively treated through referral to or consultation with a psychologist.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE

2. My collaboration with psychologists is necessary for some of my patients.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE

3. I expect consultation with or referral to psychologists to be effective in helping my patients.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE

4. I find that psychologists are available and accessible for consultation or referral.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE

5. My co-workers and colleagues are supportive of referral to and consultation with psychologists.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE

6. I feel comfortable talking to my colleagues and co-workers about referrals to or consultations with psychologists.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE

7. I find that psychologists provide prompt and appropriate feedback after I consult with or refer to them.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE
    6. NOT APPLICABLE-NO SUCH EXPERIENCE

8. I have been generally satisfied with the outcomes of my consultations with and referrals to psychologists.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE
    6. NOT APPLICABLE-NO SUCH EXPERIENCE

PLEASE ANSWER EACH QUESTION

9. In medical school, residency or practice, how many research projects have you worked on as an investigator, co-investigator, or worker?

_____

10. In medical school, residency or practice, how many total months have you worked on research projects as an investigator, co-investigator, or worker?

_____

11. In medical school, residency or practice, how many research projects have you worked on in which a psychologist was an investigator, co-investigator, or worker?

_____

12. In medical school, residency, or practice, how many total months have you worked on research projects in which a psychologist was an investigator, co-investigator, or worker?

_____

13. Please estimate the percentage of your training, during medical school and residency, that was devoted explicitly to psychological or behavioral topics or issues?

Medical School: _____%

Residency: _____%

PLEASE CIRCLE ONE CHOICE FOR EACH QUESTION

14. My overall experience with psychological and behavioral issues during medical school and residency was positive.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE

15. In medical school and residency, I found the coverage of psychological and behavioral issues and treatment to be interesting and helpful.

    1. STRONGLY AGREE
    2. AGREE
    3. NEITHER AGREE NOR DISAGREE
    4. DISAGREE
    5. STRONGLY DISAGREE

PLEASE ANSWER EACH QUESTION

In questions 16 and 17 we ask about patients referred to you by psychologists or consultations requested by psychologists.

16. During the last 12 months, estimate the **number of patients** that have been referred to you for a specific referral question or purpose by psychologists.

    _____

17. During the last 12 months, estimate the **number of patients** for whom you have provided informal consultations to psychologists (For example, hallway or telephone consults).

    _____

In questions 18 through 22 we ask about patients that you have referred to psychologists and consultations requested by you with psychologists.

18. During the last 12 months, estimate the **number of patients** for whom you have initiated formal referrals to a psychologist for treatment or evaluation.

_____

19. During the last 12 months, estimate the **number of patients** for whom you have sought an informal consultation with a psychologist (For example, hallway or telephone consults).

_____

20. During the last 12 months, estimate the **number of patients** for whom you and a psychologist have practiced treatment collaboration through joint, interactive treatment. (For example, patients treated using "team" decision making through such things as meetings, joint rounds, and ongoing collaborative interaction.)

_____

21. During the last 12 months, estimate the **number of patients** that you have suggested go to a psychologist but have not made a referral or requested consultation.

_____

22. During the next 12 months, estimate the total **number of patients** for whom you expect to initiate formal referrals, informal consultations, or treatment collaboration with psychologists.

_____

23. During the past 12 months, estimate the percentage of your patients whose primary diagnosis was psychiatric or psychological.

_____%

24. What factors do you feel impede or inhibit your making referrals to, requesting consultations from, or collaborating with psychologists?

25. If you put an answer greater than 0 for question 20 above, please provide a brief description of the type of collaboration that you engaged in.

THANK YOU FOR YOUR PARTICIPATION IN THIS RESEARCH. Your contribution is important and greatly appreciated. If you would like a summary of group results, please print your name and address on the back of the return envelope (not on this questionnaire). We will see that you get it.

APPENDIX B

Name1 ~Name2 ~ name3 ~, title ~
address1 ~
address2 ~
city ~, state ~ zipcode1 ~

Dear Dr. name3 ~,

For you and your colleagues, effective collaboration with Psychologists may save you time and effort as well as increase your options in caring for patients. Psychologists can assist you with difficult patients and patients with mental illness thereby allowing you to focus on patients with medical problems. A Psychologist is a mental health professional who has earned a Doctoral Degree in psychology and who is trained in the assessment and treatment of mental and behavior problems. Unfortunately, not much is known about the factors that make Physician-Psychologist referral and consultation relationships helpful and productive. This research is aimed at identifying factors that facilitate productive professional relationships between Family Physicians and Psychologists. It is part of my doctoral dissertation at Florida State University.

As a Family Physician you can provide us with valuable information about you and your level of interaction with psychologists. You have unique knowledge that can help inform psychologists as to how they can more effectively work with you and your colleagues. Because I am a student and this is part of my dissertation, I have to keep mailing costs to a minimum. Consequently, I have mailed this survey to a small group of Family Physicians hoping that a large percentage of you will complete and return the survey. It will take 10-15 minutes of your time.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that we may check your name off of the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire.

The results of this research will be made available to medical schools and psychology training programs. By completing and returning the survey, you agree to have your answers included with those of other Family Physicians in group results. Individual answers will not be reported.

I would be most happy to answer any questions that you might have. Please write or call (850) 386-8561.

Thank you for your assistance.

Wayne Anderson, M. A.
Doctoral Student

Stephen A. Rollin. Professor
Doctoral Committee Chair

APPENDIX C

Last week a questionnaire seeking your attitudes about and practices with psychologists was mailed to you. You were picked at random from all of the family physicians in Florida.

If you have already completed and returned it to us, please accept our sincere thanks. If not, please do so today. Because it has been sent to a small group of Florida family physicians, it is extremely important that yours also be included in the study if the results are to accurately represent the opinions of Florida family physicians.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now at 888-505-5362 and leave a message with your name city and zip code. I will get another one in the mail to you today.

Sincerely,

Wayne Anderson, Doctoral Student

APPENDIX D

Name1 ~ Name2 ~ name3 ~, title ~
address1 ~
address2 ~
city ~, state ~ zipcode1 ~

Dear Dr. name3 ~,

About three weeks ago I wrote to you asking about your experiences with, attitudes toward, and collaboration practices with psychologists. As of the date of this letter, we have not received your completed questionnaire.

I am writing again because each questionnaire is essential to this research. The study is important because family physicians and psychologists working together may improve the overall care of patients. A psychologist is a mental health professional who has earned a Doctoral Degree in psychology and who is trained in the assessment and treatment of mental and behavior problems. Unfortunately, there is little information available about those factors that may facilitate cooperation between psychologists and family physicians. This research, which is part of my doctoral dissertation at Florida State University, seeks to contribute meaningfully to our knowledge in this area.

As a family physician you can provide us with valuable information about you and your level of interaction with psychologists. You have unique knowledge that can help inform psychologists as to how they can more effectively work with you and your colleagues. Your name was selected at random from a listing of all practicing family physicians in Florida. Because I am a student and this is part of my dissertation, I have to keep mailing costs to a minimum. Consequently, only about one in five Florida family physicians are being asked to fill out this questionnaire. In order for our information to be truly representative of Florida family physicians, it is crucial that we receive a completed questionnaire from each selected physician. It will take 10-15 minutes of your time.

In case your original questionnaire was misplaced, a replacement is enclosed.

I would be most happy to answer any questions that you might have. Please write or call (850) 386-8561.

Thank you for your assistance.

Wayne Anderson, M. A.
Doctoral Student

Stephen A. Rollin. Professor
Doctoral Committee Chair

APPENDIX E

Univariate Regression Analysis

The before transformation multiple regression analysis suggested that there was a statistically significant relationship between the predictors as a group and level of collaborative activities with psychologists, the dependent variable. The analysis also pointed to two individual predictors, attitude and exposqua, which appeared to provide statistically significant individual contributions to the variance in totcoll. Consequently, examination of the individual relationships between totcoll and these two predictors was undertaken. To accomplish this, individual univariate regression analyses were done for each predictor. Regression analysis of the relationship between attitude and totcoll revealed that attitude alone accounted for a statistically significant proportion of the variability of totcoll at the .05 level; R^2=.082 (F=22.628, *F[.05; 1, 255]=3.84*, p<.0001). The adjusted R^2=.078 suggested that attitude alone accounts for 7.8 percent of the variability in totcoll. A similar analysis of the relationship between exposqua and totcoll revealed that exposqua alone also accounted

for a statistically significant proportion of the variability of totcoll at the .05 level; R^2=.037 (F=22.628, *F[.05; 1, 252]=3.84*, p=.002). The adjusted R^2=.033 suggested that exposqua alone accounts for 3.3 percent of the variability in totcoll. A summary of univariate regression statistics is presented in Table 9. Statistics for the constant are omitted here for clarity of presentation.

Practical Importance

Tate (1996) reported that the practical importance of a predictor can be examined by noting the size of the regression coefficient, *B*, associated with that predictor in comparison with the confidence interval for that *B*. For the standardized *B*, Tate (1996) suggested that practical importance can be estimated using *(Sy/Sx)(.01)*=the threshold of practical importance for an unstandardized *B* where *Sy* and *Sx* are the standard deviations of the dependent variable and an independent variable and .01 is the threshold of practical importance for a standardized *B*. This calculated threshold can then be compared to the corresponding confidence interval for *B* to assess practical importance. If the confidence interval reflects a range

Table 9

Univariate Regression Summary[1]

Predictor Variable	R^2	Adj R^2	B	Std. B	*t*	Sig	95% Confidence Interval for *B* Lower Bound	Upper Bound
attitude	.082	.078	-8.258	-.285	-4.76	.000	-11.68	-4.84
exposqua	.037	.033	-9.491	-.191	-3.10	.002	-15.53	-3.45

[1]Dependent Variable: totcoll

of magnitude greater than the threshold, the contribution of the predictor is said to have practical importance. By this standard, only attitude meets the criteria for both statistical and practical significance.

APPENDIX F

Item Level Analysis

In addition to the examination of the relationships among theoretical constructs such as attitude, research, exposqua, and totcoll, the researcher examined responses to individual questions relevant to these constructs. These included the following questions that were answered on the Likert type scale from 1 (Strongly Agree) to 5 (Strongly Disagree):

- Some of my patients can only be effectively treated through referral to or consultation with a psychologist (Only w/ psychologists).
- My collaboration with psychologists is necessary for some of my patients (Psychologist necessary).
- I expect consultation with or referral to psychologists to be effective in helping my patients (Positive expectation).
- I find that psychologists are available and accessible for consultation or referral (Psychologists available).
- My co-workers and colleagues are supportive of referral to and consultation with psychologists (Colleagues supportive).
- I feel comfortable talking to my colleagues and co-

workers about referrals to or consultations with psychologists (Comfortable talking).

- I find that psychologists provide prompt and appropriate feedback after I consult with or refer to them (Prompt feedback).
- I have been generally satisfied with the outcomes of my consultations with and referrals to psychologists (Satisfied).
- My overall experience with psychological and behavioral issues during medical school and residency was positive (Positive experience).
- In medical school and residency, I found the coverage of psychological and behavioral issues and treatment to be interesting and helpful (Behavioral helpful/interesting).

The descriptive statistics and frequencies of responses on Likert type scales appear in Table 10. The item with the lowest (most favorable) mean was "Positive expectation" which obtained a mean of 1.74, between "Strongly agree" and "Agree." The item with the highest (least favorable) mean was "Prompt feedback" which obtained a mean of 2.94, very close to "Neither agree or disagree," the middle of the scale. This is consistent with comments in the literature (e.g. Drotar, 1993,

Table 10

Likert Type Response Descriptive Statistics

Question #	1	2	3	4	5	6	7	8	14	15
	Satisfied	Only with psychologists	Psychologist necessary	Positive Expectation	Psychologists Available	Colleagues Supportive	Comfortable Talking	Prompt Feedback	Satisfied	Positive Experience	Behavioral Helpful/Interesting
Valid N	289	289	289	289	286	287	277	276	289	289
Missing	3	3	3	3	6	5	15	16	3	3
Mean	2.08	1.76	1.74	2.35	2.13	1.89	2.94	2.34	2.15	2.04
Std. Dev	1.00	.73	.70	1.01	.77	.74	1.13	.86	.85	.80

1995; and Kaplan, 1991)critical of psychologists for their lack of understanding of the need for and willingness to provide prompt and consistent feedback to physicians after referrals. The overall mean for Likert type responses was 2.14 with a standard deviation of .86. Overall, then, family physicians in the sample responded "Agree" to statements favorable to psychology or behavioral science.

APPENDIX G

Wayne Anderson
3424 Monitor Lane
Tallahassee, FL 32312
(850) 386-8561
cwa5406@garnet.acns.fsu.edu

The following survey is part of a research project for my Doctoral Dissertation at Florida State University. The research focuses on patterns of collaboration between family practice physicians and psychologists.

This is a trial test of this survey and research protocol. Please:

1) Complete the survey. It should take about 10-15 minutes.
2) If you have suggestions that would make the survey better, make comments on the last page.
3) Return the completed surveys by Friday, March 5, 1999.

Feel free to contact me if you have any questions.

THANK YOU for your assistance.

Wayne Anderson

APPENDIX H

Precision of Exploratory Model Prediction

After transformation of the dependent variable, the model derived above through multiple regression provided an exploratory method of predicting a level or amount of collaborative activity (totcoll) on the part of family practice physicians given the physician's attitudes/beliefs about collaboration (attitude), Quality of a physician's collaborative experiences (quality), environmental or practice support for collaboration (envirspt), amount of exposure to psychology during training (exposure), and quality of exposure to psychology during training (exposqua). In the model derived above, these variables accounted for approximately 21 percent of the variability in totcoll. The precision of this prediction can be estimated by examining the size of the range or interval of values within which predicted values of totcoll are likely to fall (Tate, 1996). Half-widths of these intervals were estimated using the formulas $t(\alpha;n-k-1)\sigma$ for the raw score and $t(\alpha;n-k-1)(\sigma/Sy)$ for the standardized values of the predictions where $t(.05;221)$=1.96, σ=the standard error of the model estimate=.3419, and Sy=standard

deviation of the transformed variable, totcoll=.3775. Hence, the 95% confidence intervals were ±.67 and ±1.76 for a raw prediction scores and standardized scores respectively.

While there is no clear standard as to acceptable accuracy of predictive models (Tate, 1996), these relatively large intervals suggested that, for purposes of prediction, the precision of this model was marginal. While it is useful to be mindful of these limitations in predictive precision, it was not the focus of this research to develop a predictive model. For purposes of describing the relationships between variables, the lack of precision must be noted but does not limit the usefulness of the description.

Florida State
UNIVERSITY

Office of the Vice President
for Research
Tallahassee, Florida 32306-2811
(850) 644-5260 • FAX (850) 644-4392

APPROVAL MEMORANDUM

from the Human Subjects Committee

Date: **January 28, 1999**

From: **David Quadagno, Chair**

To: Clyde Wayne Anderson
3424 Monitor Lane
Tallahassee, FL 32312

Dept: Human Services & Studies

Re: **Use of Human subjects in Research**
Project entitled: A Descriptive Study of Family Physician Attitudes and Experiences and Their Collaboration with Psychologists

---

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be exempt per 45 CFR § 46.101(b)2 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. *This approval does not replace any departmental or other approvals which may be required.*

If the project has not been completed by January 28, 2000 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is M1339.

cc: S. Rollin
APPLICATION NO. 98.483

REFERENCES

Abeles, N. (1997). Presidents's column: What about the future? Monitor, May, 1997, p. 4.

Agras, W. S. (1982). Behavioral medicine in the 1980's: Nonrandom connections. Journal of Consulting and Clinical Psychology, 50, 797-803.

Alcorn, J. D. (1991). Counseling psychology in health applications. The Counseling Psychologist, 19, 325-341.

Alexander, A. B. (1977). Chronic asthma. In Williams, R. W. & Gentry, W. D. (Eds.), Behavioral approaches to medical treatment. Cambridge, MA: Ballinger.

Allan, R. & Scheidt, S. S. (1996). Empirical basis for cardiac psychology. In Allan, R. & Scheidt, S. S. (Eds.), Heart and mind: The practice of cardiac psychology. Washington, DC: American Psychological Association.

Altmaier, E. M. (1991). Research and practice roles for counseling psychologists in health care settings. Counseling Psychologist, 19, 342-364.

American Academy of Family Physicians (1998). On line resource, http://www.aafp.org/about/300_c.html.

American Academy of Pediatrics, Task Force on Pediatric Education.(1978). The future of Pediatric Education. Evanston, IL: Author.

American Medical Association (1996). American Medical Association Council on Ethical and Judicial Affairs Code of Medical Ethics: Current opinions with Annotations. Chicago, IL: Author.

American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders, 4th edition. Washington, DC: Author.

American Psychological Association (1981). Specialty guidelines for the delivery of services by counseling psychologists. American Psychologist, 36, 652-663.

American Psychological Association (1992). Ethical Principles of Psychologists and Code of Conduct. American Psychologist, 47, 1597-1611.

American Psychological Association (1996a). APA guidelines and principles for accreditation of programs in professional psychology. Washington, DC: Author.

American Psychological Association (1996b). Profile of all APA Members: 1995. Washington, DC: Author.

Ashworth, C. D., Williamson, P., & Montano, D. (1984). A scale to measure physician beliefs about psychosocial aspects of patient care. Social Science and Medicine, 19, 1235-1238.

Azar, B. (1998). Melding expertise, further research. Monitor, May, 1998, Vol. 29 (5), 20.

Barlow, D. H. (1996). Health care policy, psychotherapy research, and the future of psychotherapy. American Psychologist, 51, 1050-1058.

Barlow, D. H., Lerner, J. A., and Esler, J. L. (1996). Behavioral health care in primary care settings: Recognition and treatment of anxiety disorders. In Resnick, L. J. & Rozensky, R. H. (eds.), Health Psychology Through the Lifespan. Washington, DC: American Psychological Association. 133-148.

Barrett, P. M., Dadds, M. R., & Rapee, R. M. (1996). Family treatment of childhood anxiety: A controlled trial. Journal of consulting and Clinical Psychology, 64, 333-342.

Basler, H. D., Brinkmier, U., Buser, K., Haehn, K. D., and Molders-Kober, R. (1982). Psychological group treatment of essential hypertension in general practice. British Journal of Clinical Psychology, 21, 295-302.

Bernstien, J. A, Sheridan, E., & Patterson, R. (1991). Asthmatic patients with panic disorder: Report of three cases with management outcome. Annals of Allergy, 66, 311-314.

Black, D., Coe, W. C., Friesen, J. G., and Wurzmann, A. G. (1984). Minimal interventions for weight control. Addictive behavior, 9, 279-285.

Blanchard, E. B. (1982). Behavioral medicine: Past, present and future. Journal of Consulting and Clinical Psychology, 50, 795-796.

Blascovich, J. (1982). Social psychology in family medicine. Applied Social Psychology Annual, 3, 279-300.

Blount, A. (1998). Introduction to integrated primary care. In A. Blount (Ed.), Integrated primary care: The future of medical and mental health collaboration (pp. 1-43). New York: Norton.

Bray, J. H. (1996). Psychologists as primary care practitioners. In R. J. Resnick & R. H. Rozensky (Eds.), Health psychology through the lifespan: Practice and research opportunities (pp. 89-99). Washington, DC: American Psychological Association.

Bray, J. H. & Rogers, J. C. (1995). Linking Psychologists and family physicians for collaborative practice. Professional Psychology: Research and Practice, 26, 132-138.

Brecht, M. L., Dracup, K., Moser, D. K., and Riegel, B. (1994). The relationship of marital quality and psychosocial adjustment to heart disease. Journal of Cardiovascular Nursing, 9, 74-95.

Brody, B. E. (1988). Employee assistance programs: An historical and literature review. American Journal of Health Promotion, 2, 13-22.

Budd, M. A. (1992). New possibilities for the practice of medicine. Advances, 8, 7-16.

Busch, E. J. (1981). Developing an employee assistance program. Personnel Journal, 60, 708-711.

Carr, J. E. (1994). Psychology, behavioral sciences, and the challenge to medical education. Journal of Clinical Psychology in Medical Settings, 1, 109-114.

Carr, J. E. (1995). When is enough enough? We are only beginning. Journal of Clinical Psychology in Medical Settings, 2, 299-301.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. Hillsdale, NJ: Erlbaum.

Cohen, J. (1992). A power primer. Psychological Bulletin, 112, 155-159.

Cohn, J. N. (1998). Preventing congestive heart failure. American Family Physician, April 15, 1988, on line resource, http://www.aafp.org/afp/980415ap/cohn.html.

Connelly, J. E., Smith, G. R., Philbrick, J. T., & Kaiser, D. L. (1991) Healthy patients who perceive poor health and their use of primary health care services. Journal of General Internal Medicine, 6, 47-51

Consumer Reports. (1995, November). Mental health: Does therapy help? pp.734-739.

Corey, G, Corey, M. S., & Callanan, P. (1993). Issues and ethics in the helping professions. Pacific Grove, CA: Brooks/Cole Publishing Company.

Corney, R. H. (1996). Links between mental health care professionals and general practices in England and Wales: The impact of general practitioner fundholding. British Journal of General Practice, 46, 221-224.

Cott, W., Anchel, H., Goldberg, W. M., Fabich, M, & Parkinson, W. (1990). Non-institutional treatment of chronic pain by field management: An outcome study with comparison group. Pain, 40, 183-194.

Cummings, J. W. (1992). Psychologists in the medical-surgical setting: Some reflections. Professional Psychology: Research and Practice, 23, 76-79.

Day, W. L. (1980). The development and field testing of a self-instructional module in counselor supervision. Unpublished doctoral dissertation, Florida State University.

DeLeon, P. H. & Wiggins, J. G., Jr. (1996). Prescription privileges for psychologists. American Psychologist, 51, 225-229.

DeNelsky, G. Y. (1996). The case against prescription privileges for psychologists. American Psychologist, 51, 207-212.

DeVaus, D. A. (1986). Surveys in social research. London: George, Allen, & Unwin.

Dillman, D. A. (1978). Mail and telephone surveys: The total design method. New York: John Wiley and Sons.

Dimsdale, J. E., Thomas, P., and Hutter, A. M. (1978). Emotional correlates of Type A behavior pattern. Psychosomatic Medicine, 40, 580-583.

Drotar, D. (1993). Influences on collaborative activities among psychologists and pediatricians: Implications for practice, training, and research. Journal of Pediatric Psychology, 18, 159-172.

Drotar, D. (1995). Consulting with pediatricians: Psychological perspectives. New York: Plenum Press.

Eastman, C. & McPherson, I. (1982). As others see us: General practitioners' perceptions of psychological problems and the relevance of clinical psychology. British Journal of Clinical Psychology, 23, 85-92.

Ellison, P. H. & Kopp, C. B. (1985). A note on interdisciplinary research in developmental/behavioral pediatrics/psychology. Pediatrics, 75, 883-886. (From Medline, 1997, Abstract No. 85189635).

Enright, M. & Blue, B. A. (1989). Collaborative treatment of panic disorders by psychologists and family physicians. Psychotherapy in Private Practice, 7, 85-90.

Eysenck, H. J. (1991). Type A behavior and coronary heart disease: The third stage. In Type A behavior, (Strube, M. J., ed.). pp. 25-44. Newberry Park, CA: Sage Publications.

Fancher, R. E. (1990). Pioneers of Psychology. New York: Norton & Co.

Fields, S.A., Toffler, W.L., Elliot, D. & Chappelle, K. (1998). Principals of clinical medicine: Oregon Health Sciences University School of Medicine. Academic Medicine, 73, 25-31.

Ford, D. H. (1985). The behavioral health movement: Implications for practice, theory, research, and training in counseling psychology. The Counseling Psychologist, 13, 93-104.

Fowler, F. J., Jr. (1988). Applied social research methods series: Vol. 1. Survey research methods. Beverly Hills, CA: Sage Publications.

Fowler, R. D. (1997). The report to the Association, 1996. American Psychologist, 52, 764-779.

Gabinet, L., Patterson, M. B., & Friedson, W. (1984). Teaching psychology to medical students on a consultation-liaison psychiatry service. Teaching of Psychology, 11, 28-31.

Gelles, M. G. (1991). Role of the clinical psychologist in a family practice residency training program. Psychotherapy in Private Practice, 9, 57-61.

Grossarth-Maticek, R. & Eysenck, H. J. (1996). Psychosocial factors in the treatment of cancer and heart disease. In The Hatherleigh guide to issues in modern therapy. The Hatherleigh guides series, Vol. 4, (Editorial Board of Hatherleigh Press), pp.53-68. New York: Hatherleigh Press.

Hadick, J. (1997). Personal communication. Education Department, American Academy of Family Practice Physicians.

Haley, W. E., Salzberg, L. F., & Barrett, J. J. (1993). Psychologists in geriatric medicine: Results of a national survey. Professional psychology: Research and Practice, 24, 497-499.

Halm, E. A., Causino, N., & Blumenthal, D. (1997). Is gatekeeping better than traditional care? A survey of physician attitudes. JAMA, 278, 1677-1681.

Heath, J. M. & Mongia, R. (1998). Chronic bronchitis: Primary care management. American Family Physician, May 15, 1988, on line resource, http://www.aafp.org/afp/980515ap/heath.html.

Hellman, C. J., Budd, M., Borysenko, J., McClelland, D. C., & Benson, H. (1990). A study of the effectiveness on two group behavioral medicine interventions for patients with psychosomatic complaints. Behavioral Medicine, 16, 165-173.

Honzak, R. (1992). The psychosomatic approach in clinical practice. Vnitr Lek, 38, 313-316 (From Medline, 1997, Abstract No. 92512246).

Houston, W. R. (1936). The art of treatment. New York: Scribner.

Houts, A. C., Berman, J. S., and Abramson, H. (1994). Effectiveness of psychological and pharmacological treatments for nocturnal enuresis. Journal of Consulting and Clinical Psychology, 62, 737-745.

Humphreys, K. (1996). Clinical psychologists as psychotherapists: History, future, and alternatives. American Psychologist, 51, 190-197.

Ireton, H & Hilliard, R. (1983). Teaching behavioral medicine by consultation in the family practice center. Journal of Family Practice, 17, 93-97.

Kaplan, R. M. (1991). Counseling psychology in health settings: Promise and challenge. The Counseling Psychologist, 19, 376-381.

Kase, L. M. (1992). The wellness physical. Longevity, April 4, 1995, 24-25.

Klien, R. G. (1996). Comments on expanding the clinical role of psychologists. American Psychologist, 51,

Klippel, J. A. & DeJoy, D. M. (1984). Counseling psychology in behavioral medicine and health psychology. Journal of Counseling Psychology, 31, 219-227.

Kohl, R. T., McNeese, R., Kaven, M.. G. (1986). Managing an uncooperative patient: A physician-psychologist team approach. Special Issue: The elderly uncooperative patient. Clinical Gerontologist, 6, 161-170.

Krejcei, R. & Morgan, D. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30, 607-610.

Langeluddecke, P. M. (1986). The role of behavioral change procedures in multi factorial coronary heart disease prevention programs. Progressive Behavior Modification, 20, 199-225.

Lee, P. W. (1988). The teaching of medical psychology in medicine: Issues, conflicts, and possibilities. Psychologia: An International Journal of Psychology in the Orient, 31, 154-162.

Leidy, N. K. & Traver, G. A. (1995). Psychophysiological factors contributing to functional performance in people with COPD: Are there gender differences? Research in Nursing Health, 18, 535-546.

Leino, P. I. & Hanninen, V. (1995). Psychosocial factors at work in relation to back and limb disorders. Scandinavian Journal of Work, Environment, and Health, 21, 134-142.

Liese, B. S. (1986). Physicians' perceptions of the role of psychology in medicine. Professional Psychology: Research and Practice, 17, 276-277.

Litwin, W. J., Boswell, D. L., & Kraft, W. A. (1991). Medical staff membership and clinical privileges: A survey of hospital-affiliated psychologists. Professional Psychology: Research and Practice, 22, 322-327.

Lubin, B., Nathan, R. G., and Matarazzo, J. D. (1978). Psychologists in medical education: 1976. American Psychologist, 33, 339-343.

Malec, J. (1991). Research in the medical setting: Implementing the scientist-practitioner model. In Sweet, J. J., Rozensky, R. H., & Tovian, S. M. (Eds.), Handbook of clinical psychology in medical settings. (pp. 269-282). New York: Plenum.

Markham, F. W. & Diamond, J. J. (1997). Psychosocial beliefs of medical students planning to specialize in family medicine. Psychological Reports, 80, 987-992.

Matarazzo, J. D. (1980). Behavioral health and behavioral medicine: Frontiers for an new health psychology. American Psychologist, 35, 807-817.

Matarazzo, J. D. (1982). Behavioral health' challenge to academic, scientific, and professional psychology. American Psychologist, 37, 1-14.

Matarazzo, J. D. (1987). There is only one psychology, no specialties, but many applications. American Psychologist, 42, 893-902.

Matarazzo, J. D. & Daniel, R. S. (1957). Psychologists in medical schools. In Knopf, I. J. (Ed.) Psychology in medical education. Neuropsychiatry, 4, 93-107.

McDaniel, S. H, (1995). Collaboration between psychologists and family physicians: Implementing the biopsychosocial model. Professional Psychology: Research and Practice, 26, 117-122.

McVilvain, H. E., Bobo, J. K., Leed-Kelly, A., & Sitorius, M. A. (1998). Practical steps to smoking cessation for recovering alcoholics. American Family Physician, April 15, 1988, on line resource, http://www.aafp.org/afp/980415ap/mcilvain.html.

Mebane, B. G. (1978). Instructing family physicians in dealing with prevalent psychological problems. Journal of Clinical Child Psychology, 7, 78-80.

Melamed, B. G. (1995). The interface between physical and mental disorders: The need to dismantle the biopsychosocialneuroimmunological model of disease. Journal of Clinical Psychology in Medical Settings, 2, 225-231.

Merydith, S. (1997). Personal communication.

Meyer, J. D., Fink, C. M., & Carey, P. F. (1988). Medical views of psychological consultation. Professional Psychology, Research and Practice, 19, 356-358.

Morrow, G. R., Asbury, R., Hammon, S., & Dobkin, P. (1992). Comparing the effectiveness of behavioral treatment for chemotherapy induced nausea and vomiting when administered by oncologists, oncology nurses, and clinical psychologists. Health Psychology, 11, 250-256.

Mullins, L. L., Keller, J. R. & Chaney, J. (1994). A systems and social cognitive approach to team functioning in physical rehabilitation settings. Rehabilitation Psychology, 39, 161-178.

Nethercut, G. & Piccione, A. (1984). The physician perspective of health psychologists in medical settings. Health Psychology, 3, 175-184.

Nichols, K. A. (1985). Psychological care by nurses, paramedical and medical staff: Essential developments for the general hospitals.

Ng, P. P., Po, P. U. (1997). Online resource, http://www.sequel.net/~twilight/ poath8.htm.

Orenstein, P. H. (1977). The family physician as a therapeutic instrument. Journal of Family Practice, 4, 659-661.

Pace, T. M., Chaney, J. M., Mullins, L. L., & Olsen, R. A. (1995). Psychological consultation with primary care physicians: Obstacles and opportunities in the medical setting. Professional Psychology: Research and Practice, 26, 123-131.

Peabody, F. W. (1928). The care of the patient. Cambridge, MA: Harvard University Press.

Pomerleau, O. F. (1979). Behavioral medicine: The contribution of the experimental analysis of behavior to medical care. American Psychologist, 34, 654-663.

Pope, B. & Lisansky, E. T. (1969). The psychologist as a colleague of the practicing physician. Modern Treatment, 6, 866-884.

Porter, R. (Ed.). (1996). The Cambridge illustrated history of medicine. New York: Cambridge University Press.

Pray, J. (1991). Responding to psychosocial needs: Physician perceptions of their referral practices for hospitalized patients. Health and Social Work, 16, 184-192.

Radmacher, S. A. (1992). Challenging the biomedical model. Medical Psychotherapy, 5, 21-28.

Raiha, I., Kemppainen, H., Kaprio, J., Koskenvuo, M., & Sourander, L. (1998). Lifestyles, stress, and genes in peptic ulcer disease: A nationwide twin cohort study. Archives of Internal Medicine, 158, 698-704.

Ransom, D. C. (1992). Voices from family medicine: Donald Ransom (Interview by Ventres, W. B. & Freya, J. J.). Family medicine, 24, 226-229.

Ray, J. J. & Bozek, R. (1980). Disecting the A/B personality type. British Journal of Medical Psychology, 53, 181-186.

Rehm, L. P. (1996). Catching depression in primary care physicians' offices. In Resnick, R., Rozenski, R. H. (Eds.), Health psychology through the life span: Practice and research opportunities. Washington, DC: American Psychological Association.

Reimers, T. M. (1996). A behavioral approach toward managing encopresis. Behavior Modification, 20, 469-479.

Resnick, R. J. (1997). APA presidential address: A brief history of practice-expanded. American Psychologist, 52, 463-470.

Roberts, G. W., Banspach, S. W., and Peacock, N. (1997). Behavioral scientists at the Centers for Disease Control and Prevention: Evolving and integrating roles. American Psychologist, 52, 143-146.

Roberts, M. & Wright, L. (1982). Role of the pediatric psychologist as consultant to pediatricians. In J. Tuma (Ed.), Handbook for the practice of pediatric psychology (pp. 251-289). New York: Wiley and Sons.

Robinson, G. C. (1939). The patient as a person: A study of the social aspects of illness. New York: Plenum.

Robinson, P., Bush, T., Von Korff, M., Lin, E., Simon, G. E., & Walker, E. (1995). Primary care physician use of cognitive behavioral techniques with depressed patients. Journal of Family Practice, 40, 352-357.

Rodwin, M. A. (1995). Conflicts in managed care. The New England Journal of Medicine, 332 (March 2, 1995), 604-607.

Rollin, S. A.. (1994). The psychologist in family practice: The future. Psychotherapy in Private Practice, 13, 71-75.

Rollin, S.A.. (1997). Personal Communication.

Rosenthal, T. C., Shiffer, J., & Panebianco, S. (1990). Physician and psychologist beliefs influencing referral of patients for psychotherapy. Family Medicine, 22, 38-41.

Rosholm, J. U., Gram, L.F., Damsbo, N, & Hallas, J. (1997). Antidepressive treatment in general practice--an interview study. Ugeskr Laeger, 159, 280-283 (From Medline, 1997, Abstract No. 95089135).

Rotan, L. (1998). Personal communication.

Salmon, P. (1993). The reduction of anxiety in surgical patients: An important nursing task or the medicalization of preparatory worry? International Journal of Nursing Studies, 30, 223-230.

Schaffer, J. & Wexler, L. F. (1995). Reducing low-density lipoprotein cholesterol levels in an ambulatory care system. Results of a multidisciplinary collaborative practice lipid clinic compared with traditional physician-based care. Archives of Internal Medicine, 155, 2330-2335.

Schmitling, G. (1998). Personal communication, Director of Research, AAFP.

Schroeder, C. S. (1997). Conducting an integrated practice in a pediatric setting. In R. J. Illback, C. T. Cob, & H. M. Joseph, Jr. (Eds.), Integrated Services for children and families: Opportunities for psychological practice (pp. 221-255). Washington, DC: American Psychological Association.

Scott, A. I. F., & Freeman, C.P.L. (1992). Edinburgh primary care depression study: Treatment outcomes, patient satisfaction, and cost after 16 weeks. British Medical Journal, 304, 883-887.

Scott, J., Moon, C. A., Blacker, C. V., and Thomas, J. M. (1994). A. I. F. Scott & C. P. L. Freeman's "Edinburgh Primary Care Depression Study." British Journal of Psychiatry, 164, 410-415.

Sheridan, C. L. & Radmacher, S. A. (1992). Health psychology: Challenging the biomedical model. New York: Wiley and Sons.

Sibbald, B., Addington,-Hall, J., Brenneman, D., & Obe, PO. F. (1996). The role of counselors in general practice: A qualitative Study. Occasional Papers: Royal College of General Practice, November, 1996, 1-19.

Sidorov, P. I. & Pankov, M. N. (1997). Positive psychotherapy in work with hospice patients. Zh Nevropatol Psikhiatr Im S S Korsakova, 97, 25-28. (From Medline, 1997, Abstract No. 97229382).

Siegel, J. M., Matthews, K. A., and Leitch, C. J. (1981). Validation on the Type A interview assessment of adolescents: A multidimensional approach. Psychosomatic Medicine, 43, 311-321.

Simon, C. J., Dranove, D., & White, W. D. (1998). The effect of managed care on the incomes of primary care and specialty physicians. Health Services Research, 33, 549-569.

Skinner, B. F. (1938). The behavior of Organisms: An experimental analysis. New York: Appleton-Century.

Smith, M. L. & Glass, G. V. (1987). Research and evaluation in education and the social sciences. Boston, MA: Allyn and Bacon.

Snyder, J. J. (1989). Health psychology and behavioral medicine. Englewood Cliffs, NJ: Prentice Hall.

Spiers, R. & Jewell, J. A. (1995). One counselor, two practices: Report of a pilot scheme in Cambridgeshire. British Journal of General Practice, 45, 31-33.

Sprafka, J. M., Folsom, A. R., Burke, G. L., and Hahn, L. P. (1990). Type A behavior and its association with cardiovascular disease prevalence in Blacks and Whites: The Minnesota Heart Survey. Journal of Behavioral Medicine, 13, 1-13.

SPSS, Inc., (1997). The Statistical Package for the Social Sciences (SPSS) for Windows: Release 8.

Steele, P. D. (1995). Worker assistance programs and labor process: Emergence and development of the employee assistance model. The Journal of Drug Issues, 25, 423450.

Steele, P. D. & Trice, H. M. (1995). A history of job based alcoholism programs. The Journal of Drug Issues, 25, 397-342.

Stephens, G. (1989). Family medicine as counter culture. Family Medicine, 21, 103-109.

Stokes, D. R., Alexander, M., Lewis, J. L., & Fischetti, L. R. (1987). Difficulties in family practice residency training: Recommendations for training health psychologists in family care. Professional Psychology: Research and Practice, 18, 629-633.

Stokes, J., Strand, P. J., & Jaffe, C. (1984). Distribution of behavioral science faculty in United States medical schools. Social Science and Medicine, 18, 753-756.

Stone, M. H. (1997). Healing the mind: A history of psychiatry from antiquity to the present. New York: Norton & Co.

Straus, R. (1959). A department of behavioral science. Journal of Medical Education, 34, 662-666.

Sturm, R. & Wells, K. B. (1995). How can care for depression become more cost-effective? Journal of the American Medical Association, 273, 51-58.

Sweet, J. J., Rozenski, R. H., and Tovian, S. M. (1991). Clinical psychology in medical settings: Past and present. In Sweet, J. J., Rozenski, R. H., and Tovian, S. M. (Eds.), Clinical psychology in medical settings. New York: Plenum.

Tabachnick, B. G. & Fidell, L. S. (1996). Using multivariate statistics (3rd ed.). New York: HarperCollins.

Tate, R. (1996). Modeling outcomes in the behavioral and social sciences. Edina, MN: Burgess International Group, Inc.

Thomas, R. V. & Corney, R. H. (1992). Survey links between mental health professionals and general practice in six district health authorities. British Journal of General Practice, 42, 358-361.

Thompson, R. J. (1991). Psychology and the health care system: Characteristics and transactions. In Sweet, J. J., Rozensky, R. H., & Tovian, S. M. (Eds.), Handbook of clinical psychology in medical settings. New York: Plenum.

Thorsen, C. E. & Eagleston, J. R. (1985). Counseling for health. Counseling Psychologist, 13, 15-87.

Tiffany, D. W., Tiffany, P. G., Sinnett, E. R., & Sinnett, K. K. (1992). EAP's and the provider squeeze: 22nd Annual mid-winter convention (Divisions 29,42, and 43) of the American Psychological Association. Psychotherapy in Private Practice, 11, 59-69.

Weingarten, M. A. (1985). A pilot study of the multidisciplinary management of childhood asthma in family practice. Journal of Asthma, 22, 261-265.

Weinman, J. & Medlik, L. (1985). Sharing Psychological skills in the general practice. British Journal of Medical Psychology, 58, 223-230.

Wersh, J., Stambrook, M., Tritt, S. & Thomas, M.. R. . (1988). Evaluation of pediatric-psychology liaison in private medical practice. Children's Health Care, 16, 283-289.

Wickramasekera, I (1989a). Somatizers, the health care system, and collapsing the psychological distance that the somatizers has to travel for help. Professional Psychology: Research and Practice, 20, 105-111.

Wickramasekera, I. (1989b). Enabling the somatizing patient to exit the somatic closet: A high-risk model. Psychotherapy, 26, 530-544.

Wickramasekera, I, Davies, T. E., and Davies, S. M. (1996). Applied psychophysiology: A bridge between the biomedical model and the biopsychosocial model in family medicine. Professional Psychology: Research and Practice, 27, 221-233.

World Health Organization (1992). ICD 10: International statistical classification of diseases and related problems. Geneva: Author.

BIOGRAPHICAL SKETCH

CLYDE WAYNE ANDERSON
3424 Monitor Lane
Tallahassee, FL 32312

Education:

Florida State University: Combined Program in Counseling Psychology and School Psychology, Ph.D., Accredited by the American Psychological Association; Currently Enrolled. Anticipate Graduation 8/1999.

University of West Florida: M.A. degree in Psychology, 1995.

University of Florida: B.S. degree in Business Administration, 1976.

Practica:

Florida State University - Counseling Psychology:

Florida State University School - School Psychology:

University of West Florida Counseling Center - Counseling Psychology:

Internship:

August 1998 to August 1999 - Florida State Hospital Psychology Service; Accredited by the American Psychological Association; Pre-Doctoral Internship – One Year (2000 hours).

Summer 1995 - University of West Florida Counseling Center: Counseling Psychology

University/Education Related Employment:

Teaching:

Fall Semester 1996 and Spring Semester 1997 - Department of Human Services and Studies, College of Education, Florida State University: Instructor. Taught undergraduate course "Communication and Human Relations."

Research and Grant/Contract Based Employment:

January 1998 to August 1998 – FSU Center for Policy Studies in Education, Florida Tobacco Pilot Program, Graduate/Project Assistant.

Spring and Summer Semesters 1996 - Center for Policy Studies in Education, Florida State University: Research Assistant. Research was contract based and focused on gathering and presenting data having to do with children in public school after-school care programs.

Counseling:

Spring Semester 1995 Department of Psychology, University of West Florida: Academic Peer Counselor.

Other School Related Activities:

1997-1998 - Florida State University, College of Education, Department of Human Services and Studies:

Student Coordinator for writing and compilation of this Department's Self Study document to the American Psychological Association for continuation of accreditation of the Combined Counseling Psychology and School Psychology Ph.D. Program.

Provided clinical supervision for doctoral psychology students in the Combined Counseling Psychology and School Psychology Program.

Psychology Focused Employment:

March, 1994-August, 1995 - Baptist Hospital, Pensacola, FL: Psychiatric Technician, Acute Psychiatric Treatment Unit.

Psychology Focused Workshops, Seminars, and Other Training:

June 2-3, 1999 – University of South Florida - Forensic Examiner Training:

March 5, 1999 – Health South Rehabilitation Hospital – Brain Injury Seminar:

January 21-25, 1998 – Rorschach Seminars - Rorschach Workshop for the Comprehensive System:

Psychology Related Volunteer Activities:

April 1997-April 1998 - Florida State Hospital, Unit 1: Provided psychological treatment and assessment services to residents.

Nursing Home: Co-facilitated, with Dr. S. A. Rollin, a therapy/support group for elderly nursing home residents.

1994-1995 - Mental Health Association of West Florida: Board of Directors.

1993-1995 - Catholic Social Services: Board of Directors

Papers and Publications

Anderson, C. W., Rollin, S. A., & Kriegner. R. (1997). School based after-school care for school-age children in Florida: Child outcomes, and parent and administrator attitudes. Paper presented at the 1998 Annual meeting of the American Educational Research Association: San Diego, CA.

Rollin, S. A., & Anderson, C. W. (1998). Consulting with a Public Housing Authority. Paper presented at the 1998 Annual Meeting of the American Psychological Association: San Francisco, CA.

Rollin, S. A., Anderson, C. W., & Buncher, R. (1999). Coping in adolescents: A prevention model for helping kids avoid or reduce at-risk behavior. In Frydenberg, E. (Ed.), Learning to cope: Developing as a person in complex societies. Oxford: Oxford University Press.